



610 Interface Reference Guide

August 2022

V2.39

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About This Guide

This guide describes the interfaces between Worldpay Online Systems and POS terminals and in-store controllers.

Intended Audience

This document is intended for Worldpay Online Systems front-end interface application-development and support staff and for developers of interfaces (terminal or controller) to Worldpay Online Systems.

Revision History

This document has been revised as follows:

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
V2.39	8.10.2022	Added positions 47 thru 49 to G009. Also, added fields NG and NT to R030. Added Response Code 550 to Table A-8 for FraudSight decline.	Chapter 4 Appendix A
V2.38	6.30.2022	In Table 3-36, change Length to Max Length and removed Wright Express note from Code 01. Added information about Visa Secure Token request to R030 and G048	Chapter 3 Chapter 4

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
V2.37	4.27.2022	Added sections Debit Card Preauthorization (DUKPT Key) Request and Debit Card Prior Authorization/Adjustment Request	Chapter 2
		Added tag SF (Terminal Classification Code) to Table 4-63 , G048 Valid Values/Notes (Field 01).	Chapter 4
		Added 54400x (Adjustment - Credit Card Completion with Prior Auth) to Table 2-38 , Bit 03.	Chapter 2
		Added new value, 54 - Credit Card Completion, to Table 3-4 .	Chapter 3
		Added Data Set ID as first item in Table 4-144 , R032 - Return Token Data	Chapter 4
		Fixed error in Table 3-2 . Enhanced Check Authorization Request appeared twice. Replace the first instance with Credit Card Auth Only/Account Status Inquiry/Visa Product Eligibility Inquiry Request.	Chapter 3
V2.36	3.22.2022	Added Fleet Card Reversal (Void) Request - Fleet Data included section.	Chapter 2
		Added reference to above new section to Table 3-2 . Updated Field 5 of Table 3-36	Chapter 3
V2.35	2.04.2021	Updated the description of 105.2 Payment Service Indicator . In Table 3-26 , added S (Manual Entry Capability and Magnetic Stripe Read Capability) and T (Manual Entry Capability, Magnetic Stripe Read Capability, and Chip-Capable Terminal) to Position 2's subfields. Updated the description of Code 03 in Table 3-38 to include Fleetcor in addition to Wright Express. Updated Code 8b in Table 3-39 to include Fleetcor in addition to Wright Express.	Chapter 3
V2.34	11.05.2021	Added Field 43, Field 44, Field 45, and Field 46 to G009 – Optional Processing Indicators . Added fields AC, NC, and SC to R030 – Additional Response Data . Added R034 - Debit Optimization Result . Changed all references from Optum to Benefit Card Services.	Chapter 4, Appendix C

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
V3.33	10.01.2021	For Credit Card Prior Authorization/Adjustment Request , added 20400x (refund) for Processing Code in Table 2-39 . Updated tag AA's length to 32 for R030 – Additional Response Data .	Chapter2, Chapter 4
V2.32	09.03.2021	Added tag 13 (Sender Account Number Type) to Table 4-69 (Sender Data). For G048 – Additional Request Data , added the tags AV (Address Verification Data) and UR (URL Data) in Table 4-63 . Revised the description of R030 – Additional Response Data and added EI (E-commerce/UCAF indicator) and UC (UCAF Indicator) to Table 4-140 - Special Processing Tags .	Chapter 4
V2.31	08.06.2021	Added the following fields to Table 2-99 : 126.1 (Merchant Number), 126.2 (Terminal Number), and 126.3 (Merchant Name).	Chapter 2
V2.30	07.09.2021	Added the P value (Onguard SDE) to Field Number 1 for G026 – POS Encrypted Data . Added the following tags to G048 – Additional Request Data : AI (POS Application ID), AN (POS Application Name), AS (POS Application Version), DS (3D Secure Directory Server Transaction ID), PP (3D Secure Program Protocol), RN (Customer Reference Number), and TI (Gateway Transaction ID). Added G064 – Valutec Data and R038 – Valutec Data .	Chapter 4
V2.29	06.16.2021	Added Field 4. for G009 – Optional Processing Indicators . Updated G064 to be G065 – Mastercard DSRP Cryptogram . and updated the former G065 to be G066 – Remote Commerce Acceptor Identifier and updated their corresponding tables. Added the SL and AA fields for R030 – Additional Response Data in Table 4-139 and Table 4-140 .	Chapter 4
V2.28	05.07.2021	Added G061 – FIS Loyalty Data and R061 - FIS Loyalty Response Data .	Chapter 4
V2.27	05.05.2021	Updated zip code information for Field 106 Cardholder Identification (AVS) .	Chapter 3

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
V2.26	04.07.2021	Added instructions for Fee Type 4 usage and changed Fee Type 4 description to credit card or debit card surcharge.	Chapter 4
V2.25	03.02.2021	Removed erroneous sentence in regard to G009.20 for pinless credit conversions in PINless Credit Conversion .	Appendix B
V2.24	02.02.2021	<p>For G009 – Optional Processing Indicators, updated the information for Field 38.</p> <p>For G009 – Optional Processing Indicators, added Field 41 (Conversion request from credit card request to pre-auth debit while using EMD as settlement for the completions).</p> <p>Added a note in regard to Optum transaction to G015 - Additional Amounts Request description.</p> <p>Updated Field 02 in Table 4-18 with Optum valid values.</p> <p>Added G030 - Benefit Card Services UPC/PLU Pass-Thru Data (Usage 2).</p> <p>Added G031 - Benefit Card Services UPC/PLU Pass-Thru Data #2 (Usage 2).</p> <p>Added G032 – G032 – Benefit Card Services UPC/PLU Pass-Thru Data #3 (Usage 2).</p> <p>Added G091 – Benefit Card Services UPC/PLU Pass-Thru Data #4.</p> <p>Added a note in regard to Optum transactions to R007 – Additional Amounts.</p> <p>Updated Field 02 in Table 4-18 with Optum valid values.</p> <p>Added R019 - Benefit Card Services UPC/PLU Pass-Thru Data (Usage 2)</p> <p>Added R020 - Benefit Card Services UPC/PLU Pass-Thru Data #2 (Usage 2).</p> <p>Added R021 – EBT WIC Pass-thru Data Field #3.</p> <p>Added R021 – EBT WIC Pass-thru Data Field #3.</p> <p>Added R037 – EMD Completion Checkpoint Information.</p> <p>For R997 – System Health Status Information, corrected a subfield description for Current System Health.</p> <p>Added Appendix C, "Benefit Card Services Processing".</p>	Chapter 4, Appendix C

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
V2.23	01.06.2021	<p>For Field 130 Fleet Customer Data (Fleet Card), added a note for prompt 05 to indicate it is no longer valid for WEXP.</p> <p>Added a new subfield, POS Operating Environment Indicator (36) for G009 – Optional Processing Indicators.</p> <p>Added a new subfield (38) for G009 – Optional Processing Indicators, which is reserved for future use.</p> <p>Added a new subfield 39 (WEX Response Items Requested) for G009 – Optional Processing Indicators.</p> <p>Added a new subfield 40 (Request Raw Network Data) for G009 – Optional Processing Indicators.</p> <p>Added a new transaction specific indicator value, W (WEX Host Based Prompt 2nd Pass), for G022 – Transaction Specific Indicators.</p> <p>Added G062 – Amex Seller ID, G063 – Merchant Fraud Customer Name, G065 – Mastercard DSRP Cryptogram, and G066 – Remote Commerce Acceptor Identifier.</p> <p>Added R035 - WEX Additional Host-Based Prompts Requested and R036 - WEX Available Products Block.</p> <p>Added R075 - Raw Network Response Data.</p> <p>Added the TPS response code 797 (ENTER MORE PROMPTS) to Table A-10.</p>	Chapter 3, Chapter 4, Appendix A
V2.22	11.04.2020	<p>Added a value of 70 (Money Order Amount) for the Amount Type field in G015 - Additional Amounts Request.</p> <p>Updated Incremental Authorization to include support for Discover in addition to Visa and Mastercard.</p>	Chapter 4, Appendix B
V2.21	10.07.20	<p>Added System Health Check Request to Network Management Request Messages (0800).</p> <p>Added System Health Check Response to Network Management Response Messages (0810).</p> <p>For 70 Network Management Information Code, added a new value of 801 (System Health Status) for message type 0800.</p> <p>Added R997 – System Health Status Information.</p>	Chapter 2, Chapter 3, Chapter 4

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
V2.20	08.05.2020	Correct the position and lengths for R090 – Amazon Pay Response Data and added field 06 (PAN EXP Date).	Chapter 4
V2.19	07.08.2020	Added value of 08 (Proximity contactless EMV) for positions 1- 2 for Field 22 Point-of-Service Entry Mode . Added value of E (Contactless Magstripe) for positions 2 for Field 107 Point-of-Service Device Capability Code . For G021 – Fee Data , added missing information about single and two-step transactions for convenience fees and added missing values 1, 2, 3 to Table 4-25 .	Chapter 3, Chapter 4
V2.18	06.03.2020	Added G090 – Amazon Pay Request Data and R090 – Amazon Pay Response Data .	Chapter 4
V2.17	05.06.2020	In G009 – Optional Processing Indicators , updated the descriptions for Field 27 (POS Environment Indicator) and added the following new values: H – (Partial Shipment) and J (Re-authorization of multi-shipment). Changed the description of G048 – Additional Request Data 01's GU tag from Globally Unique ID to Native RAFT API Transaction ID.	Chapter 4
V2.16	04.01.2020	Added Field 37 (Additional Response Data) to G009 – Optional Processing Indicators . Added Subfield 06 (Replacement PAN Usage Indicator) to R057 - Real Time Account Updater Response Data . Updated the description of Subfield 02 Customer Web Session (Browser) ID for G060 – Customer Internet Connection Information to modify position and length values. Added R072 – Additional Response Data .	Chapter 4
V2.15	03.05.2020	Added a note to Field 65 Authorization Identification Response to indicate that sometimes this field may contain blanks. Added Field 35 Transaction Eligible for Pinless Conversion Indicator to G009 – Optional Processing Indicators . Added a section in Appendix B, "Special Transaction Processing" to describe how to implement an incremental authorization.	Chapter 3, Chapter 4, Appendix B

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
V2.14	02.05.2020	Updated the description of G021 – Fee Data to remove any indication that Worldpay supports debit surcharging.	Chapter 4
V2.13	10.30.2019	Added the following fields to G009 – Optional Processing Indicators : 33 (Account Updater Token Request) and 34 (Merchant Fraud Data Request Indicator). Added the following subfield tag to R057 - Real Time Account Updater Response Data : 05 (Replacement PAN Token). Added the following new group: R071 – Merchant Fraud Response Data .	Chapter 4
V2.12	10.02.2019	In Table 4-59 , corrected the note to the following: "Values 040 through 045 apply only to subsequent transactions (that is, non-initial transactions)."	Chapter 4
V2.11	09.04.2019	Added additional encryption methods to Appendix B.9, "End-To-End Encryption (E2EE)" .	Appendix B
V2.10	07.07.2019	Corrected the description of Credit Card Prior Authorization/Adjustment Request . For G009 - Optional Processing Indicator, updated the information for field number 24 in Table 4-12 , renaming it to Return E-Commerce Indicator and UCAF Indicator. For R030 - Additional Response Data, revised a description of what the tags EI and UC respond to and added a description of UC to Table 4-20 .	Chapter 2, Chapter 4
V2.9	07.10.2019	For 03 Processing Code , added ECC to the descriptions of Subfield 03 and 05. Added Tag OP (Original Partner Transaction ID) to Table 4-91, "G070 Valid Values/Notes (Field 01)" and updated the description of the MM (Transaction Notes) tag.	Chapter 3, Chapter 4

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
V2.8	06.12.2019	<p>For 22 Point-of-Service Entry Mode changed the definition of subfield 07 to include swiped MICR for check authorization transactions.</p> <p>Added a missing tag (28 - Digital Secure Remote Payment Indicator) to G009 – Optional Processing Indicators and updated the table values accordingly.</p> <p>Added subfield 16 (Check Type) to G056 - Enhanced Check Authorization Request Data.</p> <p>Updated Table 4-129, "R022 Supported Currency Codes" with missing currency codes for the first 8 entries.</p> <p>Added subtag field 03 (Network Response Code) to R056 - Enhanced Check Authorization Response Data.</p>	Chapter 3, Chapter 4
2.7	05.14.2019	<p>Added Field 30: Real Time Account Updater Request and Field 31; Credit Surcharge Request to G009 – Optional Processing Indicators.</p> <p>Added 045 (Deferred) value to Table 4-59 for G046 – Reversal/Advice Reason Code and updated the note before the table.</p> <p>In Table 4-62 (G048 - Additional Request Data), changed text for Valid Value/Notes Column for Field 01 to say, "See Table 4.59."</p> <p>In Table 4-62, removed text from the Valid Value/Notes column for Field 03.</p> <p>Added Tag TR (Transit Program Data) to Table 4-63 for G048.</p> <p>Changed the name of Table 4-64 to "G048 Tag DT (Device Type) Values."</p> <p>Removed duplicate entries from Table 4-70 Transaction Types.</p> <p>Added G070 – AliPay Request Data and R070 – AliPay Response Data.</p> <p>Added a new value (SC - Calculated Surcharge Amount) to Field 02: Amount Type for R007 – Additional Amounts.</p> <p>Added R057 - Real Time Account Updater Response Data.</p>	Chapter 4

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
2.6	04.03.2019	<p>Updated the description of G054 – MAC Encryption Key Data Request to indicate the group is for Canadian processing.</p> <p>Added a note to G041 – Discover D-PAS In-App Cardholder Authentication Data saying that Worldpay recommends using G037 for all card types and to discontinue using G041.</p> <p>Updated B.16.1.1 to include Discover, because G037 can support Discover transactions and removed references to G041.</p>	Chapter 4, Appendix B
2.5	03.06.2019	<p>Corrected the description of Authorization Approval Response to say that it only returns an approval from the issuing bank.</p> <p>Added Key Change Request Message and Key Change Response Message to Network Management Request and Response Messages.</p> <p>Removed "Ignored for non-Visa" from the description of the indicator 27 for G009 – Optional Processing Indicators.</p> <p>Added Field 29 (Capable of accepting Transaction Integrity Class (Mastercard) response R033) to G009 – Optional Processing Indicators.</p> <p>Updated G055 – Message Authentication Data with information in regard to KSN.</p> <p>Added G054 – MAC Encryption Key Data Request and R054 – MAC Encryption Key Data Response.</p> <p>Added G057 - Customer Bill-To Address, G058 – Customer Ship-To Address, G059 – Customer Order Information, and G060 – Customer Internet Connection Information.</p> <p>Added R033 - Transaction Integrity Class (Mastercard).</p>	Chapter 2, Chapter 4
2.4	02.06.2019	<p>Added the following values to indicator 27 for G009 – Optional Processing Indicators: F (Final Auth) and P (Preauth).</p> <p>Added Field 28 (Request Network Retrieval Reference Number) to G009 – Optional Processing Indicators.</p> <p>Added Field NR (Network Authorization Retrieval Reference Number) to R030 – Additional Response Data.</p>	Chapter 4

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
2.3	01.16.2019	<p>Removed Visa POS Check Conversion Reversal (Void) Request (formerly Section 2.4.1.4) and Visa POS Check Reversal (Void) Approval Response (formerly Section 2.4.2.5).</p> <p>Updated the following fields noting the tags to include for EMV processing: 02 Primary Account Number, 45 Track Data, and 112 Card Sequence Number.</p>	Chapter 2, Chapter 3
2.2	01.09.2018	<p>Renamed Check Authorization Request to Check Inquiry/Verification Request (Section 2.2.1.7).</p> <p>Removed Check Verification Request (formerly Section 2.2.1.10).</p> <p>Renamed Check Verification/Guarantee Approval Response to Check Inquiry/Verification Approval Response (Section 2.2.2.9).</p> <p>Renamed Check Verification/Guarantee Error Response to Check Inquiry/Verification Error Response (Section 2.2.2.10).</p> <p>Removed Visa POS Check Conversion Approval Response (formerly Section 2.3.2.4).</p> <p>Removed Visa POS Check Conversion Error Response (formerly Section 2.3.2.5).</p> <p>Removed Visa POS Check Conversion Request (formerly Section 2.3.1.20).</p> <p>Replaced Check Conversion Request (formerly Section 2.3.1.32) with Enhanced Check Authorization Request (Section 2.3.1.31).</p> <p>Replaced Check Conversion Approval Response (formerly Section 2.3.2.11) with Enhanced Check Authorization Approval Response (Section 2.3.2.9).</p> <p>Replaced Check Conversion Error Response (formerly Section 2.3.2.12) with Enhanced Check Authorization Error Response (Section 2.3.2.10).</p> <p>Replaced Check Conversion Reversal (Void) Request (Section 2.4.1.7) with Enhanced Check Authorization Reversal (Void) Request.</p> <p>Replaced Check Conversion Reversal (Void) Approval Response (Section 2.4.2.11) with Enhanced Check Authorization Reversal (Void) Approval Response.</p>	Chapter 2, Chapter 3, Chapter 4, Appendix B

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
2.2 Continued	01.03.2018	<p>Replaced Check Conversion Reversal (Void) Error Response (Section 2.4.2.12) with Enhanced Check Authorization Reversal (Void) Error Response.</p> <p>Updated Table 3-4 to include 03 (Check Guarantee) and 05 (Check Conversion) and updated the description of 04 to “Check Inquiry/Verification.”</p> <p>Updated the description of G014 - Original Authorization Retrieval Reference Number to accommodate additional usage scenarios.</p> <p>Added G056 - Enhanced Check Authorization Request Data and R056 - Enhanced Check Authorization Response Data.</p> <p>Removed Section 5 (Check Processing) from Appendix B.</p>	Chapter 2, Chapter 3, Chapter 4, Appendix B
2.1	10.11.2018	<p>Fixed a TOC issue in regard to Chapter 3.</p> <p>Reissued to correct bookmarks in the PDF file.</p>	TOC
2.0	10.03.2018	<p>Re-branded entire document format due to the Vantiv-Worldpay merger; replaced many instances of the 'Vantiv' with 'Worldpay.'</p> <p>In the G026 – POS Encrypted Data, corrected a typographical error in the second introductory paragraph in regard to DUKPT usage.</p>	All, Chapter 4
1.16	09.06.2018	For G009 – Optional Processing Indicators , updated the description of Value 2 for Field 22 - Card not Present (CNP) Type Indicator.	Chapter 4
1.15	08.08.2018	<p>Updated G015 - Additional Amounts Request with the following new Account Types: 10 (Savings Account), 20 (Checking Account), 30 (Credit Card), 40 (Universal Account), and 64 (Spending Power). Added the following new Additional Amount Type: 43 (Incremental Authorization Cumulative Amount). Added the following valid value to Amount (s+n 12): D (Negative Amount).</p> <p>Corrected the third paragraph in VISA Debt Repayment to use Field 25 Point-of-Service Condition Code instead of Field 22 Point-of-Service Entry Mode.</p>	Chapter 4, Appendix B
1.14	07.11.2018	Added the AM (Alternate Merchant ID) tag to G048 – Additional Request Data .	Chapter 4
1.13	06.08.2018	Added GU tag to Table 4-63 and alphabetized table entries.	Chapter 4

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
1.12	05.09.2018	<p>Corrected the attribute type of Field 37 Retrieval Reference Number).</p> <p>Added a note to Field 105.3 (Visa)/Banknet Data (MC)/POSA SAF Reference Number to clarify that the Transaction ID is a dynamic value.</p> <p>Added notes to Amex, Master Card, Visa, and Discover - see page B-628 and Using the Worldpay Mobile API for Apple Pay - see page B-629 to inform merchants that it is a best practice to provide the address and zipcode for all Visa transactions.</p>	Chapter 3, Appendix B
1.11	03.14.2018	In Table 2-58 (Cardholder Funds Transfer), changed Bit Map Type Comment column value from 05 to 50.	Chapter 2
1.10	02.09.2018	Fixed erroneous cross-reference and typo.	Chapter 4
1.9	01.10.2018	<p>Noted in Host Time-Out Settings that host time-out settings vary and merchants should discuss this with their Conversions person when they certify.</p> <p>Removed the following sentence from Network Routing Code: It appears in all messages, but Vantiv ignores it.</p> <p>For Field 03 (03 Processing Code), changed message types from 0400 Unsolicited Reversal request and 0410 Reversal response to 0400 and 0410 Reversal request and response.</p>	Chapter 1, Chapter 3, Chapter 4

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
1.9 (cont)	01.13.2018	<p>For Field 22 (22 Point-of-Service Entry Mode), removed "involving network tokens" from its description.</p> <p>For Field 120.3's (120.3 Network Mnemonic/Card Type) description, the following changes were made:</p> <ul style="list-style-type: none"> • In the field description, added O to the B (Business) bulleted item. • In Table 3-34, updated the VI Card Type (Position 1) with the correct values. <p>For Field 133 (133 POSA Network ID), updated Table 3-40 with the following POSA Network IDs: NSPD (Netspend0), GDOT (Green Dot), and GDT2 (Green Dot Alternate).</p> <p>For G001 (Request Groups) updated the description changing all references (two) from Vantiv Direct to Vantiv IQ.</p> <p>For G012 – AMEX Transaction Identifier/Discover Network Reference ID/Visa Transaction Identifier, updated the description to specify you can use it to send the Visa Tran ID for subsequent occurrences of a recurring or installment payment transactions.</p> <p>For G040 – Encrypted CVV2 / Expiration Date, updated Field 02's description to read "Encrypted Expiration Date" in Table 4-51.</p> <p>Added G052 – eCommerce Discretionary Data.</p> <p>Added G055 – Message Authentication Data.</p> <p>Added R055 – Message Authentication Data.</p>	Chapter 1, Chapter 3, Chapter 4

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
1.8	11.08.2017	<p>Added a new section, Cardholder Funds Transfer on page 136.</p> <p>Removed references to Field 38 - Authorization Identification Response in Table 3-1 (Bit Number entry for Auth ID Response) and removed its general field description.</p> <p>Updated Table 3-4 to include action codes 41 (Card Holder Funds Transfer - Debit) and 42 (Card Holder Funds Transfer - Credit).</p> <p>In Table 3-16, for field 25.7 (POS Cond Code), removed "supported in MOTO only" and "supported in MOTO and ECON" and updated the description of subfield 3.</p> <p>Changed a note in G026 – POS Encrypted Data example (Manual Keyed Card Data (Field 10, Subfield 3) to indicate the Expiry and CVV2 fields are only for DUKPT and Verifone ADE.</p> <p>Added G051 – Cardholder Funds Transfer Data.</p> <p>In Table 4-67 (G050 - Multi-Clearing Information), changed Field 01's (Multiple Clearing Sequence Number indicating which shipment is being sent) valid value from 01-99 to 00-99.</p> <p>Changed the title of Table 4-173 from R999 - Detail Extended Host Error Description to R999 - Error Group Data Response.</p> <p>Removed the following sentence from Field 65 Authorization Identification Response: "In all host capture terminal messages but the EBT voice-authorization request, this data is in bit 38."</p>	Chapter 2, Chapter 3, Chapter 4

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
1.7	10.06.2017	<p>Field 22 Point-of-Service Entry Mode - added new sub-field 10 - Credential on file.</p> <p>G009 – Optional Processing Indicators, - Field 01 - Visa/MasterCard Partial Approval Indicator - added new values (2 - estimated, auth and 3 - estimated auth + partial); added Field 27 - POS environment Indicator, with values C - Credential on file, R - Recurring, I - Installment.</p> <p>G046 – Reversal/Advice Reason Code - added new values: 040 - Incremental, 041 - Resubmission, 042 - Delayed Charge, 043 - Reauthorization, 044 - No Show</p> <p>Added G050 – Multi-Clearing Information.</p> <p>Corrected position and total group bytes for G049 – Ecommerce Discover Fraud Enhancement Data</p> <p>Updated Earliest WIC Benefit Expiration Date and EBT data identifier values to include 12 (for WIC Virginia only) in addition to EF in WIC Pass-Thru Data on page 617.</p> <p>Added TPS Response Code 670 - CONTACT ISSUER to MasterCard section (see MasterCard).</p>	Chapter 3, Chapter, 4, Appendix B
			Appendix A
1.6	09.06.2017	Removed duplicate entry (Field Number 02) from Table 4-47 in G036 – Credit Card PIN Data .	Chapter 4
1.5	08.09.2017	<p>03 Processing Code - Added subfield value 82 (Convert HVT to LVT) to Action Code table.</p> <p>G009 – Optional Processing Indicators - Added Field 26 (Return TransactionID).</p> <p>G021 – Fee Data - Corrected Table 4.25 title.</p> <p>G028 –Token Utilization - Added Field 04 (CVV2) and 05 (Low Value CVV2 Token). Revised description of 05 to indicate that it should be space filled if unused.</p> <p>Added G087 - Transaction Identifier.</p> <p>R017 – End-To-End Encryption (E2EE) Response - Added a new value of 9, Low Value Token (Reg-ID) to Field 02.</p> <p>Added R087 - Transaction Identifier.</p>	Chapter 3, Chapter 4

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
1.4	07.12.2017	<p>In G009 – Optional Processing Indicators on page 355, the following changes were made:</p> <ul style="list-style-type: none"> Corrected Field 23 and added Field 25. Added 0 (no token data returned) as a valid value for Field 24 in C. Corrected the description of Field 12. <p>Added E (Encryption Format Code for AD) as a valid value for Field 1 and Field 10 in G026 – POS Encrypted Data on page 393 to support P2PE (Point-to-Point Encryption) usage.</p> <p>Added Field Number EI (E-Commerce Indicator) to R030 – Additional Response Data on page 518.</p> <p>Changed Point of Service Condition Code in Step 2 of Amex, Master Card, Visa, and Discover on page 628 from 91x to 82.</p>	Chapter 4, Appendix B
1.3	06.07.2017	<p>Added Fields 23 and 24 to G009 – Optional Processing Indicators on page 355.</p> <p>Moved Tag 9F34 from the Required table to the Conditional table for G035 – EMV Tag Data on page 412.</p> <p>Added new group response, R032 - Returned Token Data on page 524.</p> <p>Corrected some tag duplications in the tables in G035 – EMV Tag Data on page 412 and R023 – EMV Response Data on page 509.</p> <p>Changed Earliest WIC Benefit Expiration Date and EBT data data identifier values from 12 to EF in WIC Pass-Thru Data on page 617.</p>	Chapter 4, Appendix B

TABLE 1 Document Revision History

Doc. Version	Release Date	Description	Location(s)
1.2	05.10.2017	<p>Updated Preface conventions section to include the character and noted it is for illustrative purposes only and not to be sent in messages and also included notes to this effect in both Chapters 2 and 4.</p> <p>Updated subfield 11 of G017 – Discover/Carte Blanche/Diners Club International/Japanese Credit Bureau/China Union Pay POS Data Code to indicate the subfield will overwrite the value sent in bit 45.2.</p> <p>In Amex, Master Card, Visa, and Discover, changed G037 in the example to G041.</p> <p>Added the following new information:</p> <ul style="list-style-type: none"> • Using the Worldpay Mobile API for Apple Pay on page 629 • Using the Worldpay Mobile API for Android Pay on page 630 • Worldpay Online Systems - 610 Message Format on page 633 	Preface, Chapter 2, Chapter 4, Appendix B
1.1	04.14.2017	<p>Updated 07 Transmission Date and Time to indicate that it is echoed back in the response message.</p> <p>Removed erroneous statement from 42 Card Acceptor Identification Code that said the field could contain spaces.</p> <p>Removed Tables 3-3, 3-4, 3-6, and 3-7, retaining only one request (Table 3-2) and only one response table (Table 3-3) by transaction type for simplicity.</p> <p>Updated G028 –Token Utilization to support a new field 4 (CVV2/CVC2/CID) for token-initiated transactions.</p> <p>Updated G048 – Additional Request Data to state in the cases where the conditional tag 9F6E exists (G035 - EMV Tag Data), it is the definitive source for the value of G048.</p>	Chapters 3 and 4
1.0	01.27.2017	<p>This is a new guide that includes information previously published in the following documents:</p> <ul style="list-style-type: none"> • <i>Front-End Interface Specifications Interface Support Guide</i> • <i>Front-End Interface Specification 600/610 Host Capture Group Field Descriptions</i> • <i>Front-End Interface Specification Host Capture 610 Messages</i> • <i>Host Capture 610 Message Specifications - Network Tokenization (Apple Pay)</i> • <i>TPS Response Codes</i> 	NA

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Document Structure

This manual contains the following sections:

Chapter 1, "Introduction"

This chapter contains diagrams and transaction descriptions that illustrate various aspects of the communication and transmission of data between a terminal capture (TCS) or host capture (HCS) POS application and the Worldpay Online Systems host.

Worldpay supports the following communication protocols: TCP/IP, Transport Layer Security (TLS), and ASYNCHRONOUS (VISA II PROTOCOL). Other customer-specific implementations exist. Contact Worldpay if you require a custom interface.

NOTE: In any of the Worldpay environments, Worldpay requires TLS V1.2 at a minimum.

Chapter 2, "610 Controller Request and Response Messages"

This chapter describes the interface between Worldpay Online Systems and in-store controllers. It explains how each of the basic message types included in the host capture message sets is used by Worldpay and in-store controllers.

Chapter 3, "Field Descriptions"

This chapter gives definitions of all the fields that can be contained in the messages, including data formats, specific values if appropriate, and exceptions.

Chapter 4, "Group Data"

This chapter provides the means for adding additional fields to base messages using Group Data, which enables logical grouping of similar data and facilitates expansion of existing request and response messages.

Appendix A, "TPS Response Codes"

This appendix defines all Worldpay Online Systems TPS response codes passed between the Worldpay and the terminal and/or POS device.

Appendix B, "Special Transaction Processing"

This appendix describes the special processing required for some transactions.

Glossary

This glossary provides definitions of some of the terms used throughout this guide.

Typographical Conventions

Table 2 describes the conventions used in this guide.

TABLE 2 Typographical Conventions

Convention	Meaning
.	Vertical ellipsis points in an example mean that information not directly related to the example has been omitted.
. . .	Horizontal ellipsis points in statements or commands mean that parts of the statement or command not directly related to the example have been omitted.
< >	Angle brackets are used in the following situations: <ul style="list-style-type: none"> • user-supplied values (variables) • XML elements
[]	Brackets enclose optional clauses from which you can choose one or more option.
bold text	Bold text indicates emphasis.
<i>Italicized text</i>	Italic type in text indicates a term defined in the text, the glossary, or in both locations.
blue text	Blue text indicates a hypertext link.
	This character represents a separator in examples and if for illustrative purposes only. I 2 . 1 2 3 4 5 6 0 1 0 0 2 1 0 0 4 0 0 0 You should not include it in any messages.
<fs>	In examples, this represents a field separator.
<gs>	In examples, this represents a group separator.
<rs>	In examples, this represents a record separator.

Introduction

This chapter provides an overview of the Worldpay POS terminal or in-store controller and the Worldpay Online Systems platform application software. Additionally, it contains diagrams and transaction descriptions that illustrate various aspects of the communication and transmission of data between host capture (HCS) POS application and the Worldpay host.

The topics discussed in this chapter are:

- [Worldpay Online Systems Overview](#)
- [TCP/IP](#)
- [Communication Protocol](#)
- [Asynchronous](#)
- [Asynchronous Transaction Flows and Formats](#)
- [Response Exception Processing](#)
- [CVV2/CID Verification Service](#)
- [Host Time-Out Settings](#)

1.1 Worldpay Online Systems Overview

This section briefly describes the functions of the Worldpay POS terminal or in-store controller and the Worldpay platform application software, which uses the interface resources during authorization, transaction capture, and transaction settlement activities.

1.1.1 Host Capture Terminal

The Worldpay host capture terminal performs the following functions:

- Manages the transfer and content of messages passed between the terminals and the Worldpay application.
- Implements compliance requirements associated with external network operating rules.
- Supports host settlement requirements.

The format and content of messages passed between Worldpay and the POS terminal follow the structure and transmission requirements described in [Chapter 2, "610 Controller Request and Response Messages"](#).

The POS terminal also adheres to the same external-authorization operating rules that apply to the Worldpay authorization platform. Because the Worldpay platform handles authorizations with a variety of authorization institutions, the POS terminal maintains the capability to comply with multiple sets of operating rules.

1.1.2 In-Store Controller

When working with Worldpay, the in-store controller performs the following functions:

- Validates and consolidates transactions from the terminals in the store.
- Manages the transfer and content of batch messages passed between the store and Worldpay.
- Generates reversals for transactions that time out waiting for a response.
- Supports host settlement requirements.

The format and content of messages passed between Worldpay and the controller follow the structure detailed in [Chapter 2, "610 Controller Request and Response Messages"](#). Unless otherwise noted, the same transmission requirements apply for the POS terminal.

1.1.3 Worldpay Online Systems Platform

The Worldpay platform performs the following major functions:

- Accepts authorization requests from the POS terminal, directs each request to the appropriate authorization service, delivers the response to the terminal capture authorization request transactions, and settles authorized EFT transactions.
- Manages the receipt of authorization transactions that originate from multiple POS devices by validating, routing, reformatting, and transmitting the authorization request to the various external authorization institutions.

In the reverse direction, it controls the reception, reformatting, transmission, and logging of the authorization response from the external authorizer to the POS terminal.

- Provides the capability of batching and settling with multiple institutions and a host processor.

1.1.4 Message Definition

The communication interface for the host capture controller message set is multi-threaded, which allows the controller to send more than one message to Worldpay without waiting for a response.

This message set uses ISO standard fields, where possible, allowing Worldpay to use the standards established by the industry.

1.2 TCP/IP

This section describes the requirements for connecting to the Worldpay hosts using TCP/IP. TCP/IP is the protocol of choice for most Worldpay customers due to reduced overhead and shorter transaction times. Much of the reduced transaction time comes from eliminating the dialing and modem synchronization instead relying on a dedicated connection.

A POS application can transmit authorization and clearing (settlement) messages over the TCP/IP connection using the 610 message set for host capture.

For more information about the TCP/IP protocols, refer to [RFC 1122 Requirements for Internet Hosts - Communication Layers](#).

1.2.1 Message Construction

The POS application interfaces to the Worldpay host using a leased-line connection and the TCP/IP protocol. It must prefix each request with a 21-byte TPS header, which includes a field indicating the length of the message to follow in the supported format.

Following are the general considerations for TCP/IP communications:

- Each authorization/upload request should begin with a new socket connection.
- It allows only one transaction in flight at a time per bank/merchant/terminal/lane.
- Unless the POS device or application times-out, each request ends with an approval, a decline or an error response.
- After the POS application receives the host response, the connection should close.
- Parameterize time-out values with the application waits for an authorization response and the time it should wait for a response to an upload. You should make these values configurable and not hard-code them.
- Applications can elect to utilize two destination IP addresses, one for each of the Worldpay platform's production hosts. Use these addresses as a primary and secondary and not to alternate traffic in a round-robin fashion. You can temporarily redirected transactions to the secondary host; however, transactions must return to the primary when it becomes available.

When converting from dial communications, do the following:

- Eliminate the STX, ETX and LRC from the request. The IP protocol handles these.
- Eliminate ACKing the host's authorization response. The IP protocol handles these.
- Eliminate ENQ code. ENQ characters are only sent in dial implementations.
- Prefix the request with the 21-byte TPS header.

1.2.2 TPS Header Format Specification

[Table 1-1](#) defines message construction for authorization requests and responses between POS devices (or applications) and the Worldpay host. It is not intended as a specification for message formats but rather as a template for building requests using the 610 message set. For more information about the message layouts, see [Chapter 2, "610 Controller Request and Response Messages"](#).

1.2.2.1 Requests to Worldpay Online Systems

TABLE 1-1 Requests to Worldpay Online Systems

Field Number	Field Description	Field Type	Offset	Field Length	Required Values
1	Message Originator	a	0	2	BT
2	Message Length	n	2	4	nnnn This is the length (decimal) of the message beginning with field 4. You must right-justify and zero fill it.
3	Echo Data	an	6	15	This is the discretionary data from controller or protocol converter that the response echoes. This field is available to the controller/terminal application for purposes like response routing.
4	Request Message	per spec	21	variable	This is the request message as defined in Chapter 2, "610 Controller Request and Response Messages" .

1.2.2.2 Responses from Worldpay Online Systems

TABLE 1-2 Responses from Worldpay Online Systems

Field Number	Field Description	Field Type	Offset	Field Length	Required Values
1	Message Originator	a	0	2	BT
2	Message Length	n	2	4	nnnn This is the length of the message beginning with field 4. You must right-justify and zero fill it.
3	Echo Data	an	6	15	This comes from the request.
4	Response Message	per spec	21	variable	This is the response message from the Worldpay Online System as defined in Chapter 2, "610 Controller Request and Response Messages" .

1.2.3 Authorizations via TCP/IP

The underlying connectivity that supports TCP/IP-based implementations remains available at all times. While the path between the POS application and the host is always up, socket connections to the host should only exist during the life of an authorization request or upload. That is, a socket is opened for each request and is closed when the host response is received or a time-out is experienced.

TABLE 1-3 POS Authorization Request to the Worldpay Online Systems Host

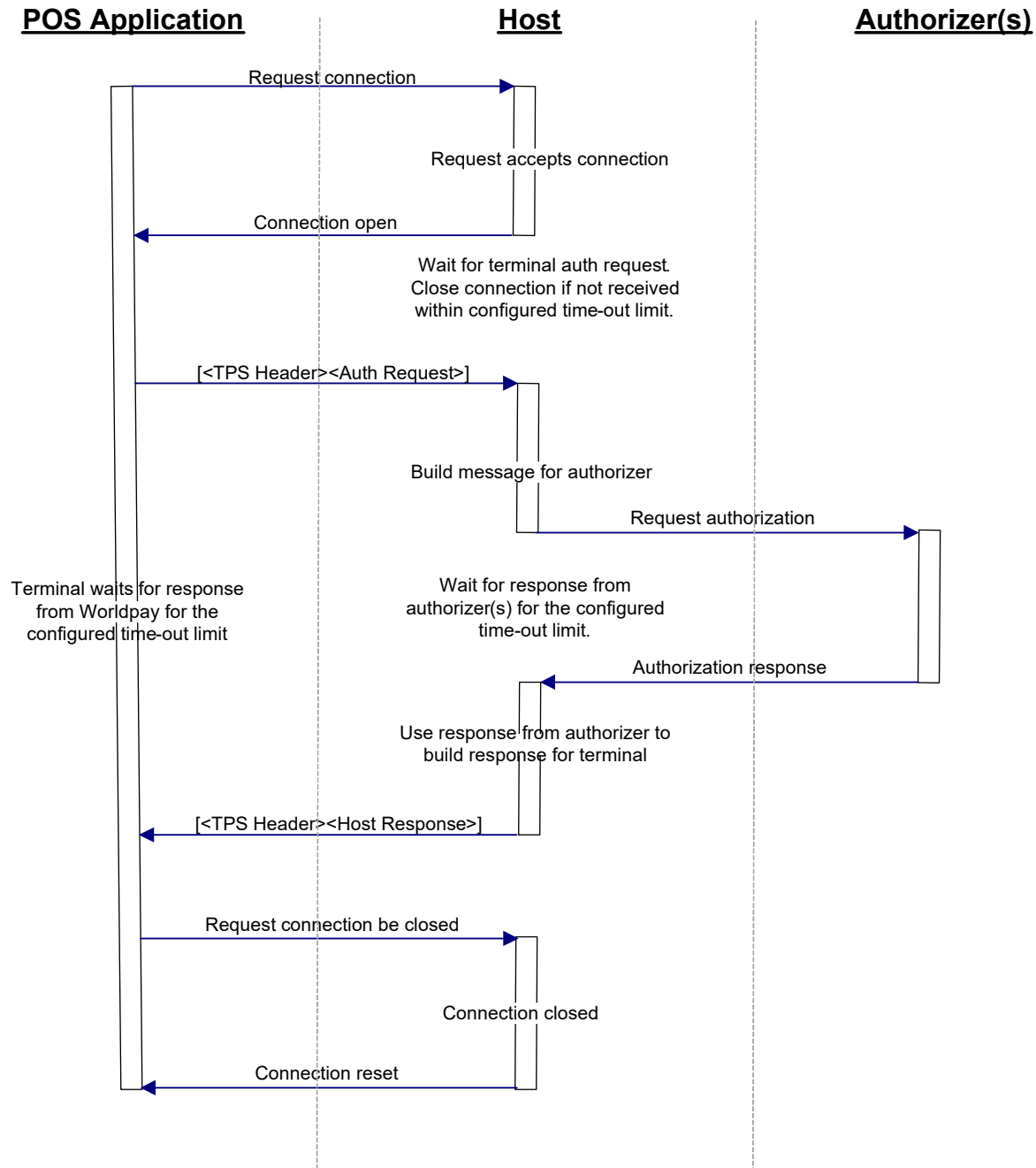
POS Authorization Request to the Worldpay Online Systems Host	
<TPS Header> (21 bytes)	<Authorization Request> (variable # of bytes)

When host authorization responses return to the POS application, they have the same format with the same 21-byte header indicating the length of the host response message. This response is an approval, a decline, or an error.

The POS application should use a configurable authorization timeout value in the event a response message is not returned.

TABLE 1-4 Worldpay Online Systems Authorization Response to the POS Application

Worldpay Online Systems Authorization Response to the POS Application	
<TPS Header> (21 bytes)	<Authorization Response> (variable # of bytes)

FIGURE 1-1 TCP/IP Authorizations Flow

1.3 Communication Protocol

The Worldpay platform provides a low-cost method for authorizing credit, debit, check, POSA, and EBT transactions. This platform can utilize the Internet or a leased line connection to transport the data from the merchant site to Worldpay data centers. Use TBL 1.2 or higher protocol for all communications.

For more information about the HTTP and TLS protocols, refer to the following documents:

- [RFC 1945 Hypertext Transfer Protocol HTTP/1.0](#)
- [RFC 2616 Hypertext Transfer Protocol HTTP/1.1](#)
- [RFC 2617 HTTP Authentication and Digest Access Authentication](#)
- [RFC 5246 The TLS Protocol](#)

1.3.1 Platform Description

The TLS authorization platform comprises the following logical environments: production and Test/QA. Both utilize production ISPs and production-classified network equipment within the Worldpay data centers. The Test/QA environment is for the application development and certification phases. The production environment is for processing live transactions only.

Any client authorized to use this platform establishes a connection over TLS and uses HTTP for message delivery (HTTPS). All interactions between the client software and the TLS platform are secured using negotiated encryption as dictated by the TLS protocol. Usernames and passwords are assigned and must appear in the HTTP message header for authentication.

Following are the general considerations and requirements for TLS communications:

- Each authorization request should begin with a new socket connection.
- Unless the application times-out, each request ends with an approval, a decline, or an error.
- Once the POS application receives the host response, the host should close the connection.
- The POS application should have configurable time-out value parameters.
- Applications can utilize two URLs, one for each Worldpay data center. Applications should use them as primary and secondary and not to alternate traffic in a round-robin fashion. Applications can temporarily redirect traffic to the secondary URL; however, traffic must return to the primary it is available.
- DNS name(s) should be used, not IP addresses, and they should be parameters.
- If performing certificate validation, the CA should not be hardcoded or parameterized.
- There are no client side certificates, only server side.
- The platform has multiple access points. TLS traffic can enter Worldpay through two data centers and a total of four ISPs. From an application standpoint, this means that sequential transactions, from one POS application, can take different paths to the host. Each authorization/settlement must therefore be treated independently. Persistent type connections are not permitted.

1.3.1.1 Production Environment

The main production environment uses a single URL and has many features designed to help eliminate service interruptions. You need to first consider some of these features when you design an application. One area of consideration is the use of traffic management devices by F5, which are known as Local Traffic Managers (LTMs).

These devices perform the following functions for the TLS platform:

- Terminate TLS sessions
- Balance traffic across the listening processes on the hosts
- Failover automatically to an alternate host

Worldpay uses the following criteria to accept TLS connections:

- You must load the vendor's/customer's login ID on the host.
- You must use one of the specified production URLs.
- Your POS application must adhere to an approved message set.
- You must configure your POS application with valid bank, merchant, and terminal numbers.

The URL for the production environment is:

<https://prodssl.protectedtransactions.com/AUTH>

Since this environment utilizes multiple data centers and ISPs, the DNS name `prod.ssl53.com` can resolve to different IP addresses.

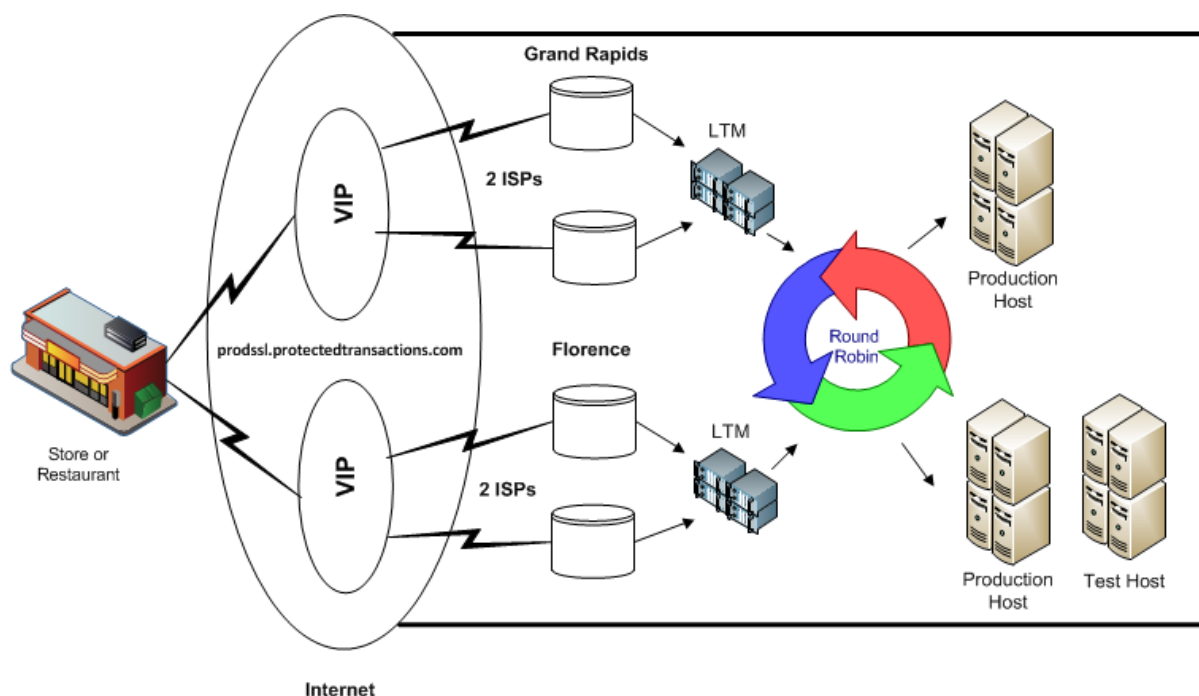
If in use, open firewalls or route restrictions at the customer locations or at their corporate office to allow traffic through to Worldpay's range of addresses. This range is 64.57.144.0/20 (64.57.144.0 with subnet mask of 255.255.240.0) and encompasses all possible IP addresses. Configure firewalls with IP addresses and not DNS names. It is possible for a firewall and the POS application at the same customer location to get different IP addresses when resolving DNS names. If this happens, the firewall stops the application's attempt to connect to the host.

Additionally, most client software should perform checks to validate the TLS certificate. This requires access to the Certificate Signing Authority (CA). Worldpay currently uses VeriSign for its certificates; thus, to connect to the following URLs may require additional privileges:

- `ocsp.verisign.com`
- `crl.verisign.com`

NOTE: Worldpay has the option of changing the Certificate Authority (CA) at any time so do not be hard-code or parameterize it. The application must adhere to the RFCs, allowing dynamic changes to the CA.

Figure 1-2 shows the production environment illustrating the two data centers, the distribution of the four ISP interfaces, and the paths to the hosts at the alternate site.

FIGURE 1-2 TLS Platform — Production Environment

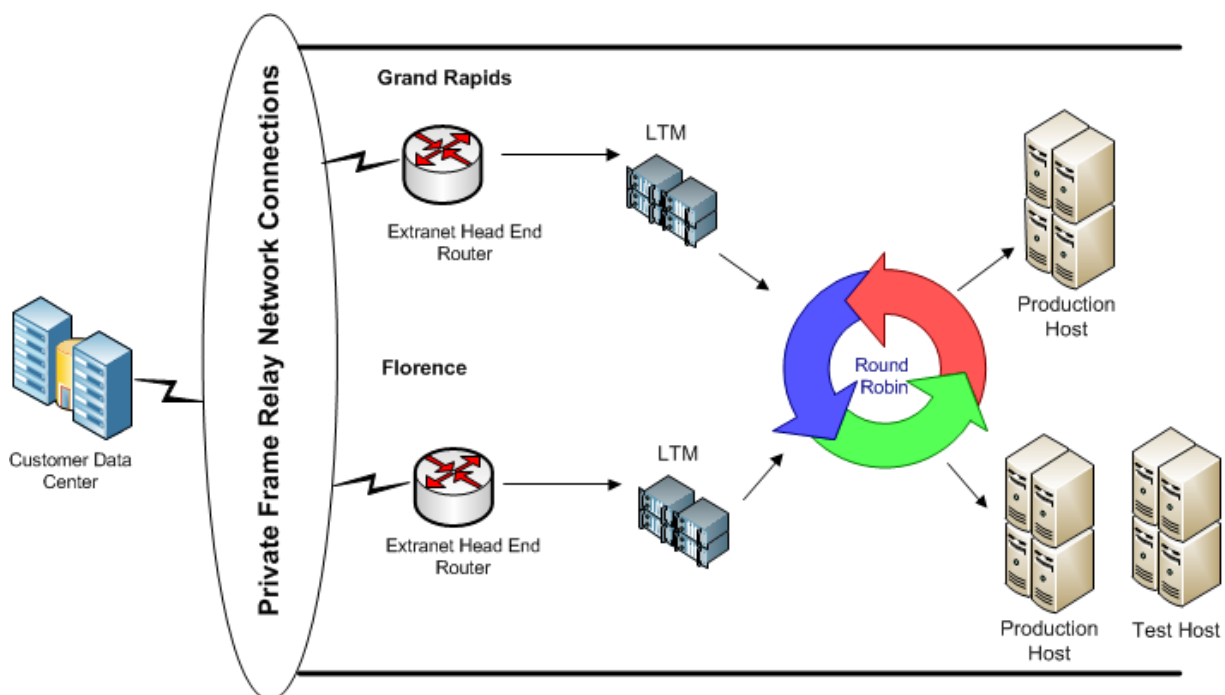
1.3.1.2 Routing TLS Traffic Across Leased-Lines

You can also reach Worldpay's TLS platform using non-public networks. That is, you can route your TLS traffic across a leased-line connection. Additional URLs exist to distinguish the private and public destinations. The following URLs are case sensitive:

- Certification and Testing
<https://certxssl.protectedtransactions.com/AUTH>
- Production Authorization and Settlement
<https://prodxssl.protectedtransactions.com/AUTH>

These DNS names resolve over the Internet. The corresponding IP addresses are public; however, you can only access them from Worldpay's extranet segment. The customer must provide the proper routing so that their traffic traverses the private connection instead of the Internet.

Figure 1-3 depicts the TLS platform and the flow of transactions when using a leased line network, where you can see Worldpay's extranet segment with circuits between the customer's data center and the two Worldpay data centers. (The customer, Worldpay, or a third party can own and manage the connection between the customer and Worldpay.) It also shows the TLS traffic flow within Worldpay's network with the primary and alternate paths for the LTMs.

FIGURE 1-3 Extranet Connectivity

1.3.1.3 Test/QA Environment

This environment utilizes some of the same hardware and redundancies as the production environment. Since it only handles test and certification traffic, it does not have the same levels of redundancy and failover. Traffic is routed through just one data center, Grand Rapids, and can only terminate to one host, the test/QA host in Florence.

The URL for the Test/QA environment is as follows:

<https://certssl.protectedtransactions.com/AUTH>

If firewalls or route restrictions are in use at your location or at your corporate office, you should open them to allow traffic through ranges of addresses listed in [Production Environment](#) on page 9.

Additionally, some client software may perform checks to see if TLS certificates are valid to the Certificate Signing Authority (CA). If you want to allow the client software to reach the CA, you may need additional privileges.

1.3.2 General Application Considerations

This section describes some requirements and characteristics of the TLS authorization platform that you need to consider when you develop an application.

1.3.2.1 Protocols Supported

Worldpay uses Hypertext Transfer Protocol Secure (HTTPS) to manage the encryption of communication between the client and the host.

NOTE: In any of the Worldpay environments, Worldpay requires TLS V1.2 at a minimum.

1.3.2.2 Connections

The TLS connection is not made directly to the host; they terminate to one of the traffic management devices. These devices are called Local Traffic Managers (LTMs). They perform several functions including traffic balancing, disaster recovery, certificate management, and message sanitization. Typically, clients connect to a single URL, and Worldpay will manage which host services the transaction.

Each request, whether for authorization or settlement, must start with a new connection. Persistent connections are not supported. At the end of a communication thread, the host transmits the authorization response, then it begins the process of shutting down the connection. As part of this process, it sends a close notify request to alert the peer. The application on the PC or in the POS device must accept this request and begin to tear down the connection.

1.3.2.3 Key Lengths

The TLS authorization platform requires a minimum cipher key length of 128 bits.

1.3.2.4 DNS, TTL, and Caching

Worldpay recommends applications always reference the TLS platform by DNS instead IP addresses. It is Worldpay's policy to utilize DNS to control traffic into their various Internet-facing platforms; therefore, the actual IP addresses for a URL could change, for example, in a DR condition. Client software developers should consider all DNS features when designing applications, including TTL and refreshing cache. You should use the TTL value returned in response to the DNS query as the minimum value for setting the TTL in the application. This helps minimize the impact to merchants if Worldpay is forced to adjust DNS.

1.3.2.5 URL Details

The F5 LTMs drop the connection request if the URL configured in the POS application is not exact. The URL is case sensitive and must be entered in as detailed.

1.3.2.6 Protocol Review Specifics

During the Protocol Review process, several aspects of the communications between the host and the end-point are scrutinized. The following are items noted and/or checked for alignment with published standards and those imposed by FTPS for processing on the TLS platform:

- Client Source IP address and IP address client resolved to for the host at time of test
- Protocol used - TLS 1.2
- Cipher Suite selected for encrypted conversation

- HTTP version used - 1.0 or 1.1
- HTTP Header - Connection set to close
- If HTTP version is set to 1.0, the socket session only contains one request and response, and the socket terminates upon its completion.
- HTTP Header - User-agent
- HTTP Header - Host
- HTTP Header - Authentication is sent with initial HTTP request to the host
- Session termination - Client initiated teardown of the socket or host initiated teardown
- Verify no delays are present in the termination of the socket connection

1.3.3 Communication Flow

This section describes the authorization request and the protocol flow.

1.3.3.1 General Information on Authorization Request

A separate thread handles every request for either authorization or settlement. The TLS authorization platform can handle multiple threads simultaneously. The Worldpay financial processors can handle multiple requests simultaneously when these requests arrive on separate TCP/IP connections.

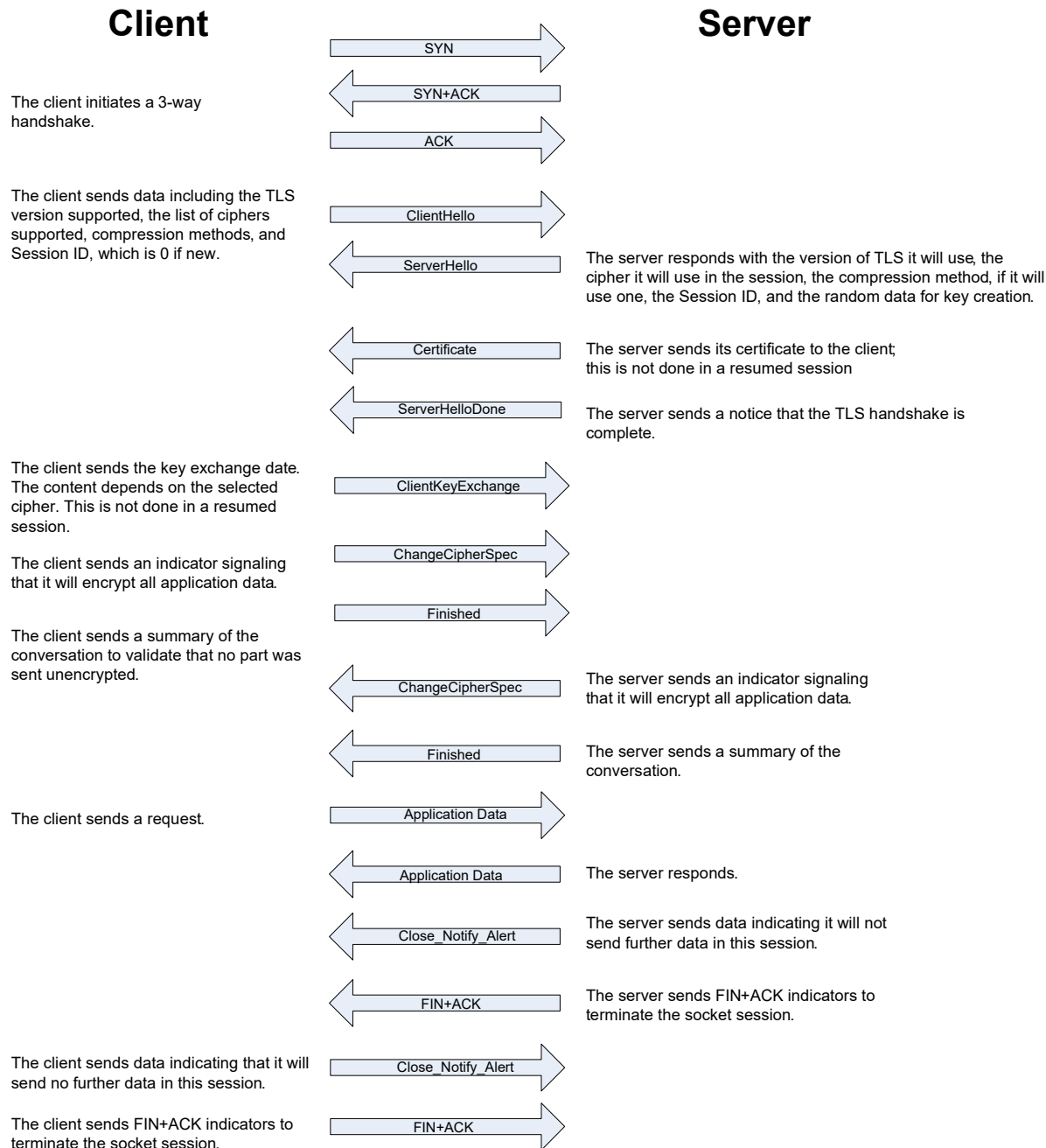
If the processor receives a request that does not contain any data, it returns a 100 response and the request is not processed any further.

After a connection is open, the processor analyzes the authorization request data to ensure the incoming Worldpay Online Systems header's first two characters are BT and the numeric message length value agrees with the actual message length.

The message length in the header refers to the length of the 610 conformant part of the request. It excludes the initial 21-byte of the Worldpay Online Systems Header data. The echo data is valid as long as it consists of one or more alphanumeric characters.

1.3.3.2 Protocol Flow

Communications with the TLS platform follow a general flow. The exact protocol depends on which HTTPS version is in use. [Figure 1-4](#) shows the approximate flow of an TLS transaction. The POS application is the client. Either the traffic management devices or the Worldpay host perform the server part of the communication. The traffic management devices manage the TLS session. The Worldpay host takes over once the session is in place.

FIGURE 1-4 Protocol Flow

Note: Worldpay considers the session unresumable if the session is not completed with both parties sending the Close_Notify message.

1.3.4 Message Details

1.3.4.1 Message Sets

The Worldpay Online Systems' TLS platform supports host capture applications using the 610 message sets.

1.3.4.2 HTTP Version

The Request-Line of the HTTP request contains an HTTP-Version field. Set this field's value to either 1.0 or 1.1.

For example:

```
POST /AUTH HTTP/1.0<CR><LF>
```

If version 1.1 is used, it requires the Host and Connection request-header. See [Host Header](#) on page 15 and [Connection Header](#) on page 16 for more information.

1.3.4.3 Host Header

This HTTP request-header is required if the HTTP version set in the request-line is set to 1.1. Otherwise, this header is not necessary. Use the name of host you want to connect to.

For example:

```
Host: certssl.protectedtransactions.com<CR><LF>
```

1.3.4.4 Authorization Header

The Authorization request-header field is one of the HTTP header fields sent in the request. It is not part of the message body that contains the financial host request data. This field's presence is required to access the Worldpay Online Systems' TLS platform. To receive authorization, the client sends the userid and password, separated by a single colon (":") character, within a base64 encoded string in the credentials. Excerpt taken from RFC 2617 document.

An example is:

```
userid    = TestID
password  = testpassword
user-pass = TestID:testpassword
base64-user-pass = user-pass (base64 encoded)
```

The user agent would use the following header field:

```
Authorization: Basic VGVzdEIEOnRlc3RwYXNzd29yZA== <CR><LF>
```

User IDs and passwords are case sensitive and Worldpay assigns them.

1.3.4.5 Content-Type Header

The Content-Type entity-header field indicates the media type of the message-body.

Worldpay Online Systems 610 messages must be in the ISO-8859-1 character set and the entire message-body URL Encoded according to RFC 3986 rules, for example:

```
Content-type: application/x-www-form-urlencoded<CR><LF>
```

URL Encoding

URL encoding, also known as percent-encoding, is a mechanism for encoding information in a Uniform Resource Identifier (URI) under certain circumstances. Although it is known as URL encoding it is used more generally within the main Uniform Resource Identifier (URI) set, which includes both Uniform Resource Locator (URL) and Uniform Resource Name (URN). As such, it is also used in the preparation of data of the application/x-www-form-urlencoded media type, as is often used in the submission of HTML form data in HTTP requests. Refer to RFC 3986 for complete implementation rules.

Example: URL Encoding

The quick brown fox jumps over the lazy dog~!@#%\$^&*()_+{|:"<>?`1234567890-=[\;',./

The following shows this example URL (Percent) Encoded:

```
The+quick+brown+fox+jumps+over+the+lazy+dog%7e!%40%23%24%25%5e%26*()%2b%7b%7d%7c%3a%22%3c%3e%3f%601234567890-%3d%5b%5d%5c%3b%27%2c.%2f
```

Base64 Encoding

Base64 is a group of similar binary-to-text encoding schemes that represent binary data in an ASCII string format by translating it into a radix-64 representation. Refer to RFC 4648 for complete implementation rules.

Example: Base64 Encoding

The quick brown fox jumps over the lazy dog~!@#%\$^&*()_+{|:"<>?`1234567890-=[\;',./

The following shows this example Base64 Encoded:

```
VGhlIHFlaWNrIGJyb3duIGZveCBqdWlwcYBvdmVyIHRoZSBsYXp5IGRvZ34hQCMkJV4mKigpXyt7fXw6Ijw+P2AxMjM0NTY3ODkwLT1bXVw7JywuLw==
```

1.3.4.6 Content-Length Header

This field indicates the transfer-length of the message-body after it has been encoded. It is the total number of bytes after the last <CR><LF>, including the "REQUEST=" parameter.

The Message Length in the 21-byte Worldpay Online Systems TCP/IP Header is calculated before HTTP URL Encoding and Content-length calculation.

Example: Content-Length Header

```
Content-Length: 231<CR><LF>
```

1.3.4.7 Connection Header

The connection header is used to inform the web server that a persistent connection is desired. Because these are not supported, you must use the header value `close`.

Example: Connection Header - No Persistent Connection Desired

```
Connection: close<CR><LF>
```

1.3.5 Authorization Requests

1.3.5.1 Transaction Request Format

All HTTPS requests are sent with the POST method. The GET method is not supported for security reasons. Each request is posted as one or more name/value parameter pairs in the message-body.

This format supports the REQUEST parameter, which is the fully formatted message that adheres to the 610 message definitions in [Chapter 2, "610 Controller Request and Response Messages"](#). The first 21 bytes of the message consists of a Worldpay Online Systems TCP/IP header.

1.3.6 Transaction Request Example

After a secure socket connection is established, Worldpay sends all messages. The general format of the HTTP request is the following:

```
Request-Line<CR><LF>
HTTP-headers<CR><LF>
.
.
<CR><LF>
Message-body
```

Worldpay Online Systems 610 Message Set

[Table 1-5](#) demonstrates the format of the HTTP request for a 610 request message.

Important points:

- Everything including REQUEST= is URL encoded using the ISO-8859-1 character set.
- Binary data is also percent encoded. For example, byte value 0x1D is represented by %1D.
- The content-length is the total number of bytes after last <CR><LF> including the REQUEST=.
- The message length in the 21 TPS Header (BT) is the length of the message before HTTP enveloping. That is, it is before URL Encoding and does not included the REQUEST= parameter.

TABLE 1-5 Example 610 EMV Transaction using HTTP V1.0

URL Encoded:					
0	50 4f 53 54	20 2f 41 55	54 48 20 48	54 54 50 2f	POST /AUTH HTTP/
1	31 2e 30 0d	0a 41 75 74	68 6f 72 69	7a 61 74 69	1.0..Authorizati
2	6f 6e 3a 20	42 61 73 69	63 20 52 32	35 6c 4e 32	on: Basic xxxxxx
3	73 3d 0d 0a	43 6f 6e 74	65 6e 74 2d	54 79 70 65	xxxxxxxxxxxxxxxxxx

TABLE 1-5 Example 610 EMV Transaction using HTTP V1.0

4	73 3d 0d 0a	43 6f 6e 74	65 6e 74 2d	54 79 70 65	x=..Content-Type
5	3a 20 61 70	70 6c 69 63	61 74 69 6f	6e 2f 78 2d	: application/x-
6	77 77 77 2d	66 6f 72 6d	2d 75 72 6c	65 6e 63 6f	www-form-urlencoded
7	64 65 64 0d	0a 43 6f 6e	74 65 6e 74	2d 4c 65 6e	ded..Content-Len
8	67 74 68 3a	20 31 31 35	34 0d 0a 53	65 72 76 65	gth: 1154..Serve
9	72 3a 20 31	30 2e 31 30	34 2e 32 30	32 2e 32 36	r: 10.104.202.26
a	25 31 0d 0a	4f 72 69 67	69 6e 61 6c	43 6c 69 65	%1..OriginalClie
b	6e 74 41 64	64 72 65 73	73 3a 20 31	39 32 2e 33	ntAddress: 192.3
c	30 2e 31 30	30 2e 32 35	31 3a 32 38	31 39 0d 0a	0.100.251:2819..
d	58 2d 46 6f	72 77 61 72	64 65 64 2d	46 6f 72 3a	X-Forwarded-For:
e	20 31 30 2e	31 30 34 2e	32 34 38 2e	38 38 0d 0a	10.104.248.88..
f	58 2d 56 69	61 3a 20 63	65 72 74 2e	73 73 6c 35	X-Via: cert.ssl5
10	33 2e 63 6f	6d 0d 0a 0d	0a 52 45 51	55 45 53 54	3.com....REQUEST
11	25 33 44 42	54 30 38 30	37 25 32 30	25 32 30 25	%3DBT0807%20%20%
12	32 30 25 32	30 25 32 30	25 32 30 25	32 30 25 32	20%20%20%20%20%2
13	30 25 32 30	25 32 30 25	32 30 25 32	30 25 32 30	0%20%20%20%20%20
14	25 32 30 25	32 30 49 32	25 32 45 45	33 25 32 30	%20%20I2%2EE3%20
15	25 32 30 25	32 30 25 32	30 30 32 30	30 32 32 30	%20%20%200200220
16	30 34 30 30	30 30 30 30	30 30 31 39	30 30 30 38	0400000000190008
17	32 34 31 35	31 32 33 30	30 30 30 30	35 32 30 38	2415123000005208
18	32 34 31 35	31 32 33 30	31 33 30 35	31 34 30 30	2415123013051400
19	30 30 30 30	34 30 30 31	33 34 30 30	30 32 30 30	0000400134000200
1a	30 30 39 31	30 39 35 35	39 30 30 36	39 25 32 30	0091095590069%20
1b	25 32 30 25	32 30 25 32	30 25 32 30	25 32 30 25	%20%20%20%20%20%
1c	32 30 25 32	30 25 32 30	25 32 30 25	32 30 25 32	20%20%20%20%20%2
1d	30 25 32 30	25 32 30 25	32 30 25 32	30 25 32 30	0%20%20%20%20%20
1e	25 32 30 25	32 30 25 32	30 25 32 30	25 32 30 25	%20%20%20%20%20%
1f	32 30 25 32	30 25 32 30	25 32 30 25	32 30 25 32	20%20%20%20%20%2
20	30 25 32 30	25 32 30 25	32 30 25 32	30 25 32 30	0%20%20%20%20%20
21	25 32 30 25	32 30 25 32	30 25 32 30	25 32 30 25	%20%20%20%20%20%
22	32 30 25 32	30 25 32 30	25 32 30 34	37 36 31 37	20%20%20%2047617

TABLE 1-5 Example 610 EMV Transaction using HTTP V1.0

23	33 31 35 31	37 36 32 30	30 31 30 25	33 44 32 32	31517620010%3D22
24	31 32 32 30	31 30 33 33	39 35 37 32	30 34 37 30	1220103395720470
25	30 30 30 30	30 30 30 30	30 30 30 30	30 30 30 30	0000000000000000
26	30 30 30 30	30 30 30 30	30 30 30 30	30 34 35 25	000000000000045%
27	32 30 25 32	30 25 32 30	25 32 30 25	32 30 25 32	20%20%20%20%20%2
28	30 25 32 30	25 32 30 25	32 30 25 32	30 25 32 30	0%20%20%20%20%20
29	25 32 30 25	32 30 25 32	30 25 32 30	25 32 30 25	%20%20%20%20%20%
2a	32 30 25 32	30 25 32 30	25 32 30 30	30 30 30 30	20%20%20%2000000
2b	30 30 30 30	53 41 4c 45	25 35 46 45	43 48 4f 25	0000SALE%5FECHO%
2c	32 30 25 32	30 25 32 30	25 32 30 25	32 30 25 32	20%20%20%20%20%2
2d	30 25 32 30	25 31 45 47	30 30 39 31	32 31 4e 59	0%20%1EG009121NY
2e	59 4e 4e 4e	4e 4e 4e 31	4e 59 4e 25	31 44 47 30	YNNNNNN1NYN%1DG0
2f	32 36 53 4d	54 25 32 30	25 32 30 25	32 30 25 32	26SMT%20%20%20%2
30	30 25 32 30	25 32 30 30	31 30 31 30	30 38 39 32	0%20%20010100892
31	35 30 32 36	30 31 35 30	62 31 36 39	25 32 44 30	50260150b169%2D0
32	30 37 25 32	44 35 38 35	31 36 30 64	30 31 36 39	07%2D585160d0169
33	30 30 37 35	38 35 30 30	30 38 33 31	30 34 34 35	0075850008310445
34	35 64 33 33	61 39 38 31	31 39 66 31	36 38 34 31	5d33a98119f16841
35	30 61 66 34	65 38 38 63	35 62 62 39	66 30 62 36	0af4e88c5bb9f0b6
36	33 38 35 31	30 61 63 33	31 30 38 35	31 62 61 39	38510ac310851ba9
37	33 34 35 37	38 38 36 31	30 61 63 33	31 30 38 35	345788610ac31085
38	31 62 61 39	33 34 35 37	38 64 38 30	39 30 30 30	1ba934578d809000
39	30 30 30 30	32 39 64 33	30 32 30 39	66 66 32 66	000029d30209ff2f
3a	25 31 44 47	30 33 34 25	32 30 25 32	30 25 32 30	%1DG034%20%20%20
3b	25 32 30 25	32 30 25 32	30 25 32 30	25 32 30 25	%20%20%20%20%20%
3c	32 30 25 32	30 25 32 30	25 32 30 25	32 30 25 32	20%20%20%20%20%2
3d	30 25 32 30	25 32 30 25	32 30 25 32	30 25 32 30	0%20%20%20%20%20
3e	25 32 30 25	32 30 25 32	30 25 32 30	25 32 30 56	%20%20%20%20%20V
3f	45 52 49 46	4f 4e 45 25	32 30 25 32	30 25 32 30	ERIFONE%20%20%20
40	25 32 30 25	32 30 25 32	30 25 32 30	25 32 30 4d	%20%20%20%20%20M
41	78 39 31 35	25 32 30 25	32 30 25 32	30 25 32 30	x915%20%20%20%20

TABLE 1-5 Example 610 EMV Transaction using HTTP V1.0

42	78 39 31 35	25 32 30 25	32 30 25 32	30 25 32 30	x915%20%20%20%20
43	32 30 25 32	30 25 32 30	25 32 30 30	31 30 30 30	20%20%20%2001000
44	34 31 36 39	30 30 37 35	38 35 25 32	30 25 32 30	4169007585%20%20
45	25 32 30 25	32 30 25 32	30 25 32 30	25 32 30 25	%20%20%20%20%20%
46	31 44 47 30	33 35 25 32	46 77 45 43	41 41 47 43	1DG035%2FwECAAGC
47	41 6c 77 41	6c 51 55 41	41 45 43 41	41 4a 6f 44	AlwAlQUAAECAAJD
48	46 51 67 6b	6e 41 45 41	58 79 51 44	49 68 49 78	FQgknAEAXyQDIhIx
49	58 79 6f 43	43 45 42 66	4e 41 45 42	6e 77 49 47	XyoCCEBfNAEBnwIG
4a	41 41 41 41	41 42 6b 41	6e 77 4d 47	41 41 41 41	AAAAABkAnwMGAAAA
4b	41 41 41 41	6e 77 6b 43	41 49 79 66	47 67 49 49	AAAAnwKCAlyfGgII
4c	51 4a 38 65	43 44 59 35	4d 44 41 33	4e 54 67 31	QJ8eCDY5MDA3NTg1
4d	6e 79 59 49	36 4b 52 5a	6f 65 6c 68	44 5a 69 66	nyYl6KRZoelhDZif
4e	4a 77 47 41	6e 7a 4d 44	34 50 6a 49	6e 7a 51 44	JwGAnzMD4PjlnzQD
4f	4a 77 47 41	6e 7a 4d 44	34 50 6a 49	6e 7a 51 44	JwGAnzMD4PjlnzQD
50	6e 7a 63 45	4e 45 6a 78	34 5a 38 35	41 51 57 66	nzcENEjx4Z85AQWf
51	51 51 51 41	41 41 41 6a	68 41 65 67	41 41 41 41	QQQAAAAjhAegAAAA
52	41 78 41 51	6e 78 41 48	42 67 45 4b	41 36 41 41	AxAQnxAHBgEKA6AA
53	41 4a 38 68	41 78 49 70	57 5a 38 47	42 36 41 41	AJ8hAxlpWZ8GB6AA
54	41 41 41 44	45 42 43 66	42 77 4c 25	32 46 41 4a	AAADEBCfBwL%2FAJ
55	38 4e 42 66	42 41 41 49	67 41 6e 77	34 46 41 42	8NBfBAAlgAnw4FAB
56	41 41 41 41	43 66 44 77	58 77 51 41	43 59 41 50	AAAACfDwXwQACYAP
57	38 68 42 6a	49 33 4d 44	41 77 4d 50	38 67 41 54	8hBjl3MDAwMP8gAT
58	58 25 32 46	49 67 45 79	25 31 44		X%2FIgEy%1D
URL Decoded:					

TABLE 1-5 Example 610 EMV Transaction using HTTP V1.0

POST /AUTH HTTP/1.0<CR><LF> Authorization: Basic xxxxxxxxxxxxxxxxxxxxxx=<CR><LF> Content-Type: application/x-www-form-urlencoded<CR><LF> Content-Length: 1154<CR><LF> Server: 10.104.202.26%1<CR><LF> OriginalClientAddress: 192.30.100.251:2819<CR><LF> X-Forwarded-For: 10.104.248.88<CR><LF> X-Via: certssl.protectedtransactions.com. <CR><LF> <CR><LF> REQUEST=					
0	42 54 30 38	30 37 20 20	20 20 20 20	20 20 20 20	BT0807
1	20 20 20 20	20 49 32 2e	45 33 20 20	20 20 30 32	I2.E3 02
2	30 30 32 32	30 30 34 30	30 30 30 30	30 30 30 31	00220040000000001
3	39 30 30 30	38 32 34 31	35 31 32 33	30 30 30 30	9000824151230000
4	30 35 32 30	38 32 34 31	35 31 32 33	30 31 33 30	0520824151230130
5	35 31 34 30	30 30 30 30	30 34 30 30	31 33 34 30	5140000004001340
6	30 30 32 30	30 30 30 31	32 34 39 35	30 38 35 30	0020000124950850
7	36 39 20 20	20 20 20 20	20 20 20 20	20 20 20 20	69
8	20 20 20 20	20 20 20 20	20 20 20 20	20 20 20 20	
9	20 20 20 20	20 20 20 20	20 20 20 20	34 37 36 31	4761
a	37 33 31 35	31 37 36 32	30 30 31 30	3d 32 32 31	731517620010=221
b	32 32 30 31	30 33 33 39	35 37 32 30	34 37 30 30	2201033957204700
c	30 30 30 30	30 30 30 30	30 30 30 30	30 30 30 30	0000000000000000
d	30 30 30 30	30 30 30 30	30 30 30 30	34 35 20 20	000000000000045
e	20 20 20 20	20 20 20 20	20 20 20 20	20 20 20 20	
f	20 20 30 30	30 30 30 30	30 30 30 53	41 4c 45 5f	000000000SALE_
10	45 43 48 4f	20 20 20 20	20 20 20 1e	47 30 30 39	ECHO .G009
11	31 32 31 4e	59 59 4e 4e	4e 4e 4e 4e	31 4e 59 4e	121NYYNNNNNN1NYN
12	1d 47 30 32	36 53 4d 54	20 20 20 20	20 20 30 31	.G026SMT 01
13	30 31 30 30	38 39 32 35	30 32 36 30	31 35 30 62	010089250260150b
14	31 36 39 2d	30 30 37 2d	35 38 35 31	36 30 64 30	169-007-585160d0
15	31 36 39 30	30 37 35 38	35 30 30 30	38 33 31 30	1690075850008310

TABLE 1-5 Example 610 EMV Transaction using HTTP V1.0

16	34 34 35 35	64 33 33 61	39 38 31 31	39 66 31 36	4455d33a98119f16
17	38 34 31 30	61 66 34 65	38 38 63 35	62 62 39 66	8410af4e88c5bb9f
18	30 62 36 33	38 35 31 30	61 63 33 31	30 38 35 31	0b638510ac310851
19	62 61 39 33	34 35 37 38	38 36 31 30	61 63 33 31	ba9345788610ac31
1a	30 38 35 31	62 61 39 33	34 35 37 38	64 38 30 39	0851ba934578d809
1b	30 30 30 30	30 30 30 32	39 64 33 30	32 30 39 66	000000029d30209f
1c	66 32 66 1d	47 30 33 34	20 20 20 20	20 20 20 20	f2f.G034
1d	20 20 20 20	20 20 20 20	20 20 20 20	20 20 20 20	
1e	56 45 52 49	46 4f 4e 45	20 20 20 20	20 20 20 20	VERIFONE
1f	4d 78 39 31	35 20 20 20	20 20 56 48	49 20 20 20	Mx915 VHI
20	20 20 20 20	30 31 30 30	30 34 31 36	39 30 30 37	010004169007
21	35 38 35 20	20 20 20 20	20 20 1d 47	30 33 35 2f	585 .G035/
22	77 45 43 41	41 47 43 41	6c 77 41 6c	51 55 41 41	wECAAGCAIwAIQUAA
23	45 43 41 41	4a 6f 44 46	51 67 6b 6e	41 45 41 58	ECAAJoDFQgknAEAX
24	79 51 44 49	68 49 78 58	79 6f 43 43	45 42 66 4e	yQDIhlxXyoCCEBfN
25	41 45 42 6e	77 49 47 41	41 41 41 41	42 6b 41 6e	AEBnwIGAAAAABkAn
26	77 4d 47 41	41 41 41 41	41 41 41 6e	77 6b 43 41	wMGAAAAAAAAnwkCA
27	49 79 66 47	67 49 49 51	4a 38 65 43	44 59 35 4d	lyfGgIIQJ8eCDY5M
28	44 41 33 4e	54 67 31 6e	79 59 49 36	4b 52 5a 6f	DA3NTg1nyYI6KRZo
29	65 6c 68 44	5a 69 66 4a	77 47 41 6e	7a 4d 44 34	elhDZifJwGAnzMD4
2a	50 6a 49 6e	7a 51 44 48	67 4d 41 6e	7a 55 42 49	PjlnzQDHgMAnzUBI
2b	70 38 32 41	67 41 42 6e	7a 63 45 4e	45 6a 78 34	p82AgABnzcENEjx4
2c	5a 38 35 41	51 57 66 51	51 51 41 41	41 41 6a 68	Z85AQWfQQQAAAAjhh
2d	41 65 67 41	41 41 41 41	78 41 51 6e	78 41 48 42	AegAAAAAxAQnxAHB
2e	67 45 4b 41	36 41 41 41	4a 38 68 41	78 49 70 57	gEKA6AAAj8hAxlpW
2f	5a 38 47 42	36 41 41 41	41 41 44 45	42 43 66 42	Z8GB6AAAAADEBCfB
30	77 4c 2f 41	4a 38 4e 42	66 42 41 41	49 67 41 6e	wL/AJ8NBfBAAIlgAn
31	77 34 46 41	42 41 41 41	41 43 66 44	77 58 77 51	w4FABAAAACfDwXwQ
32	41 43 59 41	50 38 68 42	6a 49 33 4d	44 41 77 4d	ACYAP8hBjI3MDAwM
33	50 38 67 41	54 58 2f 49	67 45 79 1d		P8gATX/IgEy.

Terminal Type Msg 610

Processor Routing	I2.
Network Routing Code	E3
Msg Type	0200
Bit Map Type	22
PROCESSING CODE	004000
TRAN AMT	000001900
TRAN DATE and TIME	0824151230
STAN	000052
LOCAL TRANS DATE	082415
LOCAL TRANS TIME	123013
POS ENTRY MODE	051
POS CONDITION CODE	4000000400
BANK ID	1340
TERMINAL ID	002
MERCHANT ID	000091095590
LANE NUMBER	069
TRACK DATA	4761XXXXXX620010=2212201033957204
LAST RET REFERENCE	00000000
CLERK NUMBER	00000000
CASH BACK AMOUNT	000000000
EXTENDED PAYMT CODE	00
NETWK MGMT INFO CODE	000
POS DEVICE CAP CODE	45
PO NUMBER CUST CODE	
TAX AMOUNT	000000000
TRACE DATA 1(ECHO)	SALE_ECHO
Record Separator	1E
Group Data	G009
VISA/MC Partial Appv	1
DSC Partial Approval	2
AE Partial Approval	1
Accept AMEX TID Flag	N
Balance Inq Req Flag	Y
Return Auth RRN	Y
R010 Text Capable	N
R011 Sig Cap Capable	N
Accept DS TID Flag	N
Accept Market Flag	N
R013 GC PIDN Capable	N
HC Adjustment Flag	N
DB Partial Approval	1
DS Network Specific	N
Extended Host Error	Y
R018 Request Flag	N
R024 MCHIP Auth Data	
R025 MC Pan Map Info	
R026 VIP Spend Qual	
Pinless Debit Ind	
Group Separator	1D
Group Data	G026
E2EE Vendor	S
Requested Response	M
Encrypted Data Type	T
Reserved for Future	

Key Data	See HEX Data
Group Separator	1D
Group Data	G034
VAR Name	
VAR Version	
Gateway Name	
Gateway Version	
POS App Name	VERIFONE
POS App Version	
POS Dev Make/Model	Mx915
Terminal App Name	VHI
Terminal App Version	010004
Serial Number	169007585
Group Separator	1D
Request Tag Data	G035
APP INTER PROFILE 82	5C00
DEDICATED FNAME 84	A0000000031010
TRM VERIF RESULTS 95	0000408000
TRAN DATE 9A	150824
TRAN TYPE 9C	00
TRAN CURR CODE 5F2A	840
CARD SEQ TRM # 5F34	01
AMT AUTHORIZED 9F02	000000001900
AMOUNT OTHER 9F03	000000000000
APP USE CONTROL 9F07	FF00
TERM APP VERS # 9F09	008C
DFLT ISS ACTCOD 9F0D	F040008800
DEN ISS ACTCODE 9F0E	0010000000
ONL ISS ACTCODE 9F0F	F040009800
ISS APP DATA 9F10	06010A03A00000
TRM CONTRY CODE 9F1A	840
IFD SERIAL NBR 9F1E	69007585
TRAN TIME 9F21	122959
APP CRYPTOGRAM 9F26	E8A459A1E9610D98
CRYPT INFO DATA 9F27	80
TRM CAP 9F33	E0F8C8
CVM RESULTS 9F34	1E0300
TERM TYPE 9F35	22
APP TRAN COUNTR 9F36	0001
UNPREDICTABLE # 9F37	3448F1E1
POS ENTRY MODE 9F39	05
TRAN SEQ COUNTR 9F41	00000023
VERSION HEADER FF01	0001
TRM CAP FLAG FF20	5
SOFTWARE VER FF21	270000
CONTACTLESS CAP FF22	2
Group Separator	1D
End of Record	03

1.3.7 Responses

The message-body portion of the HTTP responses will be of Mime type text/plain if the content-type sent in the request is application/www-x-form-urlencoded. If the content-type in the request was set to application/octet-stream, the content-type of the response is also application/octet-stream with the message body Base64 encoded.

Table 1-6 shows how the message body is defined.

TABLE 1-6 HTTP Response Message Body

Character Positions	Description
1 - 3	3-digit numeric response code
4	Blank
5 - 26	TCP/IP Response Header (may be blank)
27 -	610 Message Response (may be blank)

1.3.8 Error Codes

Table 1-7 lists the response codes that the host provides.

TABLE 1-7 Host Response Codes

Response Code	Description
000	Normal response. Worldpay host receives the submitted request and then it is sent off for authorization. Host returned authorization response to POS application.
100	Worldpay host receives a request but packet contained no data.
101	TCP/IP Message Header was not formatted properly. Request was not submitted for authorization. Response character positions 4 and higher contain a copy of the request message. The most likely cause is the TCP/IP Header length does not correspond to the actual number of bytes sent.
110	Unable to connect to Worldpay financial processors. Request was not submitted to Worldpay financial processors. Response character positions 4 and higher will be blank or nonexistent.
121	Request was submitted, but the connection to the Worldpay financial processors was unexpectedly shutdown before the response was received. Response character positions 4 and higher will be blank or nonexistent.

1.4 Asynchronous

In order to transmit data to the Worldpay host, the HCS terminal using asynchronous methods must adhere to the communications line protocols described in this section.

1.4.1 Communication Standards (Asynchronous)

TABLE 1-8 Communication Standards (Asynchronous)

BELL 103	BELL 212A
300 baud	1200 baud
7-bit ASCII	7-bit ASCII
Even parity	Even parity
1 stop bit	1 stop bit

1.4.2 Control Characters

Table 1-9 shows the ASCII, decimal, and hexadecimal forms of the control characters you use when transmitting messages to the Worldpay Online Systems host.

TABLE 1-9 Control Characters

ASCII	DEC	HEX	Description
STX	2	02	Start of text. This character precedes a block of text characters. "Text" is that portion of a message treated as an entity transmitted to the ultimate destination without change.
ETX	3	03	End of text. The ETX character indicates the end of a block of characters started with STX. The ETX requires a reply indicating the receiving station's status (ACK or NAK). Following the ETX is the LRC (see Character Check on page 27), which is used to verify message parity.
EOT	4	04	End of transmission. This character indicates the end of a transmission session. It signals that the line will be disconnected.
ENQ	5	05	Enquiry. The ENQ character is used to obtain the transmission message from the POS application.
ACK	6	06	Affirmative Acknowledgment. This reply indicates that the previous message was accepted without error and the receiver is ready to accept the next message of the transmission.

TABLE 1-9 Control Characters

ASCII	DEC	HEX	Description
NAK	21	15	Negative Acknowledgment. The NAK character indicates that the previous message was received in error and the receiver is ready to accept a transmission of the erroneous message.
FS	28	1C	Field separator. The field separator is part of the message contents used to denote the end of one data field and the beginning of another.

1.4.3 Character Check

The Longitudinal Redundancy Check (LRC) character is calculated by exclusive-ORing (XOR) each byte following-but excluding-the STX, up to and including the ETX.

<STS>data<ETX><LRC>

TABLE 1-10 Sample Transaction where <STX>TEST<ETX>

Character	Parity	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1
T	1	1	0	1	0	1	0	0
E	1	1	0	0	0	1	0	1
S	0	1	0	1	0	0	1	1
T	1	1	0	1	0	1	0	0
<ETX>	0	0	0	0	0	0	1	1
	-----	-----	-----	-----	-----	-----	-----	-----
<LRC>	1	0	0	1	0	1	0	1

1.4.4 Mode

Transmission of messages between a POS application and the Worldpay host conforms to the following mode conventions:

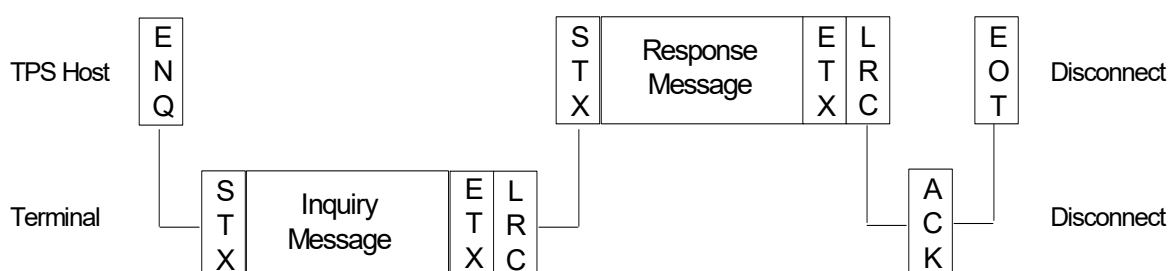
- Half-duplex
- Asynchronous start/stop
- Least significant bit transmitted first
- Parity is most significant bit

1.5 Asynchronous Transaction Flows and Formats

Figure 1-5 shows the format and flow for the messages exchanged between the HCS terminal and the Worldpay host. See [Asynchronous Authorization Detail Diagrams](#) on page 28 for more information about this set of transmissions.

1.5.1 Authorization Message Exchange

FIGURE 1-5 Authorization Message Exchange



1.5.2 Asynchronous Authorization Detail Diagrams

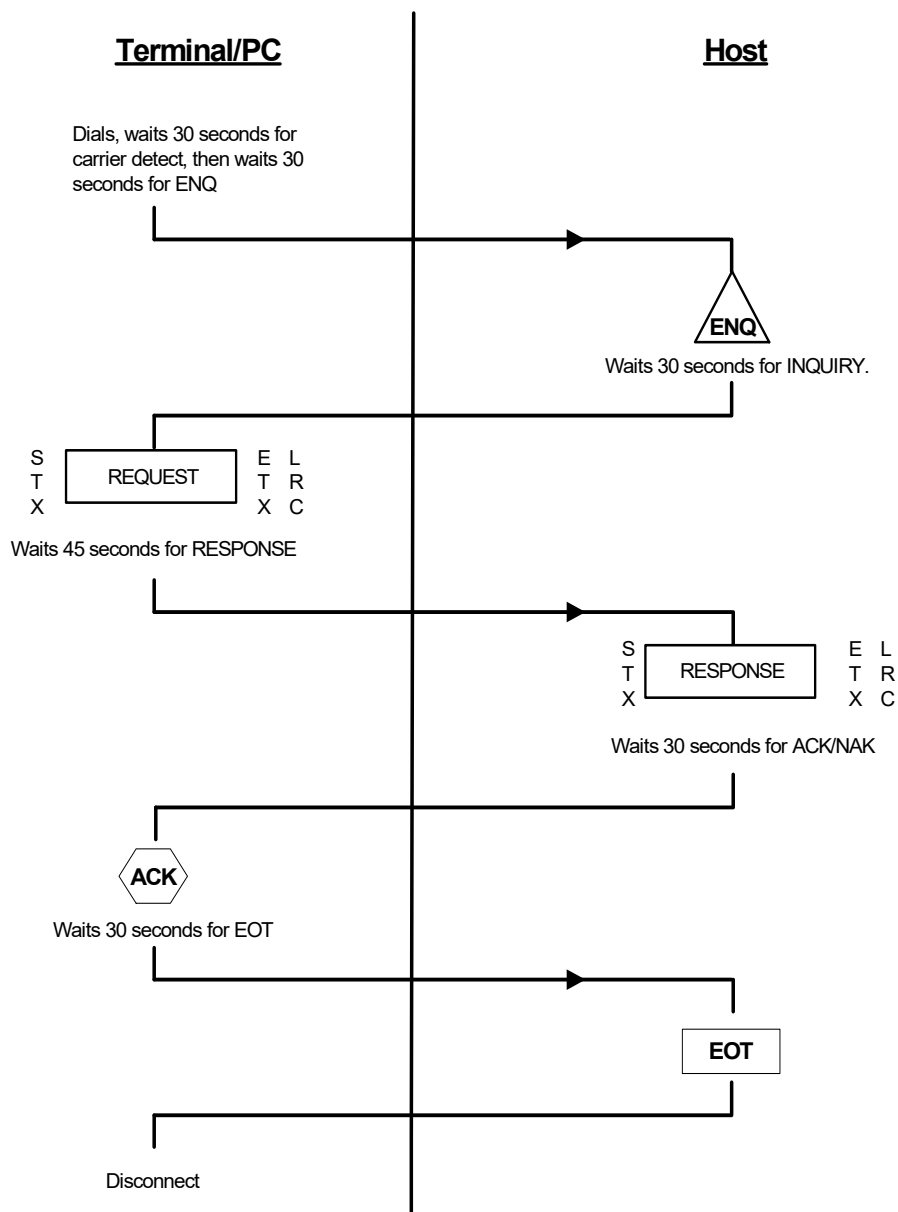
This section explains the terminal/host communication for the following scenarios:

- [Normal Terminal/Host Communication](#)
- [Host NAKs Terminal's Authorization Message](#)
- [Terminal Does Not Respond to Host's Response Message](#)
- [Host Does Not Respond to Terminal's ACK](#)
- [Terminal NAKs Host's Response Message](#)
- [Host Does Not Receive Terminal's ACK Properly](#)

1.5.2.1 Normal Terminal/Host Communication

Figure 1-6 shows an example of terminal/host communication for standard authorization. During each of the time-out periods, the host or terminal does not stop counting down until it receives the entire data packet. If the host times out at any point, it immediately hangs up without sending an EOT. Worldpay suggests that you control the various terminal timeouts using adjustable parameters.

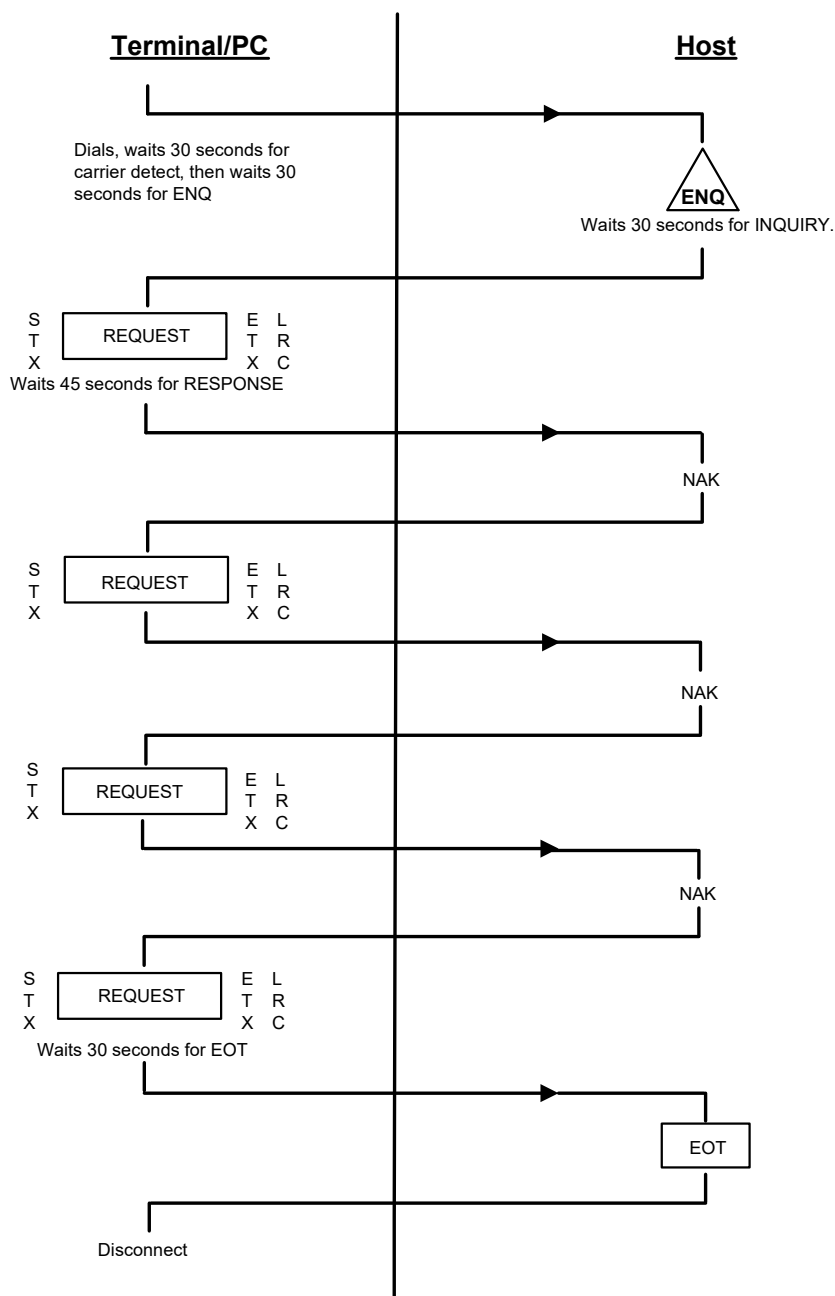
FIGURE 1-6 Normal Terminal/Host Communication



1.5.2.2 Host NAKs Terminal's Authorization Message

Figure 1-7 shows authorization communication when the host sends a negative acknowledgment (NAK) in response to the terminal's INQUIRY message. During each of the timeout periods, the host or terminal does not stop counting down until it receives the entire data packet. If the host times out at any point, it immediately hangs up without sending an EOT. Worldpay suggests that you control the various terminal timeouts using adjustable parameters.

FIGURE 1-7 Host NAKs Terminal's Authorization Message



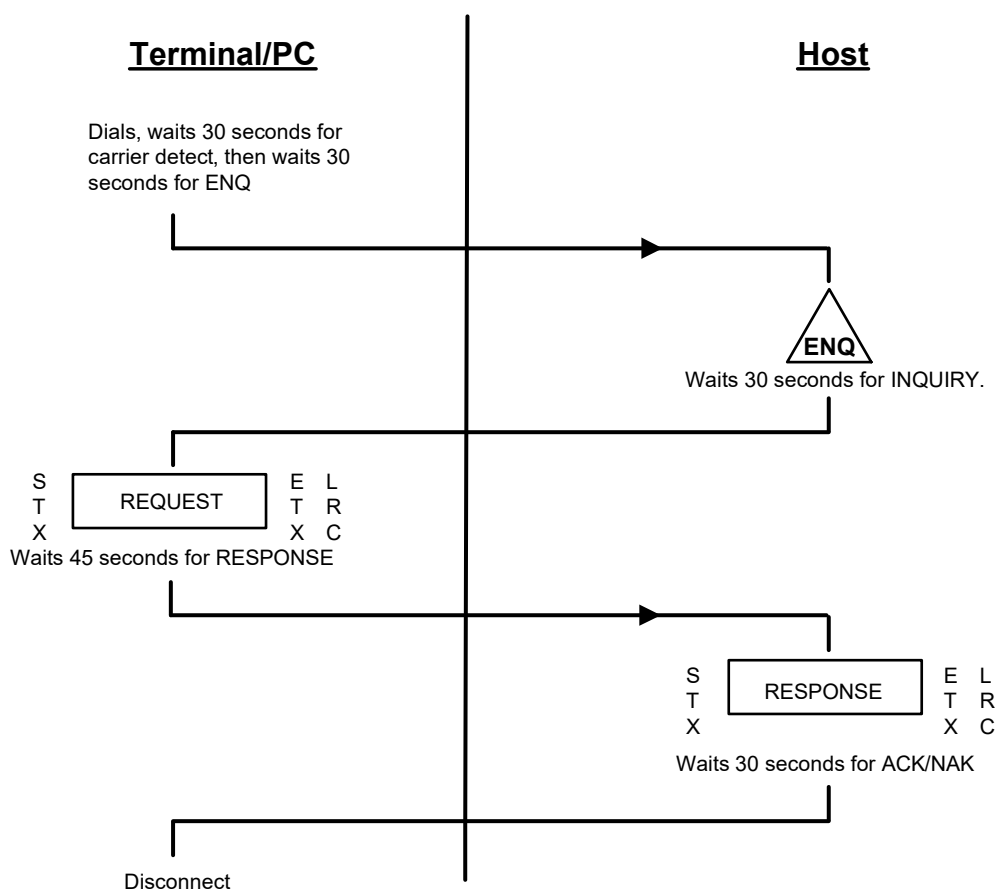
1.5.2.3 Terminal Does Not Respond to Host's Response Message

Figure 1-8 shows authorization communication when the terminal does not respond to the host's response message with HCS as the POS application.

This transaction is treated as valid. The host capture message set includes void-undelivered logic that confirms or denies that the terminal received the response. During each of the time-out periods, the host or terminal does not stop counting down until it receives the entire data packet. If the host times out at any point, it immediately hangs up without setting an EOT.

Worldpay suggests that you control the various terminal timeouts using adjustable parameters.

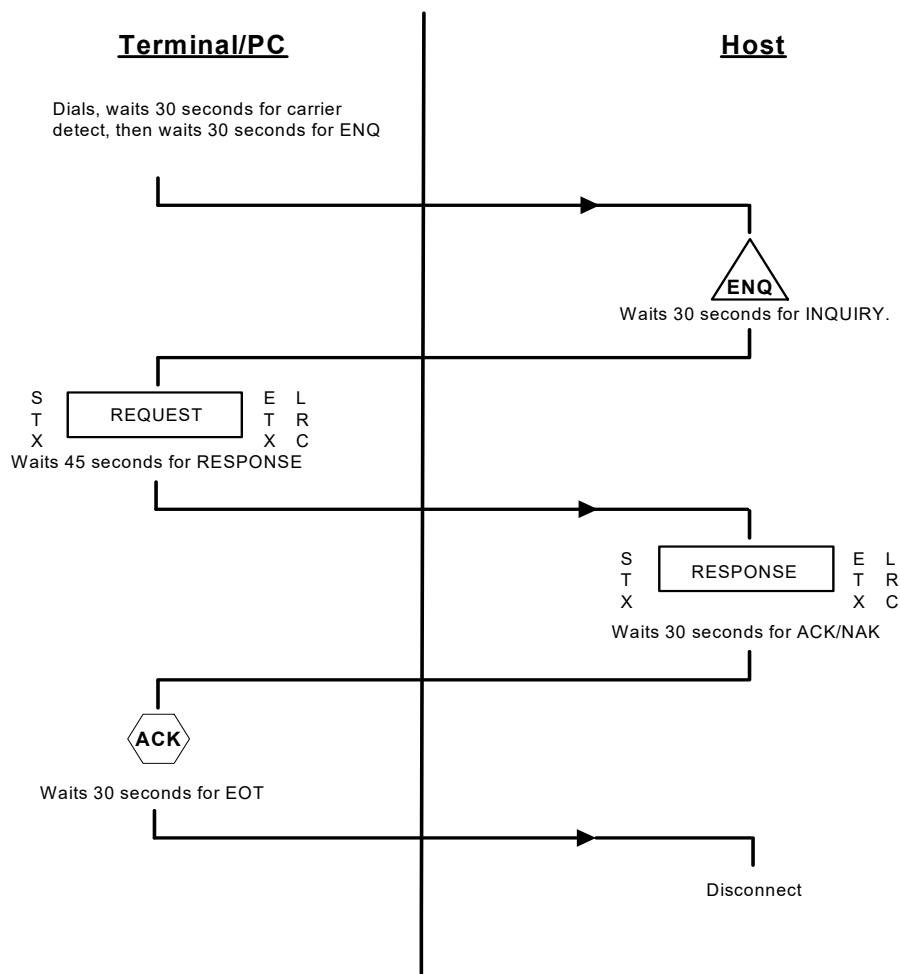
FIGURE 1-8 Terminal Does Not Respond to Host's Response Message



1.5.2.4 Host Does Not Respond to Terminal's ACK

Figure 1-9 shows authorization communication when the host does not respond to the terminal's acknowledgment (ACK) message. The terminal should treat this transaction as valid and proceed as if it had received the EOT. During each of the time-out periods, the host or terminal does not stop counting down until it receives the entire data packet. If the host times out at any point, it immediately hangs up without sending an EOT. Worldpay suggests that you control the various terminal timeouts using adjustable parameters.

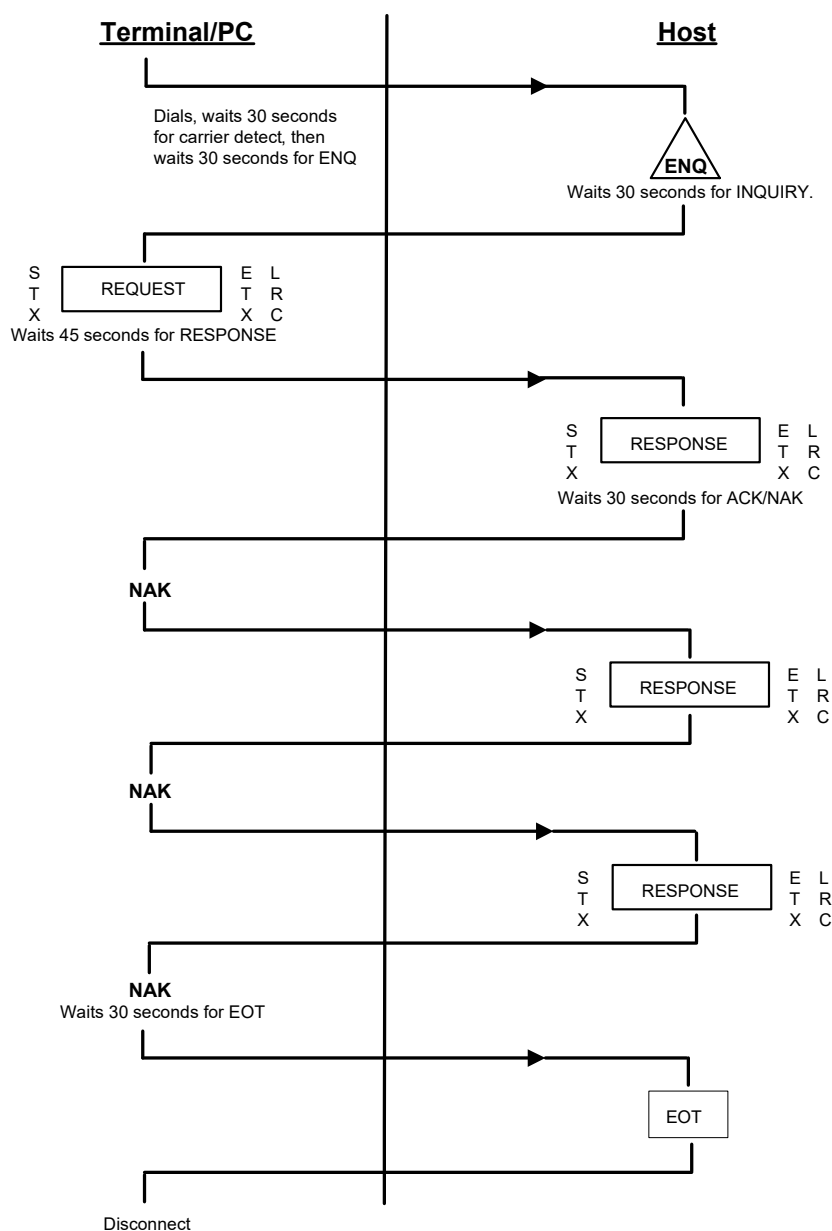
FIGURE 1-9 Host Does Not Respond to Terminal's ACK



1.5.2.5 Terminal NAKs Host's Response Message

Figure 1-10 shows authorization communication when the terminal sends a negative acknowledgment (NAK) in response to the host's response message. During each of the time-out periods, the host or terminal does not stop counting down until it receives the entire data packet. If the host times out at any point, it immediately hangs up without sending an EOT. Worldpay suggests that you control the various terminal timeouts using adjustable parameters.

FIGURE 1-10 Terminal NAKs Host's Response Message

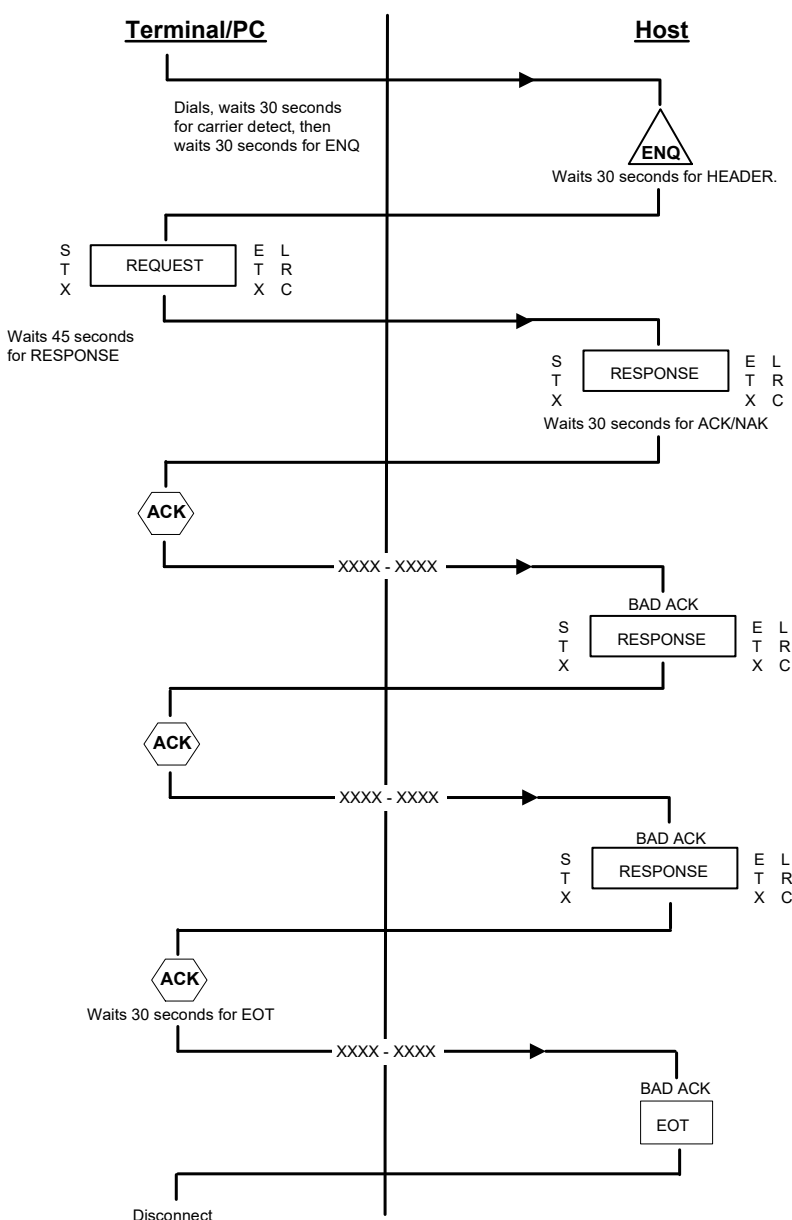


1.5.2.6 Host Does Not Receive Terminal's ACK Properly

Figure 1-11 shows authorization communication when the host does not properly receive the terminal's affirmative acknowledgment (ACK) message with HCS as the POS application.

This transaction is treated as valid. The host capture message set includes void-undelivered logic that confirms or denies that the terminal received the response. During each of the time-out periods, the host or terminal does not stop counting down until it receives the entire data packet. If the host times out at any point, it immediately hangs up without setting an EOT. Worldpay suggests that you control the various terminal timeouts using adjustable parameters.

FIGURE 1-11 Host Does Not Receive Terminal's ACK Properly



1.6 Response Exception Processing

This section describes reversal and void processing considerations.

1.6.1 Controller-Based Reversal Considerations

For controller applications using the 610 message set, there are special considerations for reversal processing. Many controller implementations use a queuing concept to make certain the host system actually processes the reversals. This design is derived from the concept that many reversals are the result of an unavailable host. Under such circumstances, any in-flight transactions are not immediately reversed, because they are likely to time out as well.

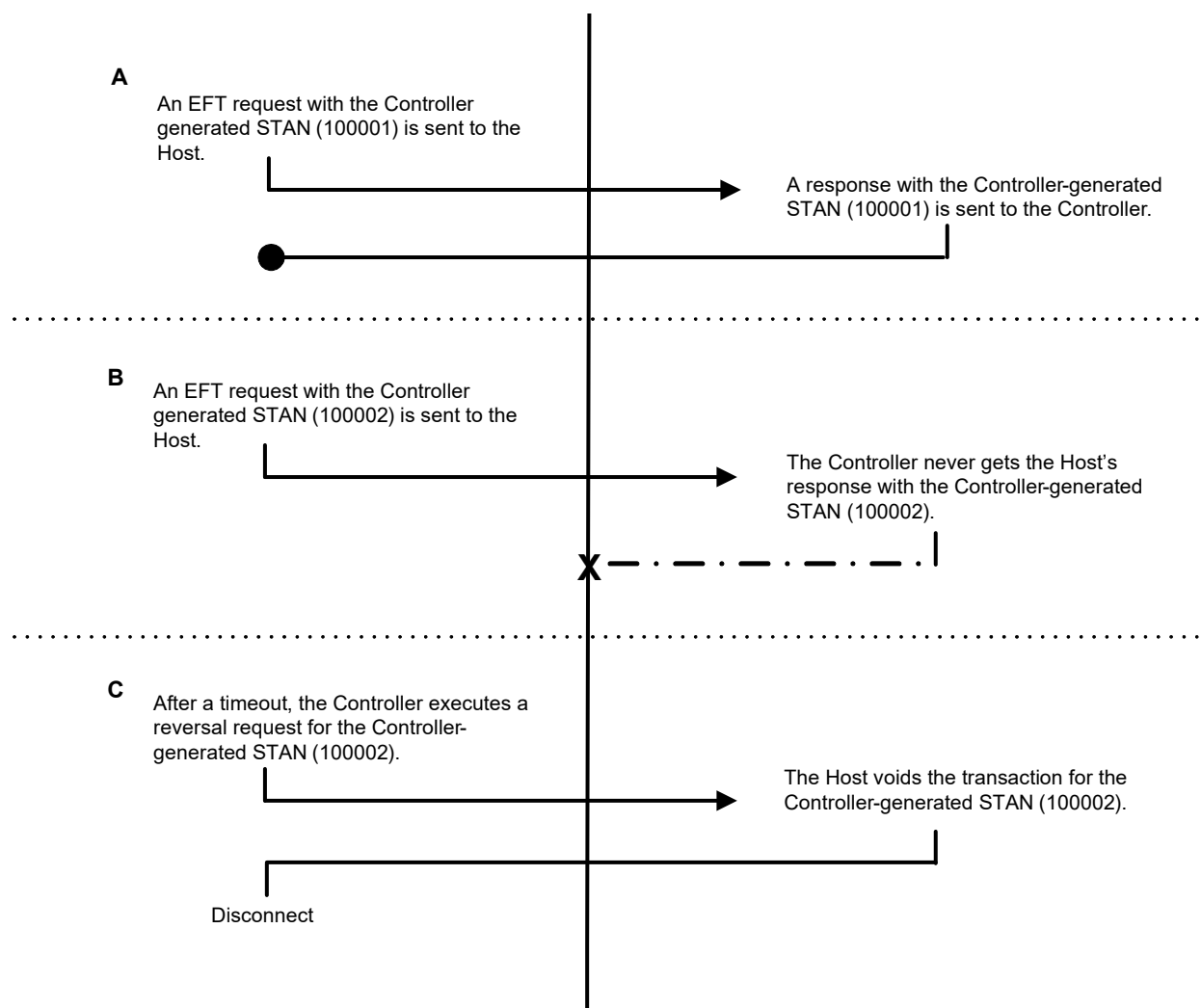
The typical implementation is to put the reversal transaction on a queue, then to send the reversal later, retrying at a configurable interval until transmission is successful. When employing such a technique, you should fix the number of retries at a relatively low number (such as 5 or 10), at an interval such as 5 minutes, or you should make it configurable. Configurable parameters let you adjust to individual circumstances; however, any queuing mechanism must have a limit to the number of retries. Typically, reversals are only allowed for a period up to 2 hours from the original transaction time; after which, the customer is paying for a large number of meaningless transactions.

1.6.2 Gift Card Mass Reversal Considerations

Vendors handling their own timeout-reversal processing for Gift Card Mass Transactions should implement logic to save both the POS Processing Code and Local Date/Time from such requests. These fields are required for timeout reversal requests of these transactions. See [G005 – Gift Card Mass Transaction](#) on page 346 and [G006 – Gift Card Mass Transaction Reversals](#) on page 347. Such reversals are sent directly out for authorization by the Worldpay Online Systems application and are not queued.

1.6.3 Controller Void Processing Logic 610 Message Set

[Figure 1-12](#) illustrates a merchant controller performing void processing when the host does not. The controller generates reversal transactions with the system trace audit number (STAN), which the controller creates and maintains. This occurs in the following transaction scenarios: normal processing (A), when a problem occurs in processing (B), and recovery through a reversal request from controller (C).

FIGURE 1-12 Controller Void Processing Logic 610 Message Set

1.7 CVV2/CID Verification Service

This section discusses the CVV2/CID verification service. CVV2/CID verification service is a fraud prevention tool which provides some chargeback protection on card-not-present (CNP) transactions. Worldpay supports CVV2/CID verification on manually entered transactions. For more information, see [45 Track Data](#) on page 222.

Because Visa, MasterCard, Amex, and Discover may use the credit card's expiration date for CVV2 calculation, any transaction requesting CVV2/CID verification must include the card's expiration date.

[Table 1-11](#) shows the CVV2/CID responses the Worldpay hosts returns. Visa changes an M response code from an issuing bank to a U if the issuing bank is not certified for the CVV2 verification service with Visa.

TABLE 1-11 CVV2 Result Codes

CVV2 Result Code (position 1)	Description
E	For PayPass transactions, this indicates an error in the length of the unpredictable number during CVC3 validation (MasterCard only).
M	CVV2/CVC2 value matches.
N	CVV2/CVC2 value does not match.
P	CVV2/CVC2 value was not processed.
S	CVV2/CVC2 was on the card, but the request said it was not.
U	CVV2/CVC2 validation was not available.
Y	For swiped and PayPass transactions, this indicates an error in the calculated CVC1 or CVC3 value from the magnetic stripe (MasterCard only).

Issuers may choose to decline a transaction if an incorrect CVV2 data is received, or approve the transaction and return CVV2/CID response code indicating that there is a problem with the CVV2/CID data. Business rules should drive what action, if any, the software should take upon receipt of each of the possible CVV2/CID response codes.

Business rules suggest that the merchant has the following options when an N response is received:

- Reject the transaction.
- Ask for CVV2 and try again.
- Accept the transaction and the associated risk.

Depending on the message set you implement, you may have to take further action; you should discuss this with the assigned Worldpay resource during the merchant/VAR software development cycle.

American Express verifies CID only if a merchant is enrolled in the CID verification service with American Express. Currently, if a merchant is not enrolled, the verification service returns M for the CID result code.

TABLE 1-12 Availability of CVV2/CID Verification by Authorizer

	VISA	MASTERCARD	DISCOVER	AMERICAN EXPRESS
AVS Verification only (\$0.00 authorization)	YES	YES	NO	NO
AUTH only	YES	YES	YES	YES
AUTH with AVS	YES	YES	YES	YES
SALE	YES	YES	YES	YES
SALE with AVS	YES	YES	YES	YES
Recurring	YES - required on the first transaction	YES - required on the first transaction	YES - required on the first transaction	YES
Bill payment	YES - required on the first transaction	YES - required on the first transaction	YES - required on the first transaction	YES
MOTO	YES	YES	YES	YES
E-Commerce	YES	YES	YES	YES

NOTE: American Express does not distinguish either a recurring payment or an eCommerce transaction from a sale transaction. Discover does not distinguish eCommerce transactions. The host presents these transactions as sales to these authorizing agencies.

1.8 Host Time-Out Settings

Worldpay hosts forward the transactions they receive from POS applications to various endpoints for authorization (for example, Visa, MasterCard, NYCE, ACCEL, and so on). Each card type has a primary and secondary endpoint or authorizer. The Worldpay hosts send each transaction to the assigned primary authorizer then waits a predetermined time for a response. Host time-out settings vary. Merchants should discuss this with their Conversions person when they certify to help them understand what the values are in each scenario. If the host does not receive a response, a primary authorizer time-out occurs and the transaction is forwarded to the secondary authorizer.

The hosts wait another predetermined amount of time and if no response is received the transaction times out and a corresponding reply is sent back to the POS application. There are two sets of time-out values; one is for credit and one is for debit, EBT, gift card and POSA. To ensure the POS application receives a response, set the time-out values to something greater than the total time-out values of the Worldpay hosts. For the actual time-out values, contact the Conversion Manager.

610 Controller Request and Response Messages

The host capture controller message set embodies the interface typically used between Worldpay Online Systems and an in-store controller application, although you can use this message set for a single terminal, if desired. In-store controllers generally concentrate transactions from multiple terminals (in-lane devices) through a single communications connection to Worldpay. The host system treats the in-store controller software as a terminal, but the communication interface is multi-threaded, allowing the controller to send more than one message to Worldpay without waiting for a response. The controller message set applies to terminal type 610.

Worldpay modeled the message set after the ISO 8583 message set, which consists of variable-length records containing all the information needed to interface with the Worldpay platform authorization product. This chapter describes each of these general message types.

This message set includes void-undelivered logic to ensure that the terminal/front-end receives all responses sent from Worldpay. There are two options available to void undelivered transactions with this message set. The first option places the responsibility of performing a void on the Worldpay host. The 610 terminal type performs void undelivered logic by lane number (supplied in the message), which lets a controller have multiple messages in flight (but no more than one from each lane). The controller must send a Lane Validation Request message for all open lanes before the Batch Release occurs.

This confirms the host received the last transaction from each in-lane device. This option requires that the controller front-end retain the last retrieval reference number by lane delivered by the Worldpay host in approved response transactions. The second option places the responsibility of performing voids for undelivered transactions on the controller. Void-undelivered processing is set to off on the host. The controller software assures each transaction request properly receives a response. When there is no response to a request, it generates a reversal transaction.

The POS terminal and controller interfaces support the following message types:

- 01XX - Authorization
- 02XX - Financial transaction
- 04XX - Reversal
- 05XX - Reconciliation control
- 08XX - Network management

2.1 Controller Request Messages

The tables in this chapter show the format, or mapping, of each of the messages in the host capture message set. The layouts, notation, and terminology are based on ISO 8583: 1987 (E).

Table 2-1 explains the abbreviations used in the mappings to indicate the attributes, format, and status of the data elements that comprise the messages. Note the following about the mapping notation:

- Right-justify with leading zeros all fixed-length numeric (n) data elements. Left justify with trailing spaces all other fixed-length data elements.
- Left justify with trailing zeros all fixed-length binary (b) data elements.
- Count all data elements from left to right with the leftmost position as number 1.
- The messages documented in this specification are those used when the Processor Routing code is I2.
- You must include all base fields.
- Base messages are fixed length.

TABLE 2-1 Mapping Notation

NOTATION	DEFINITION
a	Alphabetical characters only
C	Conditional
n	Numeric digits only
s	Special characters only
an	Alphabetic and numeric characters only
ans	Alphabetic, numeric, and special characters
fs	Use field separators to delimit variable length Group Data elements within a group. The field separator value is Hex 1C.
gs	Use a group separator is used at the end of every Group Data definition. The group separator value is Hex 1D.
rs	Only use the record separator when you want optional group data in a request message; it can occur in a response message from the host when optional group data is applicable. This delimits the base request or response message from optional group data. This should only appear prior to the first optional group data you define. The record separator value is Hex 1E.
MM	Month, numeric representation; for example, March = 03.
DD	Day
YY	Year
hh	Hour, 24-hour representation; for example, 8 P.M. = 20.
mm	Minute
ss	Second

TABLE 2-1 Mapping Notation

NOTATION	DEFINITION
LL	Length of variable (2 bytes) data element that follows, from 01-99.
LLL	Length of variable (3 bytes) data element that follows, from 001-999.
var	Variable-length field
3	Fixed length of, in this case, three characters
..17	Variable length up to a maximum of, in this case, 17 characters. All variable-length fields must also contain two or three positions (LL, LLL) at the beginning of the field that indicate the number of following positions.
s	A positive or negative amount, " " for positive, "-" for negative. Always associated with a numeric amount data element.
b	Binary representation of data.
(5)	Repeat of, in this case, five digits. Represents an amount field format; for example, n(5) nn. Amount fields are also represented as 99999 99.
^	Implied decimal point
c	This field is always present. Its contents may be optional.
-	Not applicable

Examples in this chapter may include:

- * - Represents a space
- <fs> - Represents a field separator
- <gs> - Represents a field separator
- <rs> - Represents a record separator
- | - This character represents a separator and is only for illustrative purposes. You should not include it in any messages.

2.2 Authorization Request and Response Messages

Worldpay's host capture message sets support the following authorization message types:

- 0100 - Authorization request
- 0110 - Authorization request response.

Authorization messages cover credit card approval authorization, address verification on a credit card, debit balance inquiry, and authorization/guarantee for a check transaction to proceed. The authorization is not intended to permit the application of this transaction to the cardholder's account for any billing or account statement purposes.

NOTE: The partial reversal of an EFT (credit card) transaction requires an authorization message, not a financial (0200) or reversal (0400) message.

2.2.1 Authorization Request Messages (0100)

This section describes the following authorization request messages:

- [Enhanced Check Authorization Request](#)
- [Credit Card Auth Only with AVS/Account Status Inquiry with AVS Request](#)
- [Credit Card Cash Advance Authorization Only Request](#)
- [Debit/Credit Card Balance Inquiry \(DUKPT Key\) Request](#)
- [EBT Card Balance Inquiry \(DUKPT\) Request](#)
- [Gift Card Balance Inquiry/Mini-Statement Request](#)
- [Check Inquiry/Verification Request](#)
- [Fleet Card Authorization Only Request](#)
- [Credit Card Full/Partial Authorization Reversal Request](#)
- [Tokenization Conversion Request](#)
- [De-tokenization Conversion Request](#)

2.2.1.1 Credit Card Auth Only/ Account Status Inquiry/ Visa Product Eligibility Inquiry Request

These requests are only for authorizations that do not settle. The authorization amount may change between authorization and completion.

This transaction does any of the following:

- Credit Card Auth Only - Requests a credit card authorization to validate the funds available on a credit card.
- Account Status Inquiry - Requests an account status inquiry. For example, you can use it to ensure the account is in good standing or verify that the account number exists.

- Visa Product Eligibility - Requests an inquiry to Visa to determine the card's product type.
- Credit Card - First Pass DCC (Dynamic Currency Conversion) eligibility

TABLE 2-2 Credit Card Auth Only/Account Status Inquiry/Visa Product Eligibility Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0100
--	Bit Map Type	n	14 - 15	2	21
03	Processing Code	n	16 - 21	6	00400x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	Set position 9 to 2 for a DCC rate request.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	

TABLE 2-2 Credit Card Auth Only/Account Status Inquiry/Visa Product Eligibility Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
70	Network Management Information Code	n	195 - 197	3	
107	Point-of-Service Device Capability Code	an	198 - 199	2	
109	P.O. Number/Customer Code	ans	200 - 219	20	
110	Tax Amount	n	220 - 228	9	
115	Trace Data 1 (Echo Data)	ans	229 - 244	16	
Total Base Message Bytes excluding group data:				244	

Example: Credit Card Authorization Only Request

```
I2.|123456|0100|21|004000|000001500|0321031116|123456|032103|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00001245|000000000|000|00|PO#/CUSTOMER
CODE***|000000000|TRACE*DATA*1****|
```

Example: First Pass DCC Credit Card Authorization Only Request

```
I2.|123456|0100|21|004000|000001500|0321031116|123456|032103|111600|812|0000000020|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00001245|000000000|000|00|PO#/CUSTOMER
CODE***|000000000|TRACE*DATA*1****|
```

Example: Account Status Inquiry Request (MasterCard or Discover)

The example below is for MasterCard.

```
I2.|123456|0100|21|004000|000000000|0321031116|123456|032103|111600|812|0000000020|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00001245|000000000|000|00|PO#/CUSTOMER
CODE***|000000000|TRACE*DATA*1****|
```

Example: Visa Product Eligibility Inquiry

```
I2.|123456|0100|21|004000|000000000|0909111545|000000|090911|154500|010|0000000000|134
0|002|000091095598|001|*****429999999900
0016=1212124|00000000|00000001|000000000|000|00|00000000000000000000|000000000|TRACE*DA
TA*1****|rs>G007<gs>
```

2.2.1.2 Credit Card Auth Only with AVS/Account Status Inquiry with AVS Request

This request validates the funds available on a credit card or inquires about an account status with AVS.

TABLE 2-3 Credit Card Authorization Only/Account Status Inquiry with AVS Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0100
--	Bit Map Type	n	14 - 15	2	25
03	Processing Code	n	16 - 21	6	51400x 52400x Processing Code 514000 requests verification of AVS information (bit 106) only. Processing Code 524000 requests authorization of both the credit card and AVS information.
04	Amount, Transaction	n	22 - 30	9	Zero fill for 51400x.
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	Set position 9 to 2 for a DCC rate request.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	

TABLE 2-3 Credit Card Authorization Only/Account Status Inquiry with AVS Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	Zero fill for 51400x.
70	Network Management Information Code	n	195 - 197	3	
106	Cardholder Identification Data (AVS)	an	198 - 226	29	
107	Point-of-Service Device Capability Code	an	227 - 228	2	
109	P.O. Number/Customer Code	ans	229 - 248	20	
110	Tax Amount	n	249 - 257	9	
115	Trace Data 1 (Echo Data)	ans	258 - 273	16	
Total Base Message Bytes Excluding Group Data:				273	

Example: Credit Card Authorization Only with AVS Request

```
|I2.|123456|0100|25|524000|000001500|0321031116|123456|032103|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00001245|000000000|000|12345*ANYWHERE*ST***123456789|00|PO#/CUSTO
MER CODE***|000000000|TRACE*DATA*1****|
```

Example: MasterCard or Discover Account Status Inquiry with AVS Request

```
|I2.|123456|0100|25|524000|000000000|0321031116|123456|032103|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00001245|000000000|000|12345*ANYWHERE*ST***123456789|00|PO#/CUSTO
MER CODE***|000000000|TRACE*DATA*1****|
```

2.2.1.3 Credit Card Cash Advance Authorization Only Request

This request verifies the availability of the funds and, if available, reserves the requested amount for cardholder withdrawal.

Use [G009 – Optional Processing Indicators](#) Field 06 to request that the [R008 – Original Authorization Retrieval Reference Number](#) response include the Retrieval Reference Number. This Retrieval Reference Number populates the subsequent 0220 Credit Card Cash Advance Prior Authorization transaction [G014 – Original Authorization Retrieval Reference Number](#) group data item which the host uses to supplement settlement data.

TABLE 2-4 Credit Card Cash Advance Authorization Only Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0100
--	Bit Map Type	n	14 - 15	2	08
03	Processing Code	n	16 - 21	6	01400x
04	Amount, Transaction	n	22 - 30	9	Zero fill this field.
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	Set position 9 to 2 for a DCC rate request.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	Cash Advance Amount
70	Network Management Information Code	n	195 - 197	3	

TABLE 2-4 Credit Card Cash Advance Authorization Only Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
107	Point-of-Service Device Capability Code	an	198 - 199	2	
115	Trace Data 1 (Echo Data)	ans	200 - 215	16	
Total Base Message Bytes Excluding Group Data:				215	

Example: Credit Card Cash Advance

```
|I2.|123456|0100|08|014000|000000000|0815141116|123456|081514|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00001245|000001500|000|00|TRACE*DATA*1****|<rs>G009000NNYNNNNNN0N
NN<gs>|
```

2.2.1.4 Debit/Credit Card Balance Inquiry (DUKPT Key) Request

This request checks the balance of a debit or credit card using DUKPT.

TABLE 2-5 Debit/Credit Card Balance Inquiry (DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing Code	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0100
--	Bit Map Type	n	14 - 15	2	10
03	Processing Code	n	16 - 21	6	30000x - Debit Balance Inquiry 30400x - Credit Card Balance Inquiry
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	

TABLE 2-5 Debit/Credit Card Balance Inquiry (DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
52	Personal Identification Number	an	178 - 193	16	Space fill for credit.
70	Network Management Information Code	n	194 - 196	3	
107	Point-of-Service Device Capability Code	an	197 - 198	2	
115	Trace Data 1 (Echo Data)	ans	199 - 214	16	
117	DUKPT Serial Number	an	215 - 234	20	Space fill for credit.
Total Base Message Bytes Excluding Group Data:				234	

Example: Debit/Credit Card Balance Inquiry (DUKPT) Request

```
|I2.|123456|0100|10|300000|000002000|0321031116|123456|032103|111600|021|0000000000|111
1|222|333333333333|001|*****5454545454545454=06121011
234567890123|12345678|0123456789ABCDEF|000|40|TRACE*DATA*1****|FFFF202871882000001F|
```

2.2.1.5 EBT Card Balance Inquiry (DUKPT) Request

This request checks the balance of an EBT card using DUKPT.

TABLE 2-6 EBT Card Balance Inquiry (DUKPT) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.

TABLE 2-6 EBT Card Balance Inquiry (DUKPT) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0100
--	Bit Map Type	n	14 - 15	2	14
03	Processing Code	n	16 - 21	6	31000x 31900x
07	Transmission Date/Time	n	22 - 31	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	32 - 37	6	
12	Local Transaction Date	n	38 - 43	6	MMDDYY
13	Local Transaction Time	n	44 - 49	6	hhmmss
22	Point-of-Service Entry Mode	n	50 - 52	3	
25	Point-of-Service Condition Code	n	53 - 62	10	
32	Acquiring Institution Identification Code (Bank ID)	n	63 - 66	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	67 - 69	3	
42	Card Acceptor Identification Code (Merchant ID)	n	70 - 81	12	
43	Lane Number	n	82 - 84	3	
45	Track Data	ans	85 - 160	76	
48	Additional Data (Last Retrieval Reference Number)	n	161 - 168	8	
52	Personal Identification Number	an	169 - 184	16	
70	Network Management Information Code	n	185 - 187	3	
107	Point-of-Service Device Capability Code	an	188 - 189	2	
112	Card Sequence Number	n	190 - 192	3	
115	Trace Data 1 (Echo Data)	ans	193 - 208	16	

TABLE 2-6 EBT Card Balance Inquiry (DUKPT) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
117	DUKPT Serial Number	an	209 - 228	20	
Total Base Message Bytes Excluding Group Data				228	

Example: EBT Card Balance Inquiry Request

```
|I2.|123456|0100|14|310000|0321031116|123456|032103|111600|021|0000000000|1111|222|3333
33333333|001|*****54545454545454=061210112345678901
23|12345678|0123456789ABCDEF|000|40|000|TRACE*DATA*1****|FFFF202871882000001F|
```

2.2.1.6 Gift Card Balance Inquiry/Mini-Statement Request

This request checks the balance of a closed loop or foreign gift card or requests a short list of recent transactions. This request is applicable to Gift Card, Premier Issue Gift Card Mass Transaction, and POSA.

TABLE 2-7 Gift Card Balance Inquiry/Mini-Statement Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0100
--	Bit Map Type	n	14 - 15	2	60/80 All new development should use bit map type 80. Bit Map 80 extends the message to include fields 133 through 134.
03	Processing Code	n	16 - 21	6	67000x, 69000x, 77000x Bit 3 processing code of 770000 indicates a balance inquiry mass request for a Gift Card and G005 – Gift Card Mass Transaction to indicate the ending of the card range. Bit 3 processing code of 690000 indicates a mini statement request for a Gift Card.
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm

TABLE 2-7 Gift Card Balance Inquiry/Mini-Statement Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
107	Point-of-Service Device Capability Code	an	186 - 187	2	
115	Trace Data 1 (Echo Data)	ans	188 - 203	16	
133	POSA Network ID	an	204 - 207	4	Bit Map Type 80 only
134	POSA UPC Data	an	208 - 227	20	Bit Map Type 80 only
Total Base Message Bytes Excluding Group Data:				203/227	

Example: Gift Card/POSA Prepaid Balance Inquiry Request

```
|I2.|123456|0100|80|670000|000000000|0321031116|123456|032103|111600|022|0000000000|111
1|222|333333333333|001|*****5812345678901234=49121011
234567890123|12345678|00000001|00|TRACE*DATA*1****|SWAY|12345678901234567890|
```

2.2.1.7 Check Inquiry/Verification Request

This request asks for authorization of a check to confirm that the customer has sufficient funds for the transaction.

Use [G056 - Enhanced Check Authorization Request Data](#) and [R056 - Enhanced Check Authorization Response Data](#) for enhanced check authorization services.

Note the following for Check Authorization ID Free (Certegy):

- For personal checks, set the check type field to **I** and send only the MICR number for authorization. For any other check, set the check type field to **C** and send only the MICR number for authorization.
- If the host responds with a return value of **734**, then the terminal must prompt for the birth date, drivers license number, and drivers license state code.
- Resend the check authorization transaction with the prompted information and set the check type field to **I** for personal checks or to **C** for any other check.

TABLE 2-8 Check Authorization Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0100
--	Bit Map Type	n	14 - 15	2	07
03	Processing Code	n	16 - 21	6	04000x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution ID Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal ID (Terminal ID)	n	76 - 78	3	
42	Card Acceptor ID Code (Merchant ID)	n	79 - 90	12	

TABLE 2-8 Check Authorization Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
43	Lane Number	n	91 - 93	3	
48	Additional Data (Last Retrieval Reference Number)	n	94 - 101	8	
55	Clerk Number	n	102 - 109	8	
60	Cash Back Amount	n	110 - 118	9	
70	Network Management Information Code	n	119 - 121	3	
102	Account ID 1 (MICR/Driver's License/etc.)	an	122 - 149	28	
103	Account ID 2 (MICR/Driver's License/etc.)	an	150 - 177	28	
107	Point-of-Service Device Capability Code	an	178 - 179	2	
108.1	Account ID 1 Type: M = MICR	an	180	1	
108.2	Account ID 2 Type: D = Driver's License	an	181	1	
108.3	Check Type	an	182	1	
108.4	Manager Number	n	183 - 188	6	
108.5	Check Number	n	189 - 194	6	
108.6	Birth Date	n	195 - 200	6	
108.7	Cashier Number	n	201 - 208	8	
115	Trace Data 1 (Echo Data)	ans	209 - 224	16	
Total Base Message Bytes Excluding Group Data:				224	

Example: Check Authorization Request

```
|I2.|123456|0100|07|040000|000001500|0321031116|123456|032103|111600|812|0000000000|111
1|222|333333333333|001|12345678|00001245|000000000|000|123456789012345678*****|FLA
1234567890123456789012345|00|M|D|*|000000|001234|MMDDYY|12345678|TRACE*DATA*1****|
```


2.2.1.8 Fleet Card Authorization Only Request

This request validates the funds available on a card that the POS terminal identifies as a Fleet card. Typically, identification is based on the BIN range.

TABLE 2-9 Fleet Card Authorization Only Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0100
--	Bit Map Type	n	14 - 15	2	40
03	Processing Code	n	16 - 21	6	00300x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	

TABLE 2-9 Fleet Card Authorization Only Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
70	Network Management Information Code	n	186 - 188	3	
106	Cardholder Identification Data (AVS)	an	189 - 217	29	Space fill when there is no AVS. Processing Code 513000 requests authorization of AVS information (bit 106) only. Processing Code 523000 requests authorization of both the credit card and AVS information.
107	Point-of-Service Device Capability Code	an	218 - 219	2	
115	Trace Data 1 (Echo Data)	ans	220 - 235	16	
130	Fleet Customer Data	LLLvar ...an 999	236 - 1234	0 - 999	c
131	Fleet Product Data	LLLvar ...an 999	1235 - 2233	0 - 999	c
Total Base Message Bytes Excluding Group Data:				235 - 2233	

Example: Fleet Card Authorization Only Request

```
I2.|123456|0100|40|003000|000012025|0321031116|123456|032103|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/FLEETCARD^0612101123456789012345678901234
567890123456|12345678|00001245|000|*****|00|TRACE*DATA*1****|03
3|023|01|08|12345678|04|07|1234567|1|**|1234|152|83|01|08|12345678|02|08|12345678|03|09
|123456789|04|09|123456789|05|09|123456789|06|09|123456789|07|03|001|069|002|019|F|1234
56789012|12345678|12345678|G|101|N|123456789012|12345678|12345678|0|
```

2.2.1.9 Credit Card Full/Partial Authorization Reversal Request

This request reverses all or part of a previous authorization. Currently, partial reversals are only supported for VISA and MasterCard payment types.

TABLE 2-10 Credit Card Full/Partial Auth Reversal Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	

TABLE 2-10 Credit Card Full/Partial Auth Reversal Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	10 - 13	4	0100
--	Bit Map Type	n	14 - 15	2	09
03	Processing Code	n	16 - 21	6	22400x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
70	Network Management Information Code	n	186 - 188	3	

TABLE 2-10 Credit Card Full/Partial Auth Reversal Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
90	Original Data Elements (Retrieval Ref. Number)	n	189 - 197	9	Mandatory Use G009 – Optional Processing Indicators Field 06 to request Retrieval Reference Number in the original authorization request. R008 – Original Authorization Retrieval Reference Number group data response returns the Retrieval Reference Number. This Retrieval Reference Number is required for inclusion in prior transactions using G014 – Original Authorization Retrieval Reference Number group data for settlement.
107	Point-of-Service Device Capability Code	an	198 - 199	2	
137	Replacement Amount	n	200 - 208	9	
115	Trace Data 1 (Echo Data)	ans	209 - 224	16	
Total Base Message Bytes Excluding Group Data:				224	

Example: Credit Card Full/Partial Auth Reversal Request

```
|I2.|123456|0100|06|224000|000001500|0321031116|123456|032103|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00001245|000|123456789|00|123456789| TRACE*DATA*1****|
```

2.2.1.10 Debit Card Preauthorization (DUKPT Key) Request

Use this request only for authorizations that do not settle. The authorization amount may change between authorization and completion.

This transaction does any of the following:

- Debit Card Auth Only - Requests a debit card authorization to validate the funds available.
- Account Status Inquiry/PIN validation - Requests an account status inquiry. For example, you can use it to ensure the account is in good standing or verify that the account number exists. It also verifies the PIN

TABLE 2-11 Debit Card Preauthorization (DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.

TABLE 2-11 Debit Card Preauthorization (DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0100
--	Bit Map Type	n	14 - 15	2	27
03	Processing Code	n	16 - 21	6	00000x, 00100x, 00200x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
52	Personal Identification Number	an	178 - 193	16	
55	Clerk Number	n	194 - 201	8	
60	Cash Back Amount	n	202 - 210	9	
70	Network Management Information Code	n	211 - 213	3	

TABLE 2-11 Debit Card Preauthorization (DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
107	Point-of-Service Device Capability Code	an	214 - 215	2	
115	Trace Data 1 (Echo Data)	ans	216 - 231	16	
117	DUKPT Serial Number	an	232 - 251	20	
Total Base Message Bytes Excluding Group Data:				251	

Example: Debit Card Preauthorization (DUKPT Key) Request

```
|I2.|123456|0100|27|000000|000001500|0321031116|123456|032103|111600|021|0000000000|111
1|222|333333333333|001|*****545454545454545454=06121011234567890123|12345678|1234567890ABCDEF|00000001|000000000|000|4
0|TRACE*DATA*1****|FFFF2 02871882000001F|
```

2.2.1.11 Tokenization Conversion Request

This request replaces a card number with a high value token. You can use a high value token value repeatedly in place of the credit card number. You can also use it to replace a low value token (Reg ID) with a high value token.

For more information about special processing for this request, see [Tokenization and De-tokenization](#) on page 610.

TABLE 2-12 Tokenization Conversion Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0100
--	Bit Map Type	n	14 - 15	2	50
03	Processing Code	n	16 - 21	6	80000x
07	Transmission Date/Time	n	22 - 31	10	MMDDYY hhmm
11	System Trace Audit Number (STAN)	n	32 - 37	6	
12	Local Transaction Date	n	38 - 43	6	MMDDYY
13	Local Transaction Time	n	44 - 49	6	hhmmss

TABLE 2-12 Tokenization Conversion Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
22	Point-of-Service Entry Mode	n	50 - 52	3	
25	Point-of-Service Condition Code	n	53 - 62	10	You must set position 8 to 3 when using clear PAN, to 4 when using encrypted PAN, or to 6 when using Registration-ID in G028 –Token Utilization .
32	Acquiring Institution Identification Code (Bank ID)	n	63 - 66	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	67 - 69	3	
42	Card Acceptor Identification Code (Merchant ID)	n	70 - 81	12	
43	Lane Number	n	82 - 84	3	
45	Track Data	ans	85 - 160	76	<p>Load clear PAN, clear track data, or spaces (when using encrypted PAN or registration-ID). When using PAN, set POS entry mode to track 2. See 45 Track Data on page 222 for more information about its format when you use PAN.</p> <p>To tokenize Registration-ID, set track data to spaces, set point-of-service condition code byte 8 to 6, set Token Original Transaction Date to all 9s, set Token Original Transaction Time to all 9s, and submit G028 –Token Utilization with Registration-ID in field 01, "R " (5 spaces) in field 02, and expiration date in field 03.</p>
48	Additional Data (Last Retrieval Reference Number)	n	161 - 168	8	
55	Clerk Number	n	169 - 176	8	
70	Network Management Information Code	n	177 - 179	3	

TABLE 2-12 Tokenization Conversion Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
107	Point-of-Service Device Capability Code	an	180 - 181	2	
115	Trace Data 1 (Echo Data)	ans	182 - 197	16	
139	Token Original Transaction Date	n	198 - 205	8	ccyymmdd
140	Token Original Transaction Time	n	206 - 211	6	hhmmss
Total Base Message Bytes Excluding Group Data:				211	

Example: Tokenization Conversion Request for PAN

```
|I2.|123456|0100|50|800000|0321031116|123456|032103|111600|020|0000000300|1111|222|3333
33333333|001|*****5454545454545454=00
00|12345678|00001234|000|00|TRACE*DATA*1****|99999999|999999|
```

Example: Tokenization Conversion Request for Track I

```
|I2.|123456|0100|50|800000|0321031116|123456|032103|111600|812|0000000300|1111|222|3333
33333333|001|B5454545454545454^TEST/MASTERCARD^0612101123456789012345678901234567890123
45|12345678|00001234|000|00|TRACE*DATA*1****|99999999|999999|
```

Example: Tokenization Conversion Request for Registration-ID (Registration-ID submitted in G028)

```
|I2.|123456|0100|50|800000|0321031116|123456|032103|111600|812|0000000600|1111|222|3333
33333333|001|*****
**|12345678|00001234|000|00|TRACE*DATA*1****|99999999|999999|
```

2.2.1.12 De-tokenization Conversion Request

This request asks for the conversion of a token back into the PAN. The host processor does not perform authorization for this request.

For more information about special processing for this request, see [Tokenization and De-tokenization](#) on page 610.

CAUTION: When handling PAN information, you may need to consider compliance implications.

TABLE 2-13 De-tokenization Conversion Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.

TABLE 2-13 De-tokenization Conversion Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0100
--	Bit Map Type	n	14 - 15	2	51
03	Processing Code	n	16 - 21	6	81000x
07	Transmission Date/Time	n	22 - 31	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	32 - 37	6	
12	Local Transaction Date	n	38 - 43	6	MMDDYY
13	Local Transaction Time	n	44 - 49	6	hhmmss
25	Point-of-Service Condition Code	n	50 - 59	10	You must set position 8 to 5.
32	Acquiring Institution Identification Code (Bank ID)	n	60 - 63	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	64 - 66	3	
42	Card Acceptor Identification Code (Merchant ID)	n	67 - 78	12	
43	Lane Number	n	79 - 81	3	
48	Additional Data (Last Retrieval Reference Number)	n	82 - 89	8	
55	Clerk Number	n	90 - 97	8	
70	Network Management Information Code	n	98 - 100	3	
107	Point-of-Service Device Capability Code	an	101 - 102	2	
115	Trace Data 1 (Echo Data)	ans	103 - 118	16	
139	Token Original Transaction Date	n	119 - 126	8	ccyyymmdd
140	Token Original Transaction Time	n	127 - 132	6	hhmmss
Total Base Message Bytes Excluding Group Data:				132	

Example: De-tokenization Conversion Request

```
|I2.|123456|0100|51|810000|0321031116|123456|032103|111600|0000000500|1111|222|33333333
3333|001|12345678|00001234|000|00|TRACE*DATA*1****|99999999|999999|
```

2.2.2 Authorization Response Messages (0110)

This section describes the following authorization response messages:

- [Authorization Approval Response](#)
- [GC Mass Transaction/EBT Balance Inquiry Approval Response](#)
- [GC/POSA/Debit/Credit Balance Inquiry Approval Response](#)
- [Fleet Card Authorization Approval Response](#)
- [GC Mini-Statement Approval Response](#)
- [Debit, Credit and Check Error Response](#)
- [Gift Card/EBT Error Response](#)
- [Fleet Card Error Response](#)
- [Check Inquiry/Verification Approval Response](#)
- [Check Inquiry/Verification Error Response](#)
- [Token/De-token Conversion Approval Response](#)

2.2.2.1 Authorization Approval Response

This response returns an approval from the issuing bank. When the issuing bank approves the authorization, the response contains an authorization number assigned to the transaction.

TABLE 2-14 Authorization Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0110
--	Bit Map Type	n	5 - 6	2	90 GC/POSA/Debit/Credit Balance Inquiry Approval Response on page 68 also uses the bitmap 90; however, it has a different layout.
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	

TABLE 2-14 Authorization Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
37	Retrieval Reference Number	an	29 - 36	8	
65	Authorization Identification Response	an	37 - 42	6	
105.1	Additional Response Data/AVS Result Code	an	43 - 44	2	c
105.2	Payment Service Indicator	an	45	1	c
105.3	Transaction Identifier	an	46 - 60	15	c
105.4	VISA Validation Code	an	61 - 64	4	c
115	Trace Data 1 (Echo Data)	an	65 - 80	16	
120.1	Julian Day/Batch Number	n	81 - 86	6	
120.2	Demo Merchant Flag	an	87	1	
120.3	Network Mnemonic/Card Type	an	88 - 91	4	
124.1	Working Key	an	92 - 107	16	c
Total Base Message Bytes Excluding Group Data:				107	

Example: Authorization Approval Response

```
|0110|90|000000|0321031116|123456|12345678|TEST01|**|*|*****|****|TRACE*DATA*
1****|081001|N|MC**|*****|
```

2.2.2.2 GC Mass Transaction/EBT Balance Inquiry Approval Response

This response returns to the request to activate multiple gift cards within a certain BIN range or to the request balance information for an EBT card.

TABLE 2-15 GC Mass Transaction/EBT Balance Inquiry Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0110
--	Bit Map Type	n	5 - 6	2	61
03	Processing Code	n	7 - 12	6	

TABLE 2-15 GC Mass Transaction/EBT Balance Inquiry Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
07	Transmission Date and Time	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
65	Authorization Identification Response	an	29 - 34	6	
105.1	Additional Response Data/AVS Result Code	an	35 - 36	2	c
105.2	Payment Service Indicator	an	37	1	c
105.3	Transaction Identifier/POSA SAF Reference Number	an	38 - 52	15	c
105.4	VISA Validation Code	an	53 - 56	4	c
115	Trace Data 1 (Echo Data)	an	57 - 72	16	
120.1	Julian Day/Batch Number	n	73 - 78	6	
120.2	Demo Merchant Flag	an	79	1	
120.3	Network Mnemonic/Card Type	an	80 - 83	4	
124.1	Working Key	an	84 - 99	16	c
128	Additional Amounts	ans	100 - 219	120	
Total Base Message Bytes Excluding Group Data:				219	

Example: GC Mass Transaction/EBT/Credit Card Balance Inquiry Approval Response

```

|0110|61|310000|0321031116|123456|123456|**|*|*****|****|TRACE*DATA*1****|123
001|0|MPS1|*****|980284000000000010000960284000000000200000000000000000000
000000000000000000000000000000000000000000000000000000000000000000000000|

```

2.2.2.3 GC/POSA/Debit/Credit Balance Inquiry Approval Response

This response returns the balance of the available funds on a card.

TABLE 2-16 GC GC/POSA/Debit/Credit Balance Inquiry Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0110

TABLE 2-16 GC GC/POSA/Debit/Credit Balance Inquiry Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Bit Map Type	n	5 - 6	2	90 Authorization Approval Response on page 66 also uses the bitmap 90; however, it has a different layout.
03	Processing Code	n	7 - 12	6	
04	Amount, Transaction	n	13 - 21	9	
07	Transmission Date and Time	n	22 - 31	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	32 - 37	6	
37	Retrieval Reference Number	an	38 - 45	8	
65	Authorization Identification Response	an	46 - 51	6	
105.1	Additional Response Data/AVS Result Code	an	52 - 53	2	c
105.2	Payment Service Indicator	an	54	1	c
105.3	Transaction Identifier/POSA SAF Reference Number	an	55 - 69	15	c
105.4	VISA Validation Code	an	70 - 73	4	c
115	Trace Data 1 (Echo Data)	an	74 - 89	16	
120.1	Julian Day/Batch Number	n	90 - 95	6	
120.2	Demo Merchant Flag	an	96	1	
120.3	Network Mnemonic/Card Type	an	97 - 100	4	
124.1	Working Key	an	101 - 116	16	c
Total Base Message Bytes Excluding Group Data:				116	

Example: GC/POSA/Debit/Credit Balance Inquiry Approval

```
|0110|90|000000|000001500|0321031116|123456|12345678|TEST01|**|*|*****|****|T
RACE*DATA*1****|081001|N|MC**|*****|
```

2.2.2.4 Fleet Card Authorization Approval Response

This response returns an approval or decline from the issuing bank. The approval contains an authorization code.

TABLE 2-17 Fleet Card Authorization Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0110
--	Bit Map Type	n	5 - 6	2	41
03	Processing Code	n	7 - 12	6	
04	Amount, Transaction	n	13 - 21	9	
07	Transmission Date and Time	n	22 - 31	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	32 - 37	6	
37	Retrieval Reference Number	an	38 - 45	8	
65	Authorization Identification Response	an	46 - 51	6	
105.1	Additional Response Data/AVS Result Code	an	52 - 53	2	c
105.2	Payment Service Indicator	an	54	1	c
105.3	Transaction Identifier	an	55 - 69	15	c
105.4	VISA Validation Code	an	70 - 73	4	c
115	Trace Data 1 (Echo Data)	an	74 - 89	16	
120.1	Julian Day/Batch Number	n	90 - 95	6	
120.2	Demo Merchant Flag	an	96	1	
120.3	Network Mnemonic/Card Type	an	97 - 100	4	
124.1	Working Key	an	101 - 116	16	c
132.1	Fleet Preferred Product Code	an	117 - 119	3	c
132.2	Fleet Additional Data Number Of Messages	n	120 - 121	2	c
132.3	Fleet Message Area 1	an	122 - 141	20	c

TABLE 2-17 Fleet Card Authorization Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
132.4	Fleet Message Area 2	an	142 - 161	20	c
132.5	Fleet Message Area 3	an	162 - 181	20	c
132.6	Fleet Message Area 4	an	182 - 201	20	c
Total Base Message Bytes Excluding Group Data:				201	

Example: Fleet Card Authorization Approval Response

```
|0110|41|003000|000001542|0321031116|123456|12345678|TEST01|**|*|*****|****|T
RACE*DATA*1****|081001|N|MC**|*****|002|01|*****|*****
*****|*****|*****|*****|
```

2.2.2.5 GC Mini-Statement Approval Response

The GC Mini-Statement Approval response returns a short list of recent transactions.

TABLE 2-18 GC Mini Statement Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0110
--	Bit Map Type	n	5 - 6	2	61
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
65	Authorization Identification Response	an	29 - 34	6	
105.1	Additional Response Data/AVS Result Code	an	35 - 36	2	c
105.2	Payment Service Indicator	an	37	1	c
105.3	Transaction Identifier	an	38 - 52	15	c
105.4	VISA Validation Code	an	53 - 56	4	c
115	Trace Data 1 (Echo Data)	an	57 - 72	16	

TABLE 2-18 GC Mini Statement Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
120.1	Julian Day/Batch Number	n	73 - 78	6	
120.2	Demo Merchant Flag	an	79	1	
120.3	Network Mnemonic/Card Type	an	80 - 83	4	
124.1	Working Key	an	84 - 99	16	c
128	Additional Amounts	ans	100 - 219	120	
Total Base Message Bytes Excluding Group Data:				219	

Example: GC Mini Statement Approval Response

[illegible]

2.2.2.6 Debit, Credit and Check Error Response

This response returns an error code when the issuer/bank declines an authorization for a debit card, credit card, or check.

TABLE 2-19 Debit, Credit and Check Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0110
--	Bit Map Type	n	5 - 6	2	99
11	System Trace Audit Number (STAN)	n	7 - 12	6	
105.1	Additional Response Data/AVS Result Code	an	13 - 14	2	c
105.2	Payment Service Indicator	an	15	1	c
105.3	Transaction Identifier	an	16 - 30	15	c
105.4	VISA Validation Code	an	31 - 34	4	c
115	Trace Data 1 (Echo Data)	an	35 - 50	16	
123.1	ErrorText	an	51 - 70	20	

TABLE 2-19 Debit, Credit and Check Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
123.2	Response Code	n	71 - 73	3	This field is appended to the error text data on terminals that support 20-character displays.
124.1	Working Key	an	74 - 89	16	c
Total Base Message Bytes Excluding Group Data:				89	

Example: Error Response

```
|0110|99|123456|**|*|*****|****|TRACE*DATA*1****|SYS*ERROR*CALL*****|124|***
*****|
```

2.2.2.7 Gift Card/EBT Error Response

This response returns an error code when the issuer/bank declines an authorization for a gift or EBT card (for example, invalid card number or card expiration). This response is also applicable to Premier Issue Gift Card Mass Transaction and POSA Prepaid. This message can return [R999 – Error Group Data Response](#).

TABLE 2-20 Gift Card/EBT Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0110
--	Bit Map Type	n	5 - 6	2	62
11	System Trace Audit Number (STAN)	n	7 - 12	6	
105.1	Additional Response Data/AVS Result Code	an	13 - 14	2	c
105.2	Payment Service Indicator	an	15	1	c
105.3	Transaction Identifier/ POSA SAF Reference Number	an	16 - 30	15	c
105.4	VISA Validation Code	an	31 - 34	4	c
115	Trace Data 1 (Echo Data)	an	35 - 50	16	
123.1	Error Text	an	51 - 70	20	
123.2	Response Code	n	71 - 73	3	

TABLE 2-20 Gift Card/EBT Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
124.1	Working Key	an	74 - 89	16	c
128	Additional Amounts	ans	90 - 209	120	
Total Base Message Bytes Excluding Group Data:				209	

Example: Gift Card/EBT Error Response

```
[0110|62|123456|**|*|*****|***|TRACE*DATA*1***|SYS*CALL*ERROR*****|124|**  
*****|400284000000000100004003840000000000000000000000000000000000  
000000000000000000000000000000000000000000000000000000000000
```

2.2.2.8 Fleet Card Error Response

This response returns an error code when the issuer/bank cannot declines an authorization for a Fleet card (for example, invalid card number or card expiration).

TABLE 2-21 Fleet Card Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0110
--	Bit Map Type	n	5 - 6	2	49
11	System Trace Audit Number (STAN)	n	7 - 12	6	
105.1	Additional Response Data/AVS Result Code	an	13 - 14	2	c
105.2	Payment Service Indicator	an	15	1	c
105.3	Transaction Identifier	an	16 - 30	15	c
105.4	VISA Validation Code	an	31 - 34	4	c
115	Trace Data 1 (Echo Data)	an	35 - 50	16	
123.1	Error Text	an	51 - 70	20	
123.2	Response Code	n	71 - 73	3	
124.1	Working Key	an	74 - 89	16	c
132.1	Fleet Preferred Product Code	an	90 - 92	3	c

TABLE 2-21 Fleet Card Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
132.2	Fleet Additional Data Number Of Messages	n	93 - 94	2	c
132.3	Fleet Message Area 1	an	95 - 114	20	c
132.4	Fleet Message Area 2	an	115 - 134	20	c
132.5	Fleet Message Area 3	an	135 - 154	20	c
132.6	Fleet Message Area 4	an	155 - 174	20	c
Total Base Message Bytes Excluding Group Data:				174	

Example: Fleet Card Error Response

```
|0110|49|123456|**|*|*****|****|TRACE*DATA*1****|SYS*ERROR*CALL*****|124|***
*****|002|01|*****|*****|*****|*****|***
*****|
```

2.2.2.9 Check Inquiry/Verification Approval Response

This response approves the amount of the check with the bank guaranteeing settlement.

TABLE 2-22 Check Inquiry/Verification Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0110
--	Bit Map Type	n	5 - 6	2	70
03	Processing Code	n	7 - 12	6	
04	Amount, Transaction	n	13 - 21	9	c This bit is only present in gift card balance inquiry responses.
07	Transmission Date and Time	n	22 - 31	10	MMDDYY hhmm
11	System Trace Audit Number (STAN)	n	32 - 37	6	
37	Retrieval Reference Number	an	38 - 45	8	
65	Authorization Identification Response	an	46 - 51	6	

TABLE 2-22 Check Inquiry/Verification Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
102	Account ID 1 (MICR Only)	an	52 - 79	28	
115	Trace Data 1 (ECHO Data)	an	80 - 95	16	
120.1	Julian Day/Batch Number	n	96 - 101	6	
120.2	Demo Merchant Flag	an	102	1	
120.3	Network Mnemonic/Card Type	an	103 - 106	4	
123.2	Response Code	n	107 - 109	3	
Total Base Message Bytes Excluding Group Data:				109	

Example: Check Inquiry/Verification Approval Response

```
|0110|70|040000|000001500|0321031116|123456|12345678|TEST01|1234567890123456789012345678|TRACE*DATA*1****|081001|N|CA**|000|<rs>R014ECHO<gs>|
```

2.2.2.10 Check Inquiry/Verification Error Response

This response returns an error code when the bank cannot verify the account or guarantee the amount of settlement.

TABLE 2-23 Check Inquiry/Verification Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0110
--	Bit Map Type	n	5 - 6	2	71
11	System Trace Audit Number (STAN)	n	7 - 12	6	
115	Trace Data 1 (ECHO Data)	an	13 - 28	16	
123.1	Error Text	an	29 - 48	20	
123.2	Response Code	n	49 - 51	3	
Total Base Message Bytes Excluding Group Data:				51	

Example: Check Inquiry/Verification Error Response

```
|0110|71|123456|TRACE*DATA*1****|EXCEEDS LIMIT*****|790|<rs>R010CR020Receipt Text
Message<gs>|<rs>R014ECHO<gs>|
```

2.2.2.11 Token/De-token Coverage Approval Response

This response approves either of the following:

- The replacement of a card number with a high value token. You can use a high value token repeatedly in place of the credit card number. Additionally, you can use it to replace a low value token (Reg ID) with a high value token.
- The conversion of a token back into the PAN.

TABLE 2-24 Token/De-token Conversion Approval

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0110
--	Bit Map Type	n	5 - 6	2	53
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time	n	13 - 22	10	MMDDYY hhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
115	Trace Data 1 (Echo Data)	an	29 - 44	16	
120.1	Julian Day/Batch Number	n	45 - 50	6	
120.2	Demo Merchant Flag	an	51	1	
Total Base Message Bytes Excluding Group Data:				51	

Example: Token/De-token Approval Response

```
|0110|53|123456|0321031116|123456|TRACE*DATA*1****|138001|N|
```

2.3 Financial Transaction Request and Response Messages

Worldpay's host capture message sets support the following financial transaction message types:

- 0200 - Financial transaction request
- 0210 - Financial transaction response
- 0220 - Financial transaction request (prior authorization sale)
- 0230 - Financial transaction response (prior authorization sale)

Financial transaction messages deal with approval for a credit, debit, or EBT transaction, which (if approved) you can immediately apply to the related cardholder's account for billing or statement purposes.

Worldpay processes all signature prior authorization sales internally; they are not sent to the network for further authorization. Settlement processes the funds correctly.

Worldpay processes PIN debit prior authorization transactions in real-time and sends them to the networks for additional processing; however, Worldpay builds a void prior to the completion so that it can cancel the previously authorized transaction, which releases any previous holds should they apply.

2.3.1 Financial Transaction Request Messages (0200 and 0220)

This section describes the following financial transaction request messages:

- [Debit Card Sale \(DUKPT Key\) Request](#)
- [Debit Card Return \(DUKPT Key\) Request](#)
- [EBT Sale/Withdrawal \(DUKPT Key\) Request](#)
- [EBT Return \(Food Stamp, DUKPT Key\) Request](#)
- [EBT Voice Authorization/Voucher Clear Request](#)
- [EBT Voice Authorization Voucher Return Request](#)
- [Credit Card Sale Request](#)
- [Credit Card Sale with AVS Request](#)
- [Credit Card Sale — Extended Request](#)
- [Credit Card Sale — Extended with AVS Request](#)
- [Credit Card Return Request](#)
- [Credit Card Return — Extended Request](#)
- [Credit Card Cash Advance Request](#)
- [Credit Card Cash Advance, Purchase/Corporate Card Request](#)
- [Credit Card Prior Authorization/Adjustment Request](#)
- [Credit Card Prior Authorization — Extended Request](#)
- [Credit Card Cash Advance Prior Authorization Request](#)
- [EMV Offline Approval Advice \(Credit/Debit Card Sale/Return\) Request](#)
- [EMV Offline Approval Advice \(Credit/Debit Card Sale/Return\) — Ext Request](#)
- [Gift Card Activation Request](#)

- Gift Card Purchase Request
- Gift Card Refund Request
- Gift Card Reload Request
- Gift Card Unload Request
- Gift Card Close Request
- Gift Card Preauthorization Request
- Gift Card Completion Request
- Fleet Card Sale Request
- Fleet Card Return Request
- Fleet Card Force Post Request
- Enhanced Check Authorization Request
- Credit Card Cash Advance with AVS Request
- Cardholder Funds Transfer

2.3.1.1 Debit Card Sale (DUKPT Key) Request

This request checks the availability of funds for a debit card and captures those funds.

TABLE 2-25 Debit Card Sale (DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	10
03	Processing Code	n	16 - 21	6	00000x, 00100x, 00200x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	
13	Local Transaction Time	n	53 - 58	6	
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	

TABLE 2-25 Debit Card Sale (DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
52	Personal Identification Number	an	178 - 193	16	
55	Clerk Number	n	194 - 201	8	
60	Cash Back Amount	n	202 - 210	9	
70	Network Management Information Code	n	211 - 213	3	
107	Point-of-Service Device Capability Code	an	214 - 215	2	
115	Trace Data 1 (Echo Data)	ans	216 - 231	16	
117	DUKPT Serial Number	an	232 - 251	20	
Total Base Message Bytes Excluding Group Data:				251	

Example: Debit Card Sale (DUKPT) Request

```
|I2.|123456|0200|10|000000|000001500|0321031116|123456|032103|111600|021|0000000000|111
1|222|333333333333|001|*****5454545454545454=06121011
234567890123|12345678|1234567890ABCDEF|00000001|0000000000|000|40|TRACE*DATA*1****|FFFF2
02871882000001F|
```

2.3.1.2 Debit Card Return (DUKPT Key) Request

This request initiates a credit to a debit card for a prior transaction.

TABLE 2-26 Debit Card Return (DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	10
03	Processing Code	n	16 - 21	6	20000x, 20100x, 20200x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	
13	Local Transaction Time	n	53 - 58	6	
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
52	Personal Identification Number	an	178 - 193	16	
55	Clerk Number	n	194 - 201	8	
60	Cash Back Amount	n	202 - 210	9	

TABLE 2-26 Debit Card Return (DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
70	Network Management Information Code	n	211 - 213	3	
107	Point-of-Service Device Capability Code	an	214 - 215	2	
115	Trace Data 1 (Echo Data)	ans	216 - 231	16	
117	DUKPT Serial Number	an	232 - 251	20	
Total Base Message Bytes Excluding Group Data:				251	

Example: Debit Card Return (DUKPT) Request

```
|I2.|123456|0200|10|200000|000001500|0321031116|123456|032103|111600|021|0000000000|111
1|222|333333333333|001|*****5454545454545454=06121011
234567890123|12345678|1234567890ABCDEF|00000001|0000000000|000|40|TRACE*DATA*1****|FFFF2
02871882000001F|
```

2.3.1.3 EBT Sale/Withdrawal (DUKPT Key) Request

This request checks the availability of funds on an EBT card and captures those funds if available.

TABLE 2-27 EBT Sale/Withdrawal (DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	14
03	Processing Code	n	16 - 21	6	00600x, 00800, 00900x, 01600x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	

TABLE 2-27 EBT Sale/Withdrawal (DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
52	Personal Identification Number	an	178 - 193	16	
55	Clerk Number	n	194 - 201	8	
60	Cash Back Amount	n	202 - 210	9	
70	Network Management Information Code	n	211 - 213	3	
107	Point-of-Service Device Capability Code	an	214 - 215	2	
112	Card Sequence Number	n	216 - 218	3	c
115	Trace Data 1 (Echo Data)	ans	219 - 234	16	
117	DUKPT Serial Number	an	235 - 254	20	
Total Base Message Bytes Excluding Group Data:				254	

Example: EBT Sale/Withdrawal (DUKPT) Request

```
|I2.|123456|0200|14|006000|000001500|0321031116|123456|032103|111600|021|0000000000|111
1|222|333333333333|001|*****5454545454545454=06121011
234567890123|12345678|1234567890ABCDEF|00000001|000000000|000|40|000|TRACE*DATA*1****|F
FFF202871882000001F|
```

2.3.1.4 EBT Return (Food Stamp, DUKPT Key) Request

This request initiates a credit for an EBT card for a prior EBT/food stamp transaction.

TABLE 2-28 EBT Return (Food Stamp, DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	14
03	Processing Code	n	16 - 21	6	20800x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
52	Personal Identification Number	an	178 - 193	16	
55	Clerk Number	n	194 - 201	8	
60	Cash Back Amount	n	202 - 210	9	

TABLE 2-28 EBT Return (Food Stamp, DUKPT Key) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
70	Network Management Information Code	n	211 - 213	3	
107	Point-of-Service Device Capability Code	an	214 - 215	2	
112	Card Sequence Number	n	216 - 218	3	c
115	Trace Data 1 (Echo Data)	ans	219 - 234	16	
117	DUKPT Serial Number	an	235 - 254	20	
Total Base Message Bytes Excluding Group Data:				254	

Example: EBT Return (Food Stamp, DUKPT) Request

```
|I2.|123456|0200|14|208000|000001500|0321031116|123456|032103|111600|021|0000000000|111
1|222|333333333333|001|*****5454545454545454=06121011
234567890123|12345678|1234567890ABCDEF|00000001|000000000|000|40|000|TRACE*DATA*1****|F
FFF202871882000001F|
```

2.3.1.5 EBT Voice Authorization/Voucher Clear Request

The EBT Voice Authorization/Voucher Clear provides fund settlement to a merchant when the merchant performed an offline voucher request due to a POS outage. An offline voucher request is a voice authorization. The merchant performs the Voucher Clear request using the code from the voice authorization after the POS is back online.

TABLE 2-29 EBT Voice Authorization/Voucher Clear Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	13
03	Processing Code	n	16 - 21	6	00700x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY

TABLE 2-29 EBT Voice Authorization/Voucher Clear Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
65	Authorization ID Response	an	186 - 191	6	
70	Network Management Information Code	n	192 - 194	3	
107	Point-of-Service Device Capability Code	an	195 - 196	2	
111	Additional Data, Private EBT	ans	197 - 211	15	
112	Card Sequence Number	n	212 - 214	3	c
115	Trace Data 1 (Echo Data)	ans	215 - 230	16	
Total Base Message Bytes Excluding Group Data:				230	

Example: EBT Voice Authorization/Voucher Clear Request

```
|I2.|123456|0200|13|007000|000001500|0321031116|123456|032103|111600|021|0000000000|111
1|222|333333333333|001|*****5454545454545454=06121011
234567890123|12345678|00000001|TEST01|000|40|ADDITIONAL DATA|000|TRACE*DATA*1****|
```

2.3.1.6 EBT Voice Authorization Voucher Return Request

This request initiates a refund for a prior offline voucher request.

TABLE 2-30 EBT Voice Authorization Voucher Return Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	13
03	Processing Code	n	16 - 21	6	20700x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
65	Authorization ID Response	an	186 - 191	6	

TABLE 2-30 EBT Voice Authorization Voucher Return Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
70	Network Management Information Code	n	192 - 194	3	
107	Point-of-Service Device Capability Code	an	195 - 196	2	
111	Additional Data, Private EBT	ans	197 - 211	15	
112	Card Sequence Number	n	212 - 214	3	c
115	Trace Data 1 (Echo Data)	ans	215 - 230	16	
Total Base Message Bytes Excluding Group Data:				230	

Example: EBT Voice Authorization Voucher Return Request

```
|I2.|123456|0200|13|207000|000001500|0321031116|123456|032103|111600|021|0000000000|111
1|222|333333333333|001|*****5454545454545454=06121011
234567890123|12345678|00000001|TEST01|000|40|ADDITIONAL DATA|000|TRACE*DATA*1***|
```

2.3.1.7 Credit Card Sale Request

This request checks the availability of funds for a credit card and captures those funds.

TABLE 2-31 Credit Card Sale Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	22
03	Processing Code	n	16 - 21	6	00400x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss

TABLE 2-31 Credit Card Sale Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	Set position 9 to 2 for a DCC rate request.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	
67	Extended Payment Code (JCB Installments)	n	195 - 196	2	
70	Network Management Information Code	n	197 - 199	3	
107	Point-of-Service Device Capability Code	an	200 - 201	2	
109	P.O. Number/Customer Code	ans	202 - 221	20	
110	Tax Amount	n	222 - 230	9	
115	Trace Data 1 (Echo Data)	ans	231 - 246	16	
Total Base Message Bytes Excluding Group Data:				246	

Example: Credit Card Sale Request

```
| I2. | 123456 | 0200 | 22 | 004000 | 000001500 | 0321031116 | 123456 | 032103 | 111600 | 812 | 0000000000 | 111
1 | 222 | 333333333333 | 001 | B5454545454545454 ^TEST/MASTERCARD^061210112345678901234567890123
456789012345 | 12345678 | 00000001 | 000000000 | 00 | 000 | 40 | PO#/CUSTOMER*CODE*** | 000000000 | TRACE
*DATA*1**** |
```

Example: First Pass DCC Credit Card Sale Request

```
|I2.|123456|0200|22|004000|000001500|0321031116|123456|032103|111600|812|0000000020|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00000001|000000000|00|000|40|PO#/CUSTOMER*CODE***|000000000|TRACE
*DATA*1****|
```

2.3.1.8 Credit Card Sale with AVS Request

This request checks the availability of funds for a credit card with AVS and captures those funds.

TABLE 2-32 Credit Card Sale with AVS Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	25
03	Processing Code	n	16 - 21	6	52400x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	Set position 9 to 2 for a DCC rate request.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	

TABLE 2-32 Credit Card Sale with AVS Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	
67	Extended Payment Code (JCB Installments)	n	195 - 196	2	
70	Network Management Information Code	n	197 - 199	3	
106	Cardholder Identification Data (AVS)	an	200 - 228	29	
107	Point-of-Service Device Capability Code	an	229 - 230	2	
109	P.O. Number/Customer Code	ans	231 - 250	20	
110	Tax Amount	n	251 - 259	9	
115	Trace Data 1 (Echo Data)	ans	260 - 275	16	
Total Base Message Bytes Excluding Group Data:				275	

Example: Credit Card Sale with AVS Request

```
|I2.|123456|0200|25|524000|000001500|0321031116|123456|032103|111600|012|0004000000|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00000001|000000000|00|000|12345*ANYWHERE*ST***123456789|40|PO#/CU
STOMER*CODE***|000000000|TRACE*DATA*1****|
```

2.3.1.9 Credit Card Sale — Extended Request

This request checks the availability of funds for a credit card using the extended prompts option (usually designated for specific card types) and captures those funds.

TABLE 2-33 Credit Card Sale — Extended Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	

TABLE 2-33 Credit Card Sale — Extended Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	23
03	Processing Code	n	16 - 21	6	00400x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	Position 9 set to 2 for a DCC rate request
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	
63.1	Invoice/Folio number	n	195 - 200	6	
63.2	Item Code One	n	201 - 204	4	
63.3	Item Code Two	n	205 - 208	4	
63.4	Item Code Three	n	209 - 212	4	

TABLE 2-33 Credit Card Sale — Extended Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
63.5	Item Code Four	n	213 - 216	4	
63.6	Item Code Five	n	217 - 220	4	
67	Extended Payment Code (JCB Installments)	n	221 - 222	2	
70	Network Management Information Code	n	223 - 225	3	
107	Point-of-Service Device Capability Code	an	226 - 227	2	
109	P.O. Number/Customer Code	ans	228 - 247	20	
110	Tax Amount	n	248 - 256	9	
115	Trace Data 1 (Echo Data)	ans	257 - 272	16	
Total Base Message Bytes Excluding Group Data:				272	

Example: Credit Card Sale - Extended Request

```
|I2.|123456|0200|23|004000|000001500|0321031116|123456|032103|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00000001|000000000|000123|0000|0000|0000|0000|0000|00|000|40|PO#/
CUSTOMER*CODE***|000000000|TRACE*DATA*1****|
```

2.3.1.10 Credit Card Sale — Extended with AVS Request

This request checks the availability of funds for a credit card using the extended prompts option (usually designated for specific card types) with AVS and captures those funds.

TABLE 2-34 Credit Card Sale — Extended with AVS Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	26
03	Processing Code	n	16 - 21	6	52400x
04	Amount, Transaction	n	22 - 30	9	

TABLE 2-34 Credit Card Sale — Extended with AVS Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	Set position 9 to 2 for a DCC rate request.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	
63.1	Invoice/Folio Number	n	195 - 200	6	
63.2	Item Code One	n	201 - 204	4	
63.3	Item Code Two	n	205 - 208	4	
63.4	Item Code Three	n	209 - 212	4	
63.5	Item Code Four	n	213 - 216	4	
63.6	Item Code Five	n	217 - 220	4	
67	Extended Payment Code (JCB Installments)	n	221 - 222	2	

TABLE 2-34 Credit Card Sale — Extended with AVS Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
70	Network Management Information Code	n	223 - 225	3	
106	Cardholder Identification Data (AVS)	an	226 - 254	29	
107	Point-of-Service Device Capability Code	an	255 - 256	2	
109	P.O. Number/Customer Code	ans	257 - 276	20	
110	Tax Amount	n	277 - 285	9	
115	Trace Data 1 (Echo Data)	ans	286 - 301	16	
Total Base Message Bytes Excluding Group Data:				301	

Example: Credit Card Sale - Extended with AVS Request

```
|I2.|123456|0200|26|524000|000001500|0321031116|123456|032103|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00000001|000000000|000123|0000|0000|0000|0000|00|000|12345*A
NYWHERE*ST***123456789|40|PO#/CUSTOMER*CODE***|000000000|TRACE*DATA*1****|
```

2.3.1.11 Credit Card Return Request

This request initiates a refund for a previous transaction.

TABLE 2-35 Credit Card Return Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	12.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	22
03	Processing Code	n	16 - 21	6	20400x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm

TABLE 2-35 Credit Card Return Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	Set position 9 to 2 for a DCC rate request.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	Zero fill.
67	Extended Payment Code (JCB Installments)	n	195 - 196	2	Zero fill.
70	Network Management Information Code	n	197 - 199	3	
107	Point-of-Service Device Capability Code	an	200 - 201	2	
109	P.O. Number/Customer Code	ans	202 - 221	20	
110	Tax Amount	n	222 - 230	9	
115	Trace Data 1 (Echo Data)	ans	231 - 246	16	
Total Base Message Bytes Excluding Group Data:				246	

Example: Credit Card Return Request

```
|I2.|123456|0200|22|204000|000001500|0321031116|123456|032103|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00000001|000000000|00|000|40|PO#/CUSTOMER*CODE***|000000000|TRACE
*DATA*1****|
```

2.3.1.12 Credit Card Return — Extended Request

This request initiates a refund for a previous transaction using the extended prompts option (usually designated for specific card types).

TABLE 2-36 Credit Card Return — Extended Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	23
03	Processing Code	n	16 - 21	6	20400x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	When position 9 is set to 2, it indicates a DCC rate request.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	

TABLE 2-36 Credit Card Return — Extended Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	Zero fill.
63.1	Invoice/Folio Number	n	195 - 200	6	
63.2	Item Code One	n	201 - 204	4	
63.3	Item Code Two	n	205 - 208	4	
63.4	Item Code Three	n	209 - 212	4	
63.5	Item Code Four	n	213 - 216	4	
63.6	Item Code Five	n	217 - 220	4	
67	Extended Payment Code (JCB Installments)	n	221 - 222	2	Zero fill.
70	Network Management Information Code	n	223 - 225	3	
107	Point-of-Service Device Capability Code	an	226 - 227	2	
109	P.O. Number/Customer Code	ans	228 - 247	20	
110	Tax Amount	n	248 - 256	9	
115	Trace Data 1 (Echo Data)	ans	257 - 272	16	
Total Base Message Bytes Excluding Group Data:				272	

Example: Credit Card Return - Extended Request

```
|I2.|123456|0200|23|204000|000001500|0321031116|123456|032103|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00000001|000000000|000123|0000|0000|0000|0000|00|000|40|PO#/#
CUSTOMER*CODE***|000000000|TRACE*DATA*1****|
```

2.3.1.13 Credit Card Cash Advance Request

This request initiates a cash advance transaction on a credit card.

TABLE 2-37 Credit Card Cash Advance Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	02
03	Processing Code	n	16 - 21	6	01400x
04	Amount, Transaction	n	22 - 30	9	Zero fill.
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	Set position 9 to 2 for a DCC rate request.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	Cash Advance Amount
67	Extended Payment Code (JCB Installments)	n	195 - 196	2	

TABLE 2-37 Credit Card Cash Advance Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
70	Network Management Information Code	n	197 - 199	3	
107	Point-of-Service Device Capability Code	an	200 - 201	2	
115	Trace Data 1 (Echo Data)	ans	202 - 217	16	
Total Base Message Bytes Excluding Group Data:				217	

Example: Credit Card Cash Advance Request

```
|I2.|123456|0200|02|014000|000000000|0815141116|123456|081514|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00000001|000001500|00|000|40|TRACE*DATA*1****|
```

2.3.1.14 Credit Card Cash Advance, Purchase/Corporate Card Request

This request initiates a cash advance transaction on a purchase or corporate credit card.

TABLE 2-38 Credit Card Cash Advance, Purchase/Corporate Card Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	22
03	Processing Code	n	16 - 21	6	01400x
04	Amount, Transaction	n	22 - 30	9	Zero fill this field.
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	

TABLE 2-38 Credit Card Cash Advance, Purchase/Corporate Card Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
25	Point-of-Service Condition Code	n	62 - 71	10	When position 9 is set to a 2, it indicates a DCC rate request.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	Cash Advance Amount
67	Extended Payment Code (JCB Installments)	n	195 - 196	2	
70	Network Management Information Code	n	197 - 199	3	
107	Point-of-Service Device Capability Code	an	200 - 201	2	
109	P.O. Number/Customer Code	ans	202 - 221	20	
110	Tax Amount	n	222 - 230	9	
115	Trace Data 1 (Echo Data)	ans	231 - 246	16	
Total Base Message Bytes Excluding Group Data:				246	

Example: Purchase/Corporate Card Cash Advance Request

```
|I2.|123456|0200|22|014000|000000000|0815141116|123456|081514|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
456789012345|12345678|00000001|000001500|00|000|40|PO#/CUSTOMER*CODE***|000000000|TRACE
*DATA*1****|
```

2.3.1.15 Credit Card Prior Authorization/Adjustment Request

This request initiates a capture of the funds for a prior approved authorization.

TABLE 2-39 Credit Card Prior Authorization/Adjustment Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0220
--	Bit Map Type	n	14 - 15	2	24
03	Processing Code	n	16 - 21	6	00400x (prior sale), 02400x (adjustment), 20400x (refund), 54400x (adjustment - credit card completion with previous authorization) For more information, see Host Capture Adjustment Transactions on page 598.
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	

TABLE 2-39 Credit Card Prior Authorization/Adjustment Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
65	Authorization Identification Response	an	186 - 191	6	
67	Extended Payment Code (JCB Installments)	n	192 - 193	2	
70	Network Management Information Code	n	194 - 196	3	
105.1	Additional Response Data/AVS Result Code	an	197 - 198	2	c
105.2	Payment Service Indicator	an	199	1	c
105.3	Transaction Identifier	an	200 - 214	15	c
105.4	VISA Validation Code	an	215 - 218	4	c
107	Point-of-Service Device Capability Code	an	219 - 220	2	
109	P.O. Number/Customer Code	ans	221 - 240	20	
110	Tax Amount	n	241 - 249	9	
115	Trace Data 1 (Echo Data)	ans	250 - 265	16	
Total Base Message Bytes Excluding Group Data:				265	

Example: Credit Card Prior Authorization Request

```
|I2.|123456|0220|24|004000|000001500|0321031116|123456|032103|111600|012|0000000000|111
1|222|333333333333|001|*****545454545
4545454=1206|12345678|00000001|DEMO01|00|000|MA|E|123456789012345|1234|40|PO#/CUSTOMER*
CODE***|000000000|TRACE*DATA*1****|
```

2.3.1.16 Credit Card Prior Authorization — Extended Request

This request initiates an update to an approved existing authorization using the extended prompts option (usually designated for specific card types).

TABLE 2-40 Credit Card Prior Authorization — Extended Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0220
--	Bit Map Type	n	14 - 15	2	22
03	Processing Code	n	16 - 21	6	00400x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	

TABLE 2-40 Credit Card Prior Authorization — Extended Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
63.1	Invoice/Folio Number	n	186 - 191	6	
63.2	Item Code One	n	192 - 195	4	
63.3	Item Code Two	n	196 - 199	4	
63.4	Item Code Three	n	200 - 203	4	
63.5	Item Code Four	n	204 - 207	4	
63.6	Item Code Five	n	208 - 211	4	
65	Authorization Identification Response	an	212 - 217	6	
67	Extended Payment Code (JCB Installments)	n	218 - 219	2	
70	Network Management Information Code	n	220 - 222	3	
107	Point-of-Service Device Capability Code	an	223 - 224	2	
109	P.O. Number/Customer Code	ans	225 - 244	20	
110	Tax Amount	n	245 - 253	9	
115	Trace Data 1 (Echo Data)	ans	254 - 269	16	
Total Base Message Bytes Excluding Group Data:				269	

Example: Credit Card Prior Authorization - Extended Request

```
|I2.|123456|0220|22|004000|000001500|0321031116|123456|032103|111600|012|0000000000|111
1|222|333333333333|001|*****545454545
4545454=1206|12345678|00000001|123456|0000|0000|0000|0000|0000|DEMO01|00|000|40|PO#/CUS
TOMER*CODE***|000000000|TRACE*DATA*1***|
```

2.3.1.17 Credit Card Cash Advance Prior Authorization Request

This request initiates a capture of previously authorized funds for the purposes of a cash advance.

Use [G014 – Original Authorization Retrieval Reference Number](#) to send the original authorization retrieval reference number, which allows the host to retrieve the original authorization information, if still available, to supplement settlement data.

Use [G009 – Optional Processing Indicators](#) position 6 in the 0100 Credit Card Cash Advance Authorization to request that the host return a transaction's Retrieval Reference Number in response group [R008 – Original Authorization Retrieval Reference Number](#).

TABLE 2-41 Credit Card Cash Advance Prior Authorization Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0220
--	Bit Map Type	n	14 - 15	2	01
03	Processing Code	n	16 - 21	6	01400x
04	Amount, Transaction	n	22 - 30	9	Cash Advance Amount
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	

TABLE 2-41 Credit Card Cash Advance Prior Authorization Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
65	Authorization Identification Response	an	186 - 191	6	
67	Extended Payment Code (JCB Installments)	n	192 - 193	2	
70	Network Management Information Code	n	194 - 196	3	
107	Point-of-Service Device Capability Code	an	197 - 198	2	
115	Trace Data 1 (Echo Data)	ans	199 - 215	16	
Total Base Message Bytes Excluding Group Data:				215	

Example: Credit Card Cash Advance Prior Authorization Request

```
|I2.|123456|0220|01|014000|000001500|0815141116|123456|081514|111600|012|0000000000|111
1|222|333333333333|001|*****545454545
4545454=1206|12345678|00000001|DEMO01|00|000|40|PO#/CUSTOMER*CODE***|TRACE*DATA*1****|<
rs>G014123456789<gs>|
```

2.3.1.18 Debit Card Prior Authorization/Adjustment Request

Use this transaction type to initiate the capture of funds for a prior approved authorization.

TABLE 2-42 Debit Card Prior Authorization/Adjustment Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.

TABLE 2-42 Debit Card Prior Authorization/Adjustment Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0220
--	Bit Map Type	n	14 - 15	2	10
03	Processing Code	n	16 - 21	6	00000x, 00100x, 00200x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
65	Authorization Identification Response	an	186 - 191	6	

TABLE 2-42 Debit Card Prior Authorization/Adjustment Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
70	Network Management Information Code	n	192 - 194	3	
105.1	Additional Response Data/AVS Result Code	an	195 - 196	2	c
105.2	Payment Service Indicator	an	197	1	c
105.3	Transaction Identifier	an	198 - 212	15	c
105.4	Visa Validation Code	an	213 - 216	4	c
107	Point-of-Service Device Capability Code	an	217 - 218	2	
115	Trace Data 1 (Echo Data)	ans	219 - 234	16	
Total Base Message Bytes Excluding Group Data:				234	

Example: Debit Card Prior Authorization/Adjustment Request

```
|I2.|123456|0220|24|004000|000001500|0321031116|123456|032103|111600|012|0000000000
|1111|222|333333333333|001|*****54545
4545454545=1206|12345678|00000001|DEMO01|00|000|MA|E|123456789012345|1234|40|TRACE*DAT
A*1****|
```

2.3.1.19 EMV Offline Approval Advice (Credit/Debit Card Sale/Return) Request

This requests asks for the settlement of an EMV transaction for which Worldpay did not process the authorization.

TABLE 2-43 EMV Offline Approval Advice (Credit/Debit Card Sale/Return) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0220
--	Bit Map Type	n	14 - 15	2	34

TABLE 2-43 EMV Offline Approval Advice (Credit/Debit Card Sale/Return) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
03	Processing Code	n	16 - 21	6	00000x (debit sale) 00400x (credit sale) 20000x (debit return) 20400x (credit return)
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	Use value 9 in position 3 for an offline PIN validation.
25	Point-of-Service Condition Code	n	62 - 71	10	Position 9 equals 4 or 5.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
65	Authorization Identification Response	an	186 - 191	6	
67	Extended Payment Code (JCB Installments)	n	192 - 193	2	

TABLE 2-44 EMV Offline Approval Advice (Credit/Debit Card Sale/Return) — Extended Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0220
--	Bit Map Type	n	14 - 15	2	35
03	Processing Code	n	16 - 21	6	00000x - debit sale 00400x - credit sale 20000x - debit return 20400x - credit return
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	Use a value of 9 in position 3 for offline PIN validation.
25	Point-of-Service Condition Code	n	62 - 71	10	Position 9 equals 4 or 5.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
63.1	Invoice/Folio Number	n	186 - 191	6	

TABLE 2-44 EMV Offline Approval Advice (Credit/Debit Card Sale/Return) — Extended Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
63.2	Item Code One	n	192 - 195	4	
63.3	Item Code Two	n	196 - 199	4	
63.4	Item Code Three	n	200 - 203	4	
63.5	Item Code Four	n	204 - 207	4	
63.6	Item Code Five	n	208 - 211	4	
65	Authorization Identification Response	an	212 - 217	6	
67	Extended Payment Code (JCB Installments)	n	218 - 219	2	
70	Network Management Information Code	n	220 - 222	3	
107	Point-of-Service Device Capability Code	an	223 - 224	2	
109	P.O. Number/Customer Code	ans	225 - 244	20	
110	Tax Amount	n	245 - 253	9	
115	Trace Data 1 (Echo Data)	ans	254 - 269	16	
Total Base Message Bytes Excluding Group Data:				269	

Groups **G034 – POS Identification Data** and **G035 – EMV Tag Data** are not shown but you should also include them.

Example: Example of Credit Card Prior Authorization - Extended Request

```
|I2.|123456|0220|35|004000|000001500|0321031116|123456|032103|111600|012|0000000000|111
1|222|333333333333|001|*****545454545
4545454=1206|12345678|00000001|123456|0000|0000|0000|0000|0000|DEMO01|00|000|40|PO#/CUS
TOMER*CODE**||000000000|TRACE*DATA*1****|
```

2.3.1.21 Gift Card Activation Request

This request changes the status of a Closed Loop Gift Card from an inactive to an active state. It is applicable to Gift Card and POSA Prepaid.

TABLE 2-45 Gift Card Activation Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	60/80 Bit Map 80 extends the message to include fields 133 through 136. All new development should use bit map type 80.
03	Processing Code	n	16 - 21	6	61000x 71000x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	Beginning card range for Gift Card Mass Transactions

TABLE 2-45 Gift Card Activation Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
107	Point-of-Service Device Capability Code	an	186 - 187	2	
115	Trace Data 1 (Echo Data)	ans	188 - 203	16	
133	POSA Network ID	an	204 - 207	4	Bit Map Type 80 only
134	POSA UPC Data	an	208 - 227	20	Bit Map Type 80 only
135	POSA Stand-In Indicator	an	228	1	Bit Map Type 80 only
136	POSA SAF Reference Number	an	229 - 240	12	Bit Map Type 80 only
Total Base Message Bytes Excluding Group Data:				203/240	

Example: Gift Card/POSA Prepaid Activation Request

```
|I2.|123456|0200|80|610000|000002500|0321031116|123456|032103|111600|022|0000000000|111
1|222|333333333333|001|*****5812345678901234=49121011
234567890123|12345678|00000001|00|TRACE*DATA*1****|SWAY|12345678901234567890|N|12345678
9012|
```

2.3.1.22 Gift Card Purchase Request

This request initiates a check of the availability of funds on a gift card and captures those funds.

TABLE 2-46 Gift Card Purchase Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200

TABLE 2-46 Gift Card Purchase Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Bit Map Type	n	14 - 15	2	60/80 Bit Map 80 extends the message to include fields 133, 134, and 136. All new development should use bit map type 80.
03	Processing Code	n	16 - 21	6	62000x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
107	Point-of-Service Device Capability Code	an	186 - 187	2	

TABLE 2-46 Gift Card Purchase Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
115	Trace Data 1 (Echo Data)	ans	188 - 203	16	
133	POSA Network ID	an	204 - 207	4	Bit Map Type 80 only
134	POSA UPC Data	an	208 - 227	20	Bit Map Type 80 only
136	POSA SAF Reference Number	an	228 - 239	12	Bit Map Type 80 only
Total Base Message Bytes Excluding Group Data:				203/239	

Example: Gift Card/POSA Prepaid Purchase Request

```
I2.|123456|0200|80|620000|000002500|0321031116|123456|032103|111600|022|0000000000|111
1|222|333333333333|001|*****5812345678901234=49121011
234567890123|12345678|00000001|00|TRACE*DATA*1****|SWAY|12345678901234567890|1234567890
12|
```

2.3.1.23 Gift Card Refund Request

This request initiates a refund to the balance of a gift card. This request is applicable to Gift Card and POSA Prepaid.

TABLE 2-47 Gift Card Refund Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	60/80 Bit Map 80 extends the message to include fields 133, 134, and 136. All new development should be using bit map type 80.
03	Processing Code	n	16 - 21	6	63000x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm

TABLE 2-47 Gift Card Refund Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
107	Point-of-Service Device Capability Code	an	186 - 187	2	
115	Trace Data 1 (Echo Data)	ans	188 - 203	16	
133	POSA Network ID	an	204 - 207	4	Bit Map Type 80 only
134	POSA UPC Data	an	208 - 227	20	Bit Map Type 80 only
136	POSA SAF Reference Number	an	228 - 239	12	Bit Map Type 80 only
Total Base Message Bytes Excluding Group Data:				203/239	

Example: Gift Card/POSA Prepaid Refund

```
|I2.|123456|0200|80|630000|000002500|0321031116|123456|032103|111600|022|0000000000|111
1|222|333333333333|001|*****5812345678901234=49121011
234567890123|12345678|00000001|00|TRACE*DATA*1****|SWAY|12345678901234567890|1234567890
12|
```

2.3.1.24 Gift Card Reload Request

This request initiates the addition of funds to an active gift card. This request is applicable to Gift Card, Premier Issue Gift Card Mass Transaction, and POSA Prepaid.

TABLE 2-48 Gift Card Reload Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	60/80 Bit Map 80 extends the message to include fields 133 through 136. All new development should use bit map type 80.
03	Processing Code	n	16 - 21	6	64000x 74000x Premier Issue Gift Card Mass Transaction reload uses Bit 3 (Processing Code 740000) and G005 – Gift Card Mass Transaction to indicate the ending of the card range.
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	Hhmmss

TABLE 2-48 Gift Card Reload Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	Beginning card range for Gift Card Mass Transactions
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
107	Point-of-Service Device Capability Code	an	186 - 187	2	
115	Trace Data 1 (Echo Data)	ans	188 - 203	16	
133	POSA Network ID	an	204 - 207	4	Bit Map Type 80 only
134	POSA UPC Data	an	208 - 227	20	Bit Map Type 80 only
135	POSA Stand-In Indicator	an	228	1	Bit Map Type 80 only
136	POSA SAF Reference Number	an	229 - 240	12	Bit Map Type 80 only
Total Base Message Bytes Excluding Group Data:				203/240	

Example: Gift Card/POSA Prepaid Reload Request

```
|I2.|123456|0200|80|640000|000002500|0321031116|123456|032103|111600|022|0000000000|111
1|222|333333333333|001|*****5812345678901234=49121011
234567890123|12345678|00000001|00|TRACE*DATA*1****|SWAY|12345678901234567890|N|12345678
```


9012 |

2.3.1.25 Gift Card Unload Request

This request initiates the removal of funds from an active Gift Card. This request is applicable to Gift Card, Premier Issue Gift Card Mass Transaction, and POSA Prepaid.

TABLE 2-49 Gift Card Unload Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	60/80 Bit Map 80 extends the message to include fields 133, 134, and 136. All new development should be using bit map type 80.
03	Processing Code	n	16 - 21	6	65000x, 75000x Premier Issue Gift Card Mass Transaction unload uses Bit 3 processing code 750000 and G005 – Gift Card Mass Transaction to indicate ending card range.
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	

TABLE 2-49 Gift Card Unload Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	Beginning card range for Gift Card Mass Transactions
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
107	Point-of-Service Device Capability Code	an	186 - 187	2	
115	Trace Data 1 (Echo Data)	ans	188 - 203	16	
133	POSA Network ID	an	204 - 207	4	Bit Map Type 80 only
134	POSA UPC Data	an	208 - 227	20	Bit Map Type 80 only
136	POSA SAF Reference Number	an	228 - 239	12	Bit Map Type 80 only
Total Base Message Bytes Excluding Group Data:				203/239	

Example: Gift Card/POSA Prepaid Unload Request

```
|I2.|123456|0200|80|650000|000000000|0321031116|123456|032103|111600|022|0000000000|111
1|222|333333333333|001|*****5812345678901234=49121011
234567890123|12345678|00000001|00|TRACE*DATA*1****|SWAY|12345678901234567890|1234567890
12|
```

2.3.1.26 Gift Card Close Request

This request initiates the change of a (Closed Loop) Gift Card from active to inactive. This request is applicable to Gift Card, Premier Issue Gift Card Mass Transaction, and POSA Prepaid.

TABLE 2-50 Gift Card Close Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	60/80 Bit Map 80 extends the message to include fields 133, 134, and 136. All new development should use bit map type 80.
03	Processing Code	n	16 - 21	6	66000x, 76000x Premier Issue Gift Card Mass Transaction close uses Bit 3 (Processing Code 760000) and G005 – Gift Card Mass Transaction to indicate the ending of a card range.
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	

TABLE 2-50 Gift Card Close Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	Beginning card range for Gift Card Mass Transactions
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
107	Point-of-Service Device Capability Code	an	186 - 187	2	
115	Trace Data 1 (Echo Data)	ans	188 - 203	16	
133	POSA Network ID	an	204 - 207	4	Bit Map Type 80 only
134	POSA UPC Data	an	208 - 227	20	Bit Map Type 80 only
136	POSA SAF Reference Number	an	228 - 239	12	Bit Map Type 80 only
Total Base Message Bytes Excluding Group Data:				203/239	

Example: Gift Card/POSA Prepaid Close Request

```
|I2.|123456|0200|80|660000|0000000000|0321031116|123456|032103|111600|022|0000000000|1111|222|
33333333333|001|*****5812345678901234=49121011234567890123|123
45678|00000001|00|TRACE*DATA*1****|SWAY|12345678901234567890|123456789012|
```

2.3.1.27 Gift Card Preauthorization Request

This request holds the funds for a purchase with a gift card until the merchant settles the transaction or the hold expires.

TABLE 2-51 Gift Card Preauthorization Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	

TABLE 2-51 Gift Card Preauthorization Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	60
03	Processing Code	n	16 - 21	6	58000x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
107	Point-of-Service Device Capability Code	an	186 - 187	2	

TABLE 2-51 Gift Card Preauthorization Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
115	Trace Data 1 (Echo Data)	ans	188 - 203	16	
129	Auth Timer	n	204 - 207	4	
Total Base Message Bytes Excluding Group Data:				207	

Example: Gift Card Preauthorization Request

```
|I2.|123456|0200|80|580000|000000000|0321031116|123456|032103|111600|022|0000000000|111
1|222|333333333333|001|*****5812345678901234=49121011
234567890123|12345678|00000001|00|TRACE*DATA*1****|0000|
```

2.3.1.28 Gift Card Completion Request

This request initiates the capture of funds from a gift card after an authorization.

TABLE 2-52 Gift Card Completion Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	60
03	Processing Code	n	16 - 21	6	59000x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY

TABLE 2-52 Gift Card Completion Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
13	Local Transaction Time	n	53 - 58	6	hhmmss The Local Transaction Date (bit 12) and Local Transaction Time (bit 13) in the Preauthorization response must be saved and returned in the Local Transaction Date (bit 12) and Local Transaction Time (bit 13) of the Gift Card Completion transaction.
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
107	Point-of-Service Device Capability Code	an	186 - 187	2	
115	Trace Data 1 (Echo Data)	ans	188 - 203	16	
Total Base Message Bytes Excluding Group Data:				203	

Example: Gift Card Completion Request

```
|I2.|123456|0200|80|590000|000002500|0321031116|123456|032103|111600|022|0000000000|111
1|222|333333333333|001|*****5812345678901234=49121011
234567890123|12345678|00000001|00|TRACE*DATA*1****|
```

2.3.1.29 Fleet Card Sale Request

This request checks the availability of funds on a Fleet card and captures those funds if available.

TABLE 2-53 Fleet Card Sale Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	40
03	Processing Code	n	16 - 21	6	00300x Processing Code 513000 requests authorization of AVS information (bit 106) only. 523000 requests authorization of both the credit card and AVS information.
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	

TABLE 2-53 Fleet Card Sale Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	
70	Network Management Information Code	n	195 - 197	3	
106	Cardholder Identification Data (AVS)	an	198 - 226	29	Space fill when there is no AVS.
107	Point-of-Service Device Capability Code	an	227 - 228	2	
115	Trace Data 1 (Echo Data)	ans	229 - 244	16	
130	Fleet Customer Data	LLLvar ...an 999	245 - 1243	0 - 999	c
131	Fleet Product Data	LLLvar...a n 999	1244 - 2242	0 - 999	c
Total Base Message Bytes Excluding Group Data:				244 - 2242	

Example: Fleet Card Sale Request

```
|I2.|123456|0200|40|003000|000002546|0321031116|123456|032103|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/FLEETCARD^0612101123456789012345678901234
567890123456|12345678|00001245|123456789|000|*****|00|TRACE*DAT
A*1***|033|023|01|08|12345678|04|07|1234567|1|**|1234|152|83|01|08|12345678|02|08|1234
5678|03|09|123456789|04|09|123456789|05|09|123456789|06|09|123456789|07|03|001|069|002|
019|F|123456789012|12345678|12345678|G|101|N|123456789012|12345678|12345678|O|
```

2.3.1.30 Fleet Card Return Request

This request initiates a refund for a previous transaction.

TABLE 2-54 Fleet Card Return Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	40
03	Processing Code	n	16 - 21	6	20300x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	

TABLE 2-54 Fleet Card Return Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	
70	Network Management Information Code	n	195 - 197	3	
107	Point-of-Service Device Capability Code	an	198 - 199	2	
115	Trace Data 1 (Echo Data)	ans	200 - 215	16	
130	Fleet Customer Data	LLLvar ...an 999	216 - 1214	0 - 999	c
131	Fleet Product Data	LLLvar... an 999	1215 - 2213	0 - 999	c
Total Base Message Bytes Excluding Group Data:				215 - 2213	

Example: Fleet Card Return Request

```
|I2.|123456|0200|40|203000|000000254|0321031116|123456|032103|111600|812|0000000000|111
1|222|333333333333|001|B5454545454545454^TEST/FLEETCARD^0612101123456789012345678901234
567890123456|12345678|00001245|123456789|000|00|TRACE*DATA*1****|033|023|01|08|12345678
|04|07|1234567|1|**|1234|152|83|01|08|12345678|02|08|12345678|03|09|123456789|04|09|123
456789|05|09|123456789|06|09|123456789|07|03|001|069|002|019|F|123456789012|12345678|12
345678|G|101|N|123456789012|12345678|12345678|O|
```

2.3.1.31 Fleet Card Force Post Request

This request initiates the capture of funds on a Fleet card without a valid authorization.

TABLE 2-55 Fleet Card Force Post Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	12.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0220
--	Bit Map Type	n	14 - 15	2	40

TABLE 2-55 Fleet Card Force Post Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
03	Processing Code	n	16 - 21	6	00300x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
65	Authorization Identification Response	an	186 - 191	6	
70	Network Management Information Code	n	192 - 194	3	

TABLE 2-55 Fleet Card Force Post Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
105.1	Additional Response Data/AVS Result Code	an	195 - 196	2	
105.2	Payment Service Indicator	an	197	1	
105.3	Transaction Identifier	an	198 - 213	15	
105.4	VISA Validation Code	an	214 - 217	4	
107	Point-of-Service Device Capability Code	an	218 - 219	2	
115	Trace Data 1 (Echo Data)	ans	220 - 235	16	
130	Fleet Customer Data	LLLvar ...an 999	236 - 1234	0 - 999	c
131	Fleet Product Data	LLLvar...an 999	1235 - 2233	0 - 999	c
Total Base Message Bytes Excluding Group Data:				235 - 2233	

Example: Fleet Card Force Post Request

```
|I2.|123456|0220|40|003000|000002645|0321031116|123456|032103|111600|812|0000000000|111  
1|222|333333333333|001|B545454545454545^TEST/FLEETCARD^0612101123456789012345678901234  
567890123456|12345678|00001245|DEMO01|000|00|E|123456789012345|1234|00|TRACE*DATA*1****  
|033|023|01|08|12345678|04|07|1234567|1|**|1234|152|83|01|08|12345678|02|08|12345678|03  
|09|123456789|04|09|123456789|05|09|123456789|06|09|123456789|07|03|001|069  
|002|019|F|123456789012|12345678|12345678|G|101|N|123456789012|12345678|12345678|O|
```

2.3.1.32 Enhanced Check Authorization Request

This request provides the capability for authorizing both paper check transactions and electronic clearing transactions. The base message along with group [G056 - Enhanced Check Authorization Request Data](#) allow you to pass supplemental information to the processing check network.

TABLE 2-56 Enhanced Check Authorization Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing Code	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	32
03	Processing Code	n	16 - 21	6	03000x 04000x 05000x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution ID Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal ID (Terminal ID)	n	76 - 78	3	
42	Card Acceptor ID Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
48	Additional Data (Last Retrieval Reference Number)	n	94 - 101	8	
55	Clerk Number	n	102 - 109	8	
60	Cash Back Amount	n	110 - 118	9	
70	Network Management Information Code	n	119 - 121	3	
107	Point-of-Service Device Capability Code	an	141 - 142	2	
109	P.O. Number/Customer Code	ans	166 - 185	20	
115	Trace Data 1 (ECHO Data)	ans	186 - 201	16	

TABLE 2-56 Enhanced Check Authorization Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
Total Base Message Bytes Excluding Group Data:				159	

Example: Enhanced Check Authorization Request

```
|I2.|123456|0200|32|040000|000001500|0321031116|123456|032103|111600|011|0000000000|111
1|222|333333333333|001|12345678|00001245|000000000|000|8005551212123456789|72|

|12345678901234567890|TRACE*DATA*1****|<rs>G009000NNNY<gs>|G05601004EFX2020023003004100
204036T123456789A1234567          C009829050020H0900819651010<gs>|
```

2.3.1.33 Credit Card Cash Advance with AVS Request

This request checks of the availability of funds on a gift card with AVS and captures those funds if available.

TABLE 2-57 Credit Card Cash Advance with AVS Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	25
03	Processing Code	n	16 - 21	6	53400x
04	Amount, Transaction	n	22 - 30	9	Zero fill this field.
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	Set position 9 to 2 for a DCC rate request.
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	

TABLE 2-57 Credit Card Cash Advance with AVS Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
60	Cash Back Amount	n	186 - 194	9	Cash Advance Amount
67	Extended Payment Code (JCB Installments)	n	195 - 196	2	
70	Network Management Information Code	n	197 - 199	3	
106	Cardholder Identification Data (AVS)	an	200 - 228	29	
107	Point-of-Service Device Capability Code	an	229 - 230	2	
109	P.O. Number/Customer Code	ans	231 - 250	20	
110	Tax Amount	n	251 - 259	9	
115	Trace Data 1 (Echo Data)	ans	260 - 275	16	
Total Base Message Bytes Excluding Group Data:				275	

Example: Credit Card Cash Advance with AVS

```
|I2.|123456|0200|25|53400|000000000|0321031116|123456|032103|111600|012|0004000000|1111
|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^0612101123456789012345678901234
56789012345|12345678|00000001|000000000|00|000|12345*ANYWHERE*ST***123456789|40|PO#/CUS
TOMER*CODE***|000000000|TRACE*DATA*1****
```

2.3.1.34 Cardholder Funds Transfer

This requests checks of the availability of funds for a debit card.

TABLE 2-58 Cardholder Funds Transfer

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0200
--	Bit Map Type	n	14 - 15	2	50
03	Processing Code	n	16 - 21	6	41000x, 42000x
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
107	Point-of-Service Device Capability Code	an	186 - 187	2	
115	Trace Data 1 (Echo Data)	ans	188 - 203	16	
Total Base Message Bytes Excluding Group Data:				203	

2.3.2 Financial Transaction Response Messages (0210 and 0230)

This section describes the following financial transaction response messages:

- [Credit/Debit Approval Response](#)
- [Credit/Debit Error Response](#)
- [EBT Approval Response](#)
- [Gift Card Approval Response](#)
- [Gift Card Preauthorization Approval Response](#)
- [Gift Card/EBT Error Response](#)
- [Fleet Card Approval Response](#)
- [Fleet Card Error Response](#)
- [Enhanced Check Authorization Approval Response](#)
- [Enhanced Check Authorization Error Response](#)

2.3.2.1 Credit/Debit Approval Response

This response returns the results of a requested transaction on a credit or debit card.

TABLE 2-59 Credit/Debit Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0210, 0230
--	Bit Map Type	n	5 - 6	2	91
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
37	Retrieval Reference Number	an	29 - 36	8	
65	Authorization Identification Response	an	37 - 42	6	
105.1	Additional Response Data/AVS Result Code	an	43 - 44	2	c
105.2	Payment Service Indicator	an	45	1	c
105.3	Transaction Identifier	an	46 - 60	15	c
105.4	VISA Validation Code	an	61 - 64	4	c
115	Trace Data 1 (Echo Data)	an	65 - 80	16	

TABLE 2-59 Credit/Debit Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
120.1	Julian Day/Batch Number	n	81 - 86	6	
120.2	Demo Merchant Flag	an	87	1	
120.3	Network Mnemonic/Card Type	an	88 - 91	4	
124.1	Working Key	an	92 - 107	16	c
Total Base Message Bytes Excluding Group Data:				107	

The example below includes the processing code, which identifies the account type used for a debit transaction.

Example: Credit/Debit Approval Response

```
|0210|91|004000|0321031116|123456|12345678|123456|MA|E|123456789012345|1234|TRACE*DATA*
1****|123001|N|MC**|*****|
```

2.3.2.2 Credit/Debit Error Response

This response returns a decline/error message for the requested transaction.

TABLE 2-60 Credit/Debit Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0210 0230
--	Bit Map Type	n	5 - 6	2	99
11	System Trace Audit Number (STAN)	n	7 - 12	6	
105.1	Additional Response Data/AVS Result Code	an	13 - 14	2	c
105.2	Payment Service Indicator	an	15	1	c
105.3	Transaction Identifier	an	16 - 30	15	c
105.4	VISA Validation Code	an	31 - 34	4	c
115	Trace Data 1 (Echo Data)	an	35 - 50	16	
123.1	Error Text	an	51 - 70	20	
123.2	Response Code	n	71 - 73	3	
124.1	Working Key	an	74 - 89	16	c

TABLE 2-60 Credit/Debit Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
Total Base Message Bytes Excluding Group Data:				89	

Example: Credit/Debit Error Response

```
|0210|99|123456|**|*|*****|****|TRACE*DATA*1****|SYS*ERROR*CALL*****|124|***
*****|
```

2.3.2.3 EBT Approval Response

This response returns the results of a requested transaction on an EBT card.

TABLE 2-61 EBT Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0210, 0230
--	Bit Map Type	n	5 - 6	2	61
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
37	Retrieval Reference Number	an	29 - 36	8	
65	Authorization Identification Response	an	37 - 42	6	
105.1	Additional Response Data/AVS Result Code	an	43 - 44	2	c
105.2	Payment Service Indicator	an	45	1	c
105.3	Transaction Identifier	an	46 - 60	15	c
105.4	VISA Validation Code	an	61 - 64	4	c
115	Trace Data 1 (Echo Data)	an	65 - 80	16	
120.1	Julian Day/Batch Number	n	81 - 86	6	
120.2	Demo Merchant Flag	an	87	1	
120.3	Network Mnemonic/Card Type	an	88 - 91	4	

TABLE 2-61 EBT Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
124.1	Working Key	an	92 - 107	16	c
128	Additional Amounts	ans	108 - 227	120	
Total Base Message Bytes Excluding Group Data:				227	

The following example includes the processing code, which identifies the account type used in the transaction.

Example: EBT Approval Response

[illegible]

2.3.2.4 Gift Card Approval Response

This response returns the results of a gift card completion transaction. This response is also applicable to Premier Issue Gift Card Mass transaction and POSA Prepaid. It can return group data responses (see [Chapter 4, "Group Data"](#)) except for [R999 – Error Group Data Response](#).

TABLE 2-62 Gift Card Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0210
--	Bit Map Type	n	5 - 6	2	61
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
37	Retrieval Reference Number	an	29 - 36	8	
65	Authorization Identification Response	an	37 - 42	6	
105.1	Additional Response Data/AVS Result Code	an	43 - 44	2	c
105.2	Payment Service Indicator	an	45	1	c

TABLE 2-62 Gift Card Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
105.3	Transaction Identifier/POSA SAF Reference Number	an	46 - 60	15	c
105.4	VISA Validation Code	an	61 - 64	4	c
115	Trace Data 1 (Echo Data)	an	65 - 80	16	
120.1	Julian Day/Batch Number	n	81 - 86	6	
120.2	Demo Merchant Flag	an	87	1	
120.3	Network Mnemonic/Card Type	an	88 - 91	4	
124.1	Working Key	an	92 - 107	16	c
128	Additional Amounts	ans	108 - 227	120	
Total Base Message Bytes Excluding Group Data:				227	

Example: Gift Card Approval Response

[illegible]

2.3.2.5 Gift Card Preauthorization Approval Response

This request returns the results of a requested gift card transaction.

TABLE 2-63 Gift Card Preauthorization Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0210
--	Bit Map Type	n	5 - 6	2	63
03	Processing Code	n	7 - 12	6	

TABLE 2-63 Gift Card Preauthorization Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
12	Local Transaction Date	n	13 - 18	6	MMDDYY You must save the Local Transaction Date (bit 12) and Local Transaction Time (bit 13) from the Preauthorization response and return it in the Local Transaction Date (bit 12) and Local Transaction Time (bit 13) of the Gift Card Completion transaction.
13	Local Transaction Time	n	19 - 24	6	hhmmss
11	System Trace Audit Number (STAN)	n	25 - 30	6	
37	Retrieval Reference Number	an	31 - 38	8	
65	Authorization Identification Response	an	39 - 44	6	
105.1	Additional Response Data/AVS Result Code	an	45 - 46	2	c
105.2	Payment Service Indicator	an	47	1	c
105.3	Transaction Identifier/POSA SAF Reference Number	an	48 - 62	15	c
105.4	VISA Validation Code	an	63 - 66	4	c
115	Trace Data 1 (Echo Data)	an	67 - 82	16	
120.1	Julian Day/Batch Number	n	83 - 88	6	
120.2	Demo Merchant Flag	an	89	1	
120.3	Network Mnemonic/Card Type	an	90 - 93	4	
124.1	Working Key	an	94 - 109	16	c
128	Additional Amounts	ans	110 - 229	120	
Total Base Message Bytes Excluding Group Data:				229	

Example: Gift Card Preauthorization Approval Response

```
|0210|63|580000|032103|111643|123456|12345678|123456|**|*|*****|****|TRACE*DA
```

[illegible]

2.3.2.6 Gift Card/EBT Error Response

This response returns a decline/error message for the requested transaction.

This response is also applicable to Premier Issue Gift Card Mass Transaction and POSA Prepaid. It can return group data response **R003 – Gift Card Mass Transaction**, **R999 – Error Group Data Response**, or both.

TABLE 2-64 Gift Card/EBT Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0210, 0230
--	Bit Map Type	n	5 - 6	2	62
11	System Trace Audit Number (STAN)	n	7 - 12	6	
105.1	Additional Response Data/AVS Result Code	an	13 - 14	2	
105.2	Payment Service Indicator	an	15	1	
105.3	Transaction Identifier/ POSA SAF Reference Number	an	16 - 30	15	
105.4	VISA Validation Code	an	31 - 34	4	
115	Trace Data 1 (Echo Data)	an	35 - 50	16	
123.1	Error Text	an	51 - 70	20	
123.2	Response Code	n	71 - 73	3	
124.1	Working Key	an	74 - 89	16	
128	Additional Amounts	ans	90 - 209	120	
Total Base Message Bytes Excluding Group Data:				209	

Example: Gift Card/EBT Error Response

[illegible]

2.3.2.7 Fleet Card Approval Response

This response returns an approval for the requested fleet card transaction.

TABLE 2-65 Fleet Card Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0210, 0230 A 230 does not return Fleet additional response data.
--	Bit Map Type	n	5 - 6	2	41
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
37	Retrieval Reference Number	an	29 - 36	8	
65	Authorization Identification Response	an	37 - 42	6	
105.1	Additional Response Data/AVS Result Code	an	43 - 44	2	c
105.2	Payment Service Indicator	an	45	1	c
105.3	Transaction Identifier	an	46 - 60	15	c
105.4	VISA Validation Code	an	61 - 64	4	c
115	Trace Data 1 (Echo Data)	an	65 - 80	16	
120.1	Julian Day/Batch Number	n	81 - 86	6	
120.2	Demo Merchant Flag	an	87	1	
120.3	Network Mnemonic/Card Type	an	88 - 91	4	
124.1	Working Key	an	92 - 107	16	c
132.1	Fleet Preferred Product Code	an	108 - 110	3	c
132.2	Fleet Additional Data Number Of Messages	n	111 - 112	2	c

TABLE 2-65 Fleet Card Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
132.3	Fleet Message Area 1	an	113 - 132	20	c
132.4	Fleet Message Area 2	an	133 - 152	20	c
132.5	Fleet Message Area 3	an	153 - 172	20	c
132.6	Fleet Message Area 4	an	173 - 192	20	c
Total Base Message Bytes Excluding Group Data:				192	

Example: Fleet Card Approval Response

```

0210|41|003000|0321031116|123456|12345678|123456|MA|E|123456789012345|1234|TRACE*DATA*
1****|123001|N|MC**|*****|002|01|*****|*****|
*****|*****|

```

2.3.2.8 Fleet Card Error Response

This response returns a decline/error message for the requested transaction.

TABLE 2-66 Fleet Card Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0210, 0230
--	Bit Map Type	n	5 - 6	2	49
11	System Trace Audit Number (STAN)	n	7 - 12	6	
105.1	Additional Response Data/AVS Result Code	an	13 - 14	2	c
105.2	Payment Service Indicator	an	15	1	c
105.3	Transaction Identifier	an	16 - 30	15	c
105.4	VISA Validation Code	an	31 - 34	4	c
115	Trace Data 1 (Echo Data)	an	35 - 50	16	
123.1	Error Text	an	51 - 70	20	
123.2	Response Code	n	71 - 73	3	
124.1	Working Key	an	74 - 89	16	c

TABLE 2-66 Fleet Card Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
132.1	Fleet Preferred Product Code	an	90 - 92	3	c
132.2	Fleet Additional Data Number Of Messages	n	93 - 94	2	c
132.3	Fleet Message Area 1	an	95 - 114	20	c
132.4	Fleet Message Area 2	an	115 - 134	20	c
132.5	Fleet Message Area 3	an	135 - 154	20	c
132.6	Fleet Message Area 4	an	155 - 174	20	c
Total Base Message Bytes Excluding Group Data:				174	

Example: Fleet Card Error Response

```
|0210|49|123456|**|*|*****|****|TRACE*DATA*1****|SYS*ERROR*CALL*****|124|***
*****|002|01|*****|
```

2.3.2.9 Enhanced Check Authorization Approval Response

This response returns the results of the requested enhanced check authorization. The base message along with group R056 - Enhanced Check Authorization Response Data allow for supplemental information to be passed back to the acquiring terminal.

TABLE 2-67 Enhanced Check Authorization Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0210
--	Bit Map Type	n	5 - 6	2	70
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
37	Retrieval Reference Number	an	29 - 36	8	
65	Authorization Identification Response	an	37 - 42	6	
115	Trace Data 1 (ECHO Data)	an	94 - 109	16	
120.1	Julian Day/Batch Number	n	110 - 115	6	

TABLE 2-67 Enhanced Check Authorization Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
120.2	Demo Merchant Flag	an	116	1	
120.3	Network Mnemonic/Card Type	an	117 - 120	4	
123.2	Response Code	n	121 - 123	3	
Total Base Message Bytes Excluding Group Data:				72	

2.3.2.10 Enhanced Check Authorization Error Response

This response returns a decline/error message for the requested enhanced check authorization. The base message along with group [R056 - Enhanced Check Authorization Response Data](#) allow for supplemental information to be passed back to the acquiring terminal

TABLE 2-68 Enhanced Check Authorization Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0210
--	Bit Map Type	n	5 - 6	2	71
11	System Trace Audit Number (STAN)	n	7 - 12	6	
115	Trace Data 1 (ECHO Data)	an	13 - 28	16	
123.1	Error Text	an	29 - 48	20	
123.2	Response Code	n	49 - 51	3	
Total Base Message Bytes Excluding Group Data:				51	

Example: Enhanced Check Authorization Error Response

```
|0210|71|123456|TRACE*DATA*1****|EXCEEDS LIMIT*****|790|<rs>R010CR020Receipt Text
Message<gs>|<rs>R014ECHO<gs>|
```

2.4 Reversal (Void) Request and Response Messages

Worldpay's host capture message sets support the following reversal message types:

- 0400 - Acquirer reversal request
- 0410 - Acquirer reversal request response

These messages deal with the reversal of a previously approved financial transaction. The reversal adjusts the related cardholder's account. You can only reverse a transaction if it is in the current open batch.

NOTE: The partial reversal of an EFT (credit card) transaction requires an authorization (0100) message, not a reversal message.

2.4.1 Reversal (Void) Request Messages (0400)

This section describes the following reversal (void) request messages:

- [Debit Card/EBT Reversal \(Void\) \(DUKPT\) Request](#)
- [EBT Voice Authorization/Voucher Clear Reversal \(Void\) Request](#)
- [Credit Card Reversal \(Void\) Request](#)
- [Gift Card Reversal \(Void\) Request](#)
- [Fleet Card Reversal \(Void\) Request](#)
- [Enhanced Check Authorization Reversal \(Void\) Request](#)

2.4.1.1 Debit Card/EBT Reversal (Void) (DUKPT) Request

This request initiates a void for a financial transaction on a debit or EBT card as long as the transaction has not yet settled.

TABLE 2-69 Debit Card/EBT Reversal (Void) (DUKPT) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0400
--	Bit Map Type	n	14 - 15	2	04
02	Primary Account Number	an	16 - 34	19	
07	Transmission Date/Time	n	35 - 44	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	45 - 50	6	

TABLE 2-69 Debit Card/EBT Reversal (Void) (DUKPT) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
12	Local Transaction Date	n	51 - 56	6	MMDDYY
13	Local Transaction Time	n	57 - 62	6	hhmmss
32	Acquiring Institution Identification Code (Bank ID)	n	63 - 66	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	67 - 69	3	
42	Card Acceptor Identification Code (Merchant ID)	n	70 - 81	12	
43	Lane Number	n	82 - 84	3	
48	Additional Data (Last Retrieval Reference Number)	n	85 - 92	8	
52	Personal Identification Number	an	93 - 108	16	Space fill if necessary.
55	Clerk Number	n	109 - 116	8	
70	Network Management Information Code	n	117 - 119	3	<ul style="list-style-type: none"> • 400 - Suspected fraud • 401 - EMV, card removed • 402 - EMV, chip decline after host approval • 403 - EMV, PIN Pad not available
90	Original Data Elements (Retrieval Ref. Number)	n	120 - 127	8	
107	Point-of-Service Device Capability Code	an	128 - 129	2	
115	Trace Data 1 (Echo Data)	ans	130 - 145	16	
117	DUKPT Serial Number	an	146 - 165	20	Space fill if necessary.
Total Base Message Bytes Excluding Group Data:				165	

Example: Debit Card/EBT Reversal (Void) (DUKPT) Request

```
|I2.|123456|0400|04|5454545454545454***|0321031116|234567|032103|111600|1111|222|333333
333333|001|12345678|1234567890ABCDEF|00000001|000|12345678|40|TRACE*DATA*1****|FFFF2028
71882000001F|
```

2.4.1.2 EBT Voice Authorization/Voucher Clear Reversal (Void) Request**TABLE 2-70** EBT Voice Authorization/Voucher Clear Reversal (Void) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0400
--	Bit Map Type	n	14 - 15	2	13
03	Processing Code	n	16 - 21	6	007000
04	Amount, Transaction	n	22 - 30	9	
07	Transmission Date/Time	n	31 - 40	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	41 - 46	6	
12	Local Transaction Date	n	47 - 52	6	MMDDYY
13	Local Transaction Time	n	53 - 58	6	hhmmss
22	Point-of-Service Entry Mode	n	59 - 61	3	
25	Point-of-Service Condition Code	n	62 - 71	10	
32	Acquiring Institution Identification Code (Bank ID)	n	72 - 75	4	
41	Card Acceptor Terminal Identification (Term ID)	n	76 - 78	3	
42	Card Acceptor Identification Code (Merchant ID)	n	79 - 90	12	
43	Lane Number	n	91 - 93	3	
45	Track Data	ans	94 - 169	76	
48	Additional Data (Last Retrieval Reference Number)	n	170 - 177	8	
55	Clerk Number	n	178 - 185	8	
65	Authorization ID Response	an	186 - 191	6	
70	Network Management Information Code	n	192 - 194	3	

TABLE 2-70 EBT Voice Authorization/Voucher Clear Reversal (Void) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
107	Point-of-Service Device Capability Code	an	195 - 196	2	
111	Additional Data, Private EBT	ans	197 - 211	15	
112	Card Sequence Number	n	212 - 214	3	c
115	Trace Data 1 (Echo Data)	ans	215 - 230	16	
Total Base Message Bytes Excluding Group Data:				230	

Example: EBT Voice Authorization/Voucher Clear Reversal (Void) Request

```

I2.|123456|0400|13|007000|000001500|0321031116|123456|032103|111600|021|1234567890|111
1|222|333333333333|444|*****5454545454545454=06121011
234567890123|12345678|12345678|123456|000|00|123456789012345|123|TRACE*DATA*1****|

```

2.4.1.3 Credit Card Reversal (Void) Request

This request initiates a void for a financial transaction on a credit card as long as the transaction has not yet settled.

TABLE 2-71 Credit Card Reversal (Void) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0400
--	Bit Map Type	n	14 - 15	2	01
02	Primary Account Number	an	16 - 34	19	
07	Transmission Date/Time	n	35 - 44	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	45 - 50	6	
12	Local Transaction Date	n	51 - 56	6	MMDDYY
13	Local Transaction Time	n	57 - 62	6	hhmmss
32	Acquiring Institution Identification Code (Bank ID)	n	63 - 66	4	

TABLE 2-71 Credit Card Reversal (Void) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
41	Card Acceptor Terminal Identification (Terminal ID)	n	67 - 69	3	
42	Card Acceptor Identification Code (Merchant ID)	n	70 - 81	12	
43	Lane Number	n	82 - 84	3	
48	Additional Data (Last Retrieval Reference Number)	n	85 - 92	8	
55	Clerk Number	n	93 - 100	8	
70	Network Management Information Code	n	101 - 103	3	<ul style="list-style-type: none"> • 400 = suspected fraud • 401 = EMV, card removed • 402 = EMV, chip decline after host approval • 403 = EMV, PIN Pad not available
90	Original Data Elements (Retrieval Ref. Number)	n	104 - 111	8	
107	Point-of-Service Device Capability Code	an	112 - 113	2	
115	Trace Data 1 (Echo Data)	ans	114 - 129	16	
Total Base Message Bytes Excluding Group Data:				129	

Example: Credit Card Reversal (Void) Request

```
|I2.|123456|0400|01|5454545454545454***|0321031116|123456|032103|111600|1111|222|333333
333333|001|23456789|00000001|000|12345678|40|TRACE*DATA*1***|
```

2.4.1.4 Gift Card Reversal (Void) Request

This request initiates a void for a financial transaction on a gift card as long as the transaction has not yet settled.

Premier Issue Gift Card Mass Transaction reversals require [G005 – Gift Card Mass Transaction](#) and [G006 – Gift Card Mass Transaction Reversals](#).

TABLE 2-72 Gift Card Reversal (Void) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0400
--	Bit Map Type	n	14 - 15	2	60/80 All new development should use bit map type 80.
02	Primary Account Number	an	16 - 34	19	
07	Transmission Date/Time	n	35 - 44	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	45 - 50	6	
12	Local Transaction Date	n	51 - 56	6	MMDDYY
13	Local Transaction Time	n	57 - 62	6	hhmmss
32	Acquiring Institution Identification Code (Bank ID)	n	63 - 66	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	67 - 69	3	
42	Card Acceptor Identification Code (Merchant ID)	n	70 - 81	12	
43	Lane Number	n	82 - 84	3	
48	Additional Data (Last Retrieval Reference Number)	n	85 - 92	8	
55	Clerk Number	n	93 - 100	8	
70	Network Management Information Code	n	101 - 103	3	
90	Original Data Elements (Retrieval Ref. Number)	n	104 - 111	8	
107	Point-of-Service Device Capability Code	an	112 - 113	2	
115	Trace Data 1 (Echo Data)	ans	114 - 129	16	
133	POSA Network ID	an	130 - 133	4	Bit Map Type 80 only

TABLE 2-72 Gift Card Reversal (Void) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
136	POSA SAF Reference Number	an	134 - 145	12	Bit Map Type 80 only
Total Base Message Bytes Excluding Group Data:				129/145	

Example: Gift Card/POSA Prepaid Reversal (Void) Request

```
|I2.|123456|0400|80|5454545454545454***|0321031116|123456|032103|111600|1111|222|333333
333333|001|23456789|00000001|000|12345678|40|TRACE*DATA*1****|SWAY|123456789012|
```

2.4.1.5 Fleet Card Reversal (Void) Request

This request initiates a void for a financial transaction on a Fleet card as long as the transaction has not yet settled.

TABLE 2-73 Fleet Card Reversal (Void) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0400
--	Bit Map Type	n	14 - 15	2	40
02	Primary Account Number	an	16 - 34	19	
07	Transmission Date/Time	n	35 - 44	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	45 - 50	6	
12	Local Transaction Date	n	51 - 56	6	MMDDYY
13	Local Transaction Time	n	57 - 62	6	hhmmss
32	Acquiring Institution Identification Code (Bank ID)	n	63 - 66	4	
41	Card Acceptor Terminal Identification (Term ID)	n	67 - 69	3	
42	Card Acceptor Identification Code (Merchant ID)	n	70 - 81	12	
43	Lane Number	n	82 - 84	3	

TABLE 2-73 Fleet Card Reversal (Void) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
48	Additional Data (Last Retrieval Reference Number)	n	85 - 92	8	
55	Clerk Number	n	93 - 100	8	
70	Network Management Information Code	n	101 - 103	3	<ul style="list-style-type: none"> • 400 - Suspected fraud • 401 - EMV, card removed • 402 - EMV, chip decline after host approval • 403 - EMV, PIN Pad not available
90	Original Data Elements (Retrieval Ref. Number)	n	104 - 111	8	
107	Point-of-Service Device Capability Code	an	112 - 113	2	
115	Trace Data 1 (Echo Data)	ans	114 - 129	16	
Total Base Message Bytes Excluding Group Data:				129	

Example: Fleet Card Reversal Request

```
|I2.|123456|0400|40|5454545454545454***|0321031116|123456|032103|111600|1111|222|333333
333333|001|12345678|12345678|000|00001245|00|TRACE*DATA*1***|
```

2.4.1.6 Fleet Card Reversal (Void) Request - Fleet Data included

This request initiates a void for a financial transaction on a Fleet card as long as the transaction has not yet settled.

TABLE 2-74 Fleet Card Reversal (Void) Request with Fleet Data

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0400
--	Bit Map Type	n	14 - 15	2	42
02	Primary Account Number	an	16 - 34	19	
07	Transmission Date/Time	n	35 - 44	10	MMDDYYhhmm

TABLE 2-74 Fleet Card Reversal (Void) Request with Fleet Data

Bit Number	Field Description	Data Type	Position	Field Length	Comments
11	System Trace Audit Number (STAN)	n	45 - 50	6	
12	Local Transaction Date	n	51 - 56	6	MMDDYY
13	Local Transaction Time	n	57 - 62	6	hhmmss
32	Acquiring Institution Identification Code (Bank ID)	n	63 - 66	4	
41	Card Acceptor Terminal Identification (Term ID)	n	67 - 69	3	
42	Card Acceptor Identification Code (Merchant ID)	n	70 - 81	12	
43	Lane Number	n	82 - 84	3	
48	Additional Data (Last Retrieval Reference Number)	n	85 - 92	8	
55	Clerk Number	n	93 - 100	8	
70	Network Management Information Code	n	101 - 103	3	<ul style="list-style-type: none"> • 400 - Suspected fraud • 401 - EMV, card removed • 402 - EMV, chip decline after host approval • 403 - EMV, PIN Pad not available
90	Original Data Elements (Retrieval Ref. Number)	n	104 - 111	8	
107	Point-of-Service Device Capability Code	an	112 - 113	2	
115	Trace Data 1 (Echo Data)	ans	114 - 129	16	
130	Fleet Customer Data	LLLvar. ..an 999	236-1234	0-999	c
131	Fleet Product Data	LLLvar. ..an 999	1235-2233	0-999	c
Total Base Message Bytes Excluding Group Data:				235-2233	

```
| I2. | 123456 | 0400 | 40 | 5454545454545454*** | 0321031116 | 123456 | 032103 | 111600 | 111
1 | 222 | 333333333333 | 001 | 12345678 | 12345678 | 000 | 00001245 | 00 | TRACE*DATA*1*** |
```

```
|033|023|01|08|12345678|04|07|1234567|1|**|1234|152|83|01|08|12345678|02|08|
|12345678|03|

|09|123456789|04|09|123456789|05|09|123456789|06|09|123456789|07|03|001|069|
|002|019|F|123456789012|12345678|12345678|G|101|N|123456789012|12345678|123|
45678|O|
```

2.4.1.7 Enhanced Check Authorization Reversal (Void) Request

This request provides the capability for voiding both paper check transactions as well as electronic clearing transactions as long as the transaction has not settled yet. The base message along with group G056 - Enhanced Check Authorization Request Data allow for supplemental information to be passed to the processing check network.

Applications must support both of the following check void processing options:

- Any check transaction in the open batch
- Void any check in the open batch within a defined host time limit. The default host time is 10 minutes

TABLE 2-75 Enhanced Check Authorization Reversal (Void) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing Code	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0400
--	Bit Map Type	n	14 - 15	2	32
07	Transmission Date/Time	n	16 - 25	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	26 - 31	6	
12	Local Transaction Date	n	32 - 37	6	MMDDYY
13	Local Transaction Time	n	38 - 43	6	hhmmss
32	Acquiring Institution ID Code (Bank ID)	n	44 - 47	4	
41	Card Acceptor Terminal ID (Terminal ID)	n	48 - 50	3	
42	Card Acceptor ID Code (Merchant ID)	n	51 - 62	12	
43	Lane Number	n	63 - 65	3	
48	Additional Data (Last Retrieval Reference Number)	n	66 - 73	8	

TABLE 2-75 Enhanced Check Authorization Reversal (Void) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
55	Clerk Number	n	74 - 81	8	
70	Network Management Information Code	n	82 - 84	3	
90	Original Data Elements (Retrieval Ref. Number)	n	85 - 92	8	
107	Point-of-Service Device Capability Code	an	121 -122	2	
109	P.O. Number/Customer Code*	ans	146 - 165	20	
115	Trace Data 1 (ECHO Data)	an	166 - 181	16	
Total Base Message Bytes Excluding Group Data:				130	

Example: Enhanced Check Authorization Reversal (Void) Request

```
|I2.|123456|0400|32|0321031116|123456|032103|111617|1111|222|333333333333|001|12345678|
12345678|12345678|000|12345678|1234567890123456789012345678|72|12345678901234567890|TRA
CE*DATA*1****|<rs>G009000NNNY<gs>|G05601004EFX2020023003004100204036T123456789A1234567
C009829050020H0900819651010<gs>|
```

2.4.2 Reversal (Void) Response Messages (0410)

This section describes the following reversal (void) response messages:

- [Credit/Debit Reversal \(Void\) Approval Response](#)
- [Credit/Debit/Check Reversal \(Void\) Error Response](#)
- [EBT Reversal \(Void\) Approval Response](#)
- [EBT Reversal \(Void\) Error Response](#)
- [Gift Card Reversal \(Void\) Approval Response](#)
- [Gift Card Preauthorization Reversal \(Void\) Approval Response](#)
- [Gift Card Reversal \(Void\) Error Response](#)
- [Fleet Card Reversal \(Void\) Approval Response](#)
- [Fleet Card Reversal \(Void\) Error Response](#)
- [Enhanced Check Authorization Reversal \(Void\) Approval Response](#)
- [Enhanced Check Authorization Reversal \(Void\) Error Response](#)

2.4.2.1 Credit/Debit Reversal (Void) Approval Response

This response returns the results of a requested transaction on a credit or debit card.

TABLE 2-76 Credit/Debit Reversal (Void) Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0410 The response includes the processing code to identify the account type used on a debit transaction.
--	Bit Map Type	n	5 - 6	2	91
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
37	Retrieval Reference Number	an	29 - 36	8	
65	Authorization Identification Response	an	37 - 42	6	
105.1	Additional Response Data/AVS Result Code	an	43 - 44	2	c
105.2	Payment Service Indicator	an	45	1	c
105.3	Transaction Identifier	an	46 - 60	15	c
105.4	VISA Validation Code	an	61 - 64	4	c
115	Trace Data 1 (Echo Data)	an	65 - 80	16	
120.1	Julian Day/Batch Number	n	81 - 86	6	
120.2	Demo Merchant Flag	an	87	1	
120.3	Network Mnemonic/Card Type	an	88 - 91	4	
124.1	Working Key	an	92 - 107	16	c
Total Base Message Bytes Excluding Group Data:				107	

Example: Credit/Debit Reversal (Void) Approval Response

```
|0410|91|004000|0321031116|123456|12345678|123456|**|*|*****|****|TRACE*DATA*
1****|123001|N|MC**|*****|
```


2.4.2.2 Credit/Debit/Check Reversal (Void) Error Response

This response returns a decline/error message for the requested transaction.

TABLE 2-77 Credit/Debit/Check Reversal (Void) Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0410
--	Bit Map Type	n	5 - 6	2	99
11	System Trace Audit Number (STAN)	n	7 - 12	6	
105.1	Additional Response Data/AVS Result Code	an	13 - 14	2	c
105.2	Payment Service Indicator	an	15	1	c
105.3	Transaction Identifier	an	16 - 30	15	c
105.4	VISA Validation Code	an	31 - 34	4	c
115	Trace Data 1 (Echo Data)	an	35 - 50	16	
123.1	Error Text	an	51 - 70	20	
123.2	Response Code	n	71 - 73	3	
124.1	Working Key	an	74 - 89	16	c
Total Base Message Bytes Excluding Group Data:				89	

Example: Credit/Debit Reversal (Void) Error Response

```
|0410|99|123456|**|*|*****|****|TRACE*DATA*1****|SYS*ERROR*CALL*****|124|***
*****|
```

2.4.2.3 EBT Reversal (Void) Approval Response

This response returns the results for the requested transaction.

TABLE 2-78 EBT Reversal (Void) Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0410

TABLE 2-78 EBT Reversal (Void) Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Bit Map Type	n	5 - 6	2	61
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
37	Retrieval Reference Number	an	29 - 36	8	
65	Authorization Identification Response	an	37 - 42	6	
105.1	Additional Response Data/AVS Result Code	an	43 - 44	2	c
105.2	Payment Service Indicator	an	45	1	c
105.3	Transaction Identifier	an	46 - 60	15	c
105.4	VISA Validation Code	an	61 - 64	4	c
115	Trace Data 1 (Echo Data)	an	65 - 80	16	
120.1	Julian Day/Batch Number	n	81 - 86	6	
120.2	Demo Merchant Flag	an	87	1	
120.3	Network Mnemonic/Card Type	an	88 - 91	4	
124.1	Working Key	an	92 - 107	16	c
128	Additional Amounts	n	108 - 227	120	
Total Base Message Bytes Excluding Group Data:				227	

Example: EBT Reversal (Void) Approval Response

[illegible]

2.4.2.4 EBT Reversal (Void) Error Response

This response returns an error code when the issuing bank cannot perform the transaction.

TABLE 2-79 EBT Reversal (Void) Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0410
--	Bit Map Type	n	5 - 6	2	62
11	System Trace Audit Number (STAN)	n	7 - 12	6	
105.1	Additional Response Data/AVS Result Code	an	13 - 14	2	c
105.2	Payment Service Indicator	an	15	1	c
105.3	Transaction Identifier	an	16 - 30	15	c
105.4	VISA Validation Code	an	31 - 34	4	c
115	Trace Data 1 (Echo Data)	an	35 - 50	16	
123.1	Error Text	an	51 - 70	20	
123.2	Response Code	n	71 - 73	3	
124.1	Working Key	an	74 - 89	16	c
128	Additional Amounts	n	90 - 209	120	
Total Base Message Bytes Excluding Group Data:				209	

Example: EBT Reversal (Void) Error Response

[illegible]

2.4.2.5 Gift Card Reversal (Void) Approval Response

This response returns the results for the requested transaction. This response is also applicable to Premier Issue Gift Card Mass Transaction and POSA Prepaid.

This gift card approval response message and return Group Data responses (see [Chapter 4, "Group Data"](#)) except for [R999 – Error Group Data Response](#).

TABLE 2-80 Gift Card Reversal (Void) Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0410
--	Bit Map Type	n	5 - 6	2	61
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time/	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
37	Retrieval Reference Number	an	29 - 36	8	
65	Authorization Identification Response	an	37 - 42	6	
105.1	Additional Response Data/AVS Result Code	an	43 - 44	2	c
105.2	Payment Service Indicator	an	45	1	c
105.3	Transaction Identifier/POSA SAF Reference Number	an	46 - 60	15	c
105.4	VISA Validation Code	an	61 - 64	4	c
115	Trace Data 1 (Echo Data)	an	65 - 80	16	
120.1	Julian Day/Batch Number	n	81 - 86	6	
120.2	Demo Merchant Flag	an	87	1	
120.3	Network Mnemonic/Card Type	an	88 - 91	4	
124.1	Working Key	an	92 - 107	16	c
128	Additional Amounts	n	108 - 227	120	
Total Base Message Bytes Excluding Group Data:				227	

Example: Gift Card Reversal (Void) Approval Response

[illegible]

2.4.2.6 Gift Card Preauthorization Reversal (Void) Approval Response

This response returns the results for the requested transaction.

TABLE 2-81 Gift Card Preauthorization Reversal (Void) Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0410
--	Bit Map Type	n	5 - 6	2	63
03	Processing Code	n	7 - 12	6	
12	Local Transaction Date	n	13 - 18	6	MMDDYY You must save the Local Transaction Date (bit 12) and Local Transaction Time (bit 13) from the Preauthorization response and return it in the Local Transaction Date (bit 12) and Local Transaction Time (bit 13) of the Gift Card Completion transaction.
13	Local Transaction Time	n	19 - 24	6	hhmmss
11	System Trace Audit Number (STAN)	n	25 - 30	6	
37	Retrieval Reference Number	an	31 - 38	8	
65	Authorization Identification Response	an	39 - 44	6	
105.1	Additional Response Data/AVS Result Code	an	45 - 46	2	c
105.2	Payment Service Indicator	an	47	1	c
105.3	Transaction Identifier/POSA SAF Reference Number	an	48 - 62	15	c
105.4	VISA Validation Code	an	63 - 66	4	c
115	Trace Data 1 (Echo Data)	an	67 - 82	16	
120.1	Julian Day/Batch Number	n	83 - 88	6	

TABLE 2-82 Gift Card Reversal (Void) Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
123.1	Error Text	an	51 - 70	20	
123.2	Response Code	n	71 - 73	3	
124.1	Working Key	an	74 - 89	16	c
128	Additional Amounts	n	90 - 209	120	
Total Base Message Bytes Excluding Group Data:				209	

Example: Gift Card Reversal (Void) Error Response

```
|0410|62|123456|**|*|*****|****|TRACE*DATA*1****|SYS*ERROR*CALL*****|124|***
*****|00000000000000000000000000000000000000000000000000000000000000000000
00000000000000000000000000000000000000000000000000000000000000000000|
```

2.4.2.8 Fleet Card Reversal (Void) Approval Response

This response returns the results for the requested transaction.

TABLE 2-83 Fleet Card Reversal (Void) Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0410
--	Bit Map Type	n	5 - 6	2	41
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
37	Retrieval Reference Number	an	29 - 36	8	
65	Authorization Identification Response	an	37 - 42	6	
105.1	Additional Response Data/AVS Result Code	an	43 - 44	2	c
105.2	Payment Service Indicator	an	45	1	c
105.3	Transaction Identifier	an	46 - 60	15	c

TABLE 2-83 Fleet Card Reversal (Void) Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
105.4	VISA Validation Code	an	61 - 64	4	c
115	Trace Data 1 (Echo Data)	an	65 - 80	16	
120.1	Julian Day/Batch Number	n	81 - 86	6	
120.2	Demo Merchant Flag	an	87	1	
120.3	Network Mnemonic/Card Type	an	88 - 91	4	
124.1	Working Key	an	92 - 107	16	c
132.1	Fleet Preferred Product Code	an	108 - 110	3	c
132.2	Fleet Additional Data Number Of Messages	n	111 - 112	2	c
132.3	Fleet Message Area 1	an	113 - 132	20	c
132.4	Fleet Message Area 2	an	133 - 152	20	c
132.5	Fleet Message Area 3	an	153 - 172	20	c
132.6	Fleet Message Area 4	an	173 - 192	20	c
Total Base Message Bytes Excluding Group Data:				192	

Example: Fleet Card Reversal (Void) Approval Response

```
|0410|41|003000|0321031116|123456|12345678|123456|**|*|*****|****|TRACE*DATA*
1****|123001|N|MC**|*****|002|01|*****|*****|
*****|*****|
```

2.4.2.9 Fleet Card Reversal (Void) Error Response

This response returns an error code when the issuing bank cannot perform the transaction.

TABLE 2-84 Fleet Card Reversal (Void) Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0410
--	Bit Map Type	n	5 - 6	2	49

TABLE 2-84 Fleet Card Reversal (Void) Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
11	System Trace Audit Number (STAN)	n	7 - 12	6	
105.1	Additional Response Data/AVS Result Code	an	13 - 14	2	c
105.2	Payment Service Indicator	an	15	1	c
105.3	Transaction Identifier	an	16 - 30	15	c
105.4	VISA Validation Code	an	31 - 34	4	c
115	Trace Data 1 (Echo Data)	an	35 - 50	16	
123.1	Error Text	an	51 - 70	20	
123.2	Response Code	n	71 - 73	3	
124.1	Working Key	an	74 - 89	16	c
132.1	Fleet Preferred Product Code	an	90 - 92	3	c
132.2	Fleet Additional Data Number Of Messages	n	93 - 94	2	c
132.3	Fleet Message Area 1	an	95 - 114	20	c
132.4	Fleet Message Area 2	an	115 - 134	20	c
132.5	Fleet Message Area 3	an	135 - 154	20	c
132.6	Fleet Message Area 4	an	155 - 174	20	c
Total Base Message Bytes Excluding Group Data:				174	

Example: Fleet Card Reversal (Void) Error Response

```
|0410|49|123456|**|*|*****|*****|TRACE*DATA*1****|SYS*ERROR*CALL*****|124|***
*****|002|01|*****|*****|*****|*****|*****|
*****|
```

2.4.2.10 Enhanced Check Authorization Reversal (Void) Approval Response

This response returns the results for the requested enhanced check authorization. The base message along with group [R056 - Enhanced Check Authorization Response Data](#) allow for supplemental information to be passed back to the acquiring terminal.

TABLE 2-85 2.2.1.4Enhanced Check Authorization Reversal (Void) Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0410
--	Bit Map Type	n	5 - 6	2	70
03	Processing Code	n	7 - 12	6	
07	Transmission Date and Time	n	13 - 22	10	MMDDYYhhmm
11	System Trace Audit Number (STAN)	n	23 - 28	6	
37	Retrieval Reference Number	an	29 - 36	8	
65	Authorization Identification Response	an	37 - 42	6	
115	Trace Data 1 (ECHO Data)	an	43 - 58		
120.1	Julian Day/Batch Number	n	59 - 64		
120.2	Demo Merchant Flag	an	65		
120.3	Network Mnemonic/Card Type	an	66 - 69		
123.2	Response Code	n	70 - 72		
Total Base Message Bytes Excluding Group Data:				72	

Example: Enhanced Check Authorization Reversal (Void) Approval Response

```
|0410|70|040000|0321031116|123456|12345678|123456|TRACE*DATA*1****|123001|N|CTC*|000|<rs>R014ECHO<gs>|
```

2.4.2.11 Enhanced Check Authorization Reversal (Void) Error Response

This response returns an error code when the issuing bank cannot perform the transaction. The base message along with group R056 - Enhanced Check Authorization Response Data allow for supplemental information to be passed back to the acquiring terminal.

TABLE 2-86 Enhanced Check Authorization Reversal (Void) Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0410
--	Bit Map Type	n	5 - 6	2	71

TABLE 2-86 Enhanced Check Authorization Reversal (Void) Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
11	System Trace Audit Number (STAN)	n	7 - 12	6	
115	Trace Data 1 (ECHO Data)	an	13 - 28	16	
123.1	Error Text	an	29 - 48	20	
123.2	Response Code	n	49 - 51	3	
Total Base Message Bytes Excluding Group Data:				51	

Example: Enhanced Check Authorization Reversal (Void) Error Response

```
|0410|71|123456|TRACE*DATA*1****|INVALID MERCHANT****|703|<rs>R010CR020Receipt Text
Message<gs>|<rs>R014ECHO<gs>|
```

2.5 Reconciliation Request and Response Messages

Worldpay's host capture message set supports the following reconciliation control message types:

- 0500 - Acquirer reconciliation request
- 0510 - Acquirer reconciliation request response

Reconciliation and Batch Inquiry/Release transactions use these messages. They deal with the confirmation of terminal totals (number and value) compiled since the last 0500 reconciliation request in order to effect settlement between the terminal and the Worldpay platform.

2.5.1 Reconciliation Request Messages (0500)

This section provides details about the following reconciliation request messages:

- [Batch Inquiry Request](#)
- [Batch Release Request](#)
- [Gift Card Batch Totals Request](#)

2.5.1.1 Batch Inquiry Request

This request initiates the confirmation of current sale/return counts and amounts in the current batch.

TABLE 2-87 Batch Inquiry Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0500
--	Bit Map Type	n	14 - 15	2	01
03	Processing Code	n	16 - 21	6	920000
11	System Trace Audit Number (STAN)	n	22 - 27	6	
32	Acquiring Institution Identification Code (Bank ID)	n	28 - 31	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	32 - 34	3	
42	Card Acceptor Identification Code (Merchant ID)	n	35 - 46	12	
48	Additional Data (Last Retrieval Reference Number)	n	47 - 54	8	

TABLE 2-87 Batch Inquiry Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
70	Network Management Information Code	n	55 - 57	3	
74	Returns, Count	n	58 - 63	6	
76	Sales, Count	n	64 - 69	6	
86	Returns, Amount	n	70 - 81	12	
88	Sales, Amount	n	82 - 93	12	
115	Trace Data 1 (Echo Data)	ans	94 - 109	16	
Total Base Message Bytes Excluding Group Data:				109	

Example: Batch Inquiry Request

```
|I2.|123456|0500|01|920000|123456|1111|222|333333333333|12345678|000|000005|000011|0000
00002500|000000010500|TRACE*DATA*1****|
```

2.5.1.2 Batch Release Request

This request initiates the closing of the current batch by settling all transactions.

TABLE 2-88 Batch Release Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0500
--	Bit Map Type	n	14 - 15	2	01
03	Processing Code	n	16 - 21	6	930000
11	System Trace Audit Number (STAN)	n	22 - 27	6	
32	Acquiring Institution Identification Code (Bank ID)	n	28 - 31	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	32 - 34	3	
42	Card Acceptor Identification Code (Merchant ID)	n	35 - 46	12	

TABLE 2-88 Batch Release Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
48	Additional Data (Last Retrieval Reference Number)	n	47 - 54	8	
70	Network Management Information Code	n	55 - 57	3	
74	Returns, Count	n	58 - 63	6	
76	Sales, Count	n	64 - 69	6	
86	Returns, Amount	n	70 - 81	12	
88	Sales, Amount	n	82 - 93	12	
115	Trace Data 1 (Echo Data)	ans	94 - 109	16	
Total Base Message Bytes Excluding Group Data:				109	

Example: Batch Release Request

```
|I2.|123456|0500|01|930000|123456|1111|222|333333333333|12345678|000|000005|000011|0000
00002500|000000010500|TRACE*DATA*1****|
```

2.5.1.3 Gift Card Batch Totals Request

This request initiates the confirmation of the current sale/return counts and amounts in the current batch itemized by up to seven gift card types.

TABLE 2-89 Gift Card Batch Totals Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0500
--	Bit Map Type	n	14 - 15	2	60
03	Processing Code	n	16 - 21	6	680000
11	System Trace Audit Number (STAN)	n	22 - 27	6	
32	Acquiring Institution Identification Code (Bank ID)	n	28 - 31	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	32 - 34	3	

TABLE 2-89 Gift Card Batch Totals Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
42	Card Acceptor Identification Code (Merchant ID)	n	35 - 46	12	
48	Additional Data (Last Retrieval Reference Number)	n	47 - 54	8	
70	Network Management Information Code	n	55 - 57	3	
74	Returns, Count	n	58 - 63	6	
76	Sales, Count	n	64 - 69	6	
86	Returns, Amount	n	70 - 81	12	
88	Sales, Amount	n	82 - 93	12	
115	Trace Data 1 (Echo Data)	ans	94 - 109	16	
Total Base Message Bytes Excluding Group Data:				109	

Example: Gift Card/POSA Prepaid Batch Totals Request

```
| I2. | 123456 | 0500 | 01 | 680000 | 123456 | 1111 | 222 | 333333333333 | 12345678 | 000 | 000000 | 000000 | 0000  
00000000 | 000000000000 | TRACE*DATA*1**** |
```

2.5.2 Reconciliation Response Messages (0510)

This section provides details about the following reconciliation response messages:

- [Approval Response](#)
- [Gift Card Batch Inquiry Response](#)
- [Reconciliation Error Response](#)

2.5.2.1 Approval Response

This response acknowledges the Batch Release request and includes the current sale/return counts and amounts in the batch.

TABLE 2-90 Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0510
--	Bit Map Type	n	5 - 6	2	92

TABLE 2-90 Approval Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
11	System Trace Audit Number (STAN)	n	7 - 12	6	
66	Settlement Code	n	13	1	
74	Returns, Count	n	14 - 19	6	
76	Sales, Count	n	20 - 25	6	
86	Returns, Amount	n	26 - 37	12	
88	Sales, Amount	n	38 - 49	12	
115	Trace Data 1 (Echo Data)	an	50 - 65	16	
124.1	Working Key	an	66 - 81	16	c
Total Base Message Bytes Excluding Group Data:				81	

Example: Reconciliation Approval Response

```
|0510|92|123456|1|000005|000011|000000002500|000000010500|TRACE*DATA*1****|*****
****|
```

2.5.2.2 Gift Card Batch Inquiry Response

This response acknowledges the Gift Card Batch Inquiry request and includes the current sale/return counts and amounts in the current batch itemized by up to seven gift card types. This response does not return any totals for Premier Issue Gift Card Mass Transactions and POSA Prepaid.

This gift card batch inquiry response can return any Group Data Responses (see [Chapter 4, "Group Data"](#)) except for [R999 – Error Group Data Response](#).

TABLE 2-91 Gift Card Batch Inquiry Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0510
--	Bit Map Type	n	5 - 6	2	92
11	System Trace Audit Number (STAN)	n	7 - 12	6	
66	Settlement Code	n	13	1	
74	Returns, Count	n	14 - 19	6	
76	Sales, Count	n	20 - 25	6	
86	Returns, Amount	n	26 - 37	12	

TABLE 2-91 Gift Card Batch Inquiry Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
88	Sales, Amount	n	38 - 49	12	
115	Trace Data 1 (Echo Data)	an	50 - 65	16	
124.1	Working Key	an	66 - 81	16	c
127.1	Payment Type/Settlement Institution/GC Trans	an	82 - 84	3	The data in fields 127.1 through 127.5 occur seven times. If you do not include a transaction these totals should not be printed.
127.2	Sales Count	n	85 - 87	3	
127.3	Sales Amount	n	88 - 96	9	
127.4	Return Count	n	97 - 99	3	
127.5	Return Amount	n	100 - 108	9	
Total Base Message Bytes Excluding Group Data:				270	

FIGURE 2-1 Gift Card Batch Inquiry Response

```
|0510|92|123456|3|000000|000000|000000002500|000000010500|TRACE*DATA*1****|*****
****|ACT|001|000010000|000|000000000|PUR|001|000010000|000|000000000|REF|001|000010000|
000|000000000|REL|001|000010000|000|000000000|UNL|000|000000000|000|000000000|CLO|001|0
00001000|000|000000000|INQ|001|000000000|000|000000000|
```

2.5.2.3 Reconciliation Error Response

This response returns a decline/error message for the Batch Inquiry, Batch Release, or Gift card Batch Totals requests.

TABLE 2-92 Reconciliation Error

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0510
--	Bit Map Type	n	5 - 6	2	99
11	System Trace Audit Number (STAN)	n	7 - 12	6	
115	Trace Data 1 (Echo Data)	an	13 - 28	16	
123.1	Error Text	an	29 - 48	20	
123.2	Response Code	n	49 - 51	3	

TABLE 2-92 Reconciliation Error

Bit Number	Field Description	Data Type	Position	Field Length	Comments
124.1	Working Key	an	52 - 67	16	c
Total Base Message Bytes Excluding Group Data:				67	

Example: Reconciliation Error Response

```
|0510|99|123456|TRACE*DATA*1****|NO*TRAN*IN*BATCH****|124|*****|
```

2.6 Network Management Request and Response Messages

Worldpay's host capture message set supports the following network management message types:

- 0800 - Network management request (from terminal)
- 0810 - Network management request response

These messages control the system security and operating condition of the interface with Worldpay. The 0800/0810 messages provide line management test function (echo test) and terminal validation requests.

2.6.1 Network Management Request Messages (0800)

This section provides details about the following 0800 network management request messages:

- [Key Change Request Message](#)
- [Line Management Test \(Echo Test\) Request](#)
- [Lane Validation Request](#)
- [FleetOne Batch Close Request](#)
- [System Health Check Request](#)

2.6.1.1 Key Change Request Message

This request initiates a key change.

TABLE 2-93 Key Change Request Message

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0800
--	Bit Map Type	n	14 - 15	2	01
11	System Trace Audit Number (STAN)	n	16 - 21	6	
32	Acquiring Institution Identification Code (Bank ID)	n	22 - 25	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	26 - 28	3	
42	Card Acceptor Identification Code (Merchant ID)	n	29 - 40	12	
48	Additional Data (Last Retrieval Reference Number)	n	41 - 48	8	

TABLE 2-93 Key Change Request Message

Bit Number	Field Description	Data Type	Position	Field Length	Comments
70	Network Management Information Code	n	49 - 51	3	101 Note: You must use G054 to do an actual key change.
115	Trace Data 1 (Echo Data)	ans	52 - 67	16	
Total Base Message Bytes Excluding Group Data:				67	

Example: Key Change Request Message

```
|I2.|123456|0800|01|123456|1111|222|333333333333|00000000|101|TRACE*DATA*1****|
```

2.6.1.2 Line Management Test (Echo Test) Request

This request initiates a line management test (echo test) to ensure the controller is working properly.

TABLE 2-94 Line Management Test (Echo Test) Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0800
--	Bit Map Type	n	14 - 15	2	01
11	System Trace Audit Number (STAN)	n	16 - 21	6	
32	Acquiring Institution Identification Code (Bank ID)	n	22 - 25	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	26 - 28	3	
42	Card Acceptor Identification Code (Merchant ID)	n	29 - 40	12	
48	Additional Data (Last Retrieval Reference Number)	n	41 - 48	8	
70	Network Management Information Code	n	49 - 51	3	301
115	Trace Data 1 (Echo Data)	ans	52 - 67	16	
Total Base Message Bytes Excluding Group Data:				67	

Example: Line Management Test (Echo Test) Request

```
|I2.|123456|0800|01|123456|1111|222|333333333333|00000000|301|TRACE*DATA*1****|
```

2.6.1.3 Lane Validation Request

This request initiates a terminal to host communications check.

TABLE 2-95 Lane Validation Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0800
--	Bit Map Type	n	14 - 15	2	05
03	Processing Code	n	16 - 21	6	000000
11	System Trace Audit Number (STAN)	n	22 - 27	6	
32	Acquiring Institution Identification Code (Bank ID)	n	28 - 31	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	32 - 34	3	
42	Card Acceptor Identification Code (Merchant ID)	n	35 - 46	12	
43	Lane Number	n	47 - 49	3	
48	Additional Data (Last Retrieval Reference Number)	n	50 - 57	8	
70	Network Management Information Code	n	58 - 60	3	000
115	Trace Data 1 (Echo Data)	ans	61 - 76	16	
Total Base Message Bytes Excluding Group Data:				76	

Example: Lane Validation Request

```
|I2.|123456|0800|05|000000|123456|1111|222|333333333333|001|00000000|000|TRACE*DATA*1**  
**|
```

2.6.1.4 FleetOne Batch Close Request

This request initiates a batch close on the host to the FleetOne issuer. For more information about special processing for this request, see [FleetOne Batch Close](#) on page 595.

TABLE 2-96 FleetOne Batch Close Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0800
--	Bit Map Type	n	14 - 15	2	05
03	Processing Code	n	16 - 21	6	000000
11	System Trace Audit Number (STAN)	n	22 - 27	6	
32	Acquiring Institution Identification Code (Bank ID)	n	28 - 31	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	32 - 34	3	
42	Card Acceptor Identification Code (Merchant ID)	n	35 - 46	12	
43	Lane Number	n	47 - 49	3	
48	Additional Data (Last Retrieval Reference Number)	n	50 - 57	8	
70	Network Management Information Code	n	58 - 60	3	380
115	Trace Data 1 (Echo Data)	ans	61 - 76	16	
Total Base Message Bytes Excluding Group Data:				76	

Example: FleetOne Batch Close Request

```
|I2.|123456|0800|05|000000|123456|1111|222|333333333333|000|00000000|380|TRACE*DATA*1**
**|
```

2.6.1.5 System Health Check Request

This request initiates a system health check.

TABLE 2-97 System Health Check Request

Bit Number	Field Description	Data Type	Position	Field Length	Comments
--	Processor Routing	ans	1 - 3	3	I2.
--	Network Routing	an	4 - 9	6	
00	Message Type Identifier	n	10 - 13	4	0800
--	Bit Map Type	n	14 - 15	2	01
11	System Trace Audit Number (STAN)	n	16 - 21	6	
32	Acquiring Institution Identification Code (Bank ID)	n	22 - 25	4	
41	Card Acceptor Terminal Identification (Terminal ID)	n	26 - 28	3	
42	Card Acceptor Identification Code (Merchant ID)	n	29 - 40	12	
48	Additional Data (Last Retrieval Reference Number)	n	41 - 48	8	
70	Network Management Information Code	n	49 - 51	3	801
115	Trace Data 1 (Echo Data)	ans	52 - 67	16	
Total Base Message Bytes Excluding Group Data:				67	

Example: System Health Check Request

```
| I2. | 123456 | 0800 | 01 | 123456 | 1111 | 222 | 333333333333 | 00000000 | 801 | TRACE*DATA*1****
```

2.6.2 Network Management Response Messages (0810)

This section provides details about the following 0800 network management response messages:

- [Key Change Response Message](#)
- [Line Management Test \(Echo Test\) Response](#)
- [Lane Validation Response](#)
- [FleetOne Batch Close Response](#)
- [System Health Check Response](#)
- [Network Management Error Response](#)

2.6.2.1 Key Change Response Message

This response returns the key change.

NOTE: Worldpay returns [R054 – MAC Encryption Key Data Response](#) if the 800 request includes [G054 – MAC Encryption Key Data Request](#).

TABLE 2-98 Line Management Test (Echo Test) Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0810
--	Bit Map Type	n	5 - 6	2	94
11	System Trace Audit Number (STAN)	n	7 - 12	6	
115	Trace Data 1 (Echo Data)	an	13 - 28	16	
124.1	Working Key	an	29 - 44	16	Blanks
126.1	Merchant Number	n	45 - 56	12	
126.2	Terminal Number	n	57 - 59	3	
126.3	Merchant Name	an	60 -79	20	c
Total Base Message Bytes Excluding Group Data:				79	

Example: Key Change Response

```
|0810|94|123456|TRACE*DATA*1****|*****|000080000268|001|*****|
```

2.6.2.2 Line Management Test (Echo Test) Response

This response echoes the data it receives from the line management test.

TABLE 2-99 Line Management Test (Echo Test) Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0810
--	Bit Map Type	n	5 - 6	2	94
11	System Trace Audit Number (STAN)	n	7 - 12	6	
115	Trace Data 1 (Echo Data)	an	13 - 28	16	

TABLE 2-99 Line Management Test (Echo Test) Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
124.1	Working Key	an	29 - 44	16	c
126.1	Merchant Number	n	45 - 56	12	
126.2	Terminal Number	n	57 - 59	3	
126.3	Merchant Name	an	60 - 79	20	c
Total Base Message Bytes Excluding Group Data:				79	

Example: Line Management Test Response

```
|0810|94|123456|TRACE*DATA*1****|*****|
```

2.6.2.3 Lane Validation Response

This response returns the results of the terminal to host communications check.

TABLE 2-100 Lane Validation Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0810
--	Bit Map Type	n	5 - 6	2	97
11	System Trace Audit Number (STAN)	n	7 - 12	6	
43	Lane Number	n	13 - 15	3	
115	Trace Data 1 (Echo Data)	an	16 - 31	16	
124.1	Working Key	an	32 - 47	16	c
126.1	Merchant Number	n	48 - 59	12	
126.2	Terminal Number	n	60 - 62	3	
126.3	Merchant Name	an	63 - 82	20	
Total Base Message Bytes Excluding Group Data:				82	

Example: Lane Validation Response

```
|0810|97|123456|001|TRACE*DATA*1****|*****|333333333333|222|MERCHANT*NAME***
****|
```

2.6.2.4 FleetOne Batch Close Response

This response returns the results for the requested transaction.

TABLE 2-101 FleetOne Batch Close

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0810
--	Bit Map Type	n	5 - 6	2	97
11	System Trace Audit Number (STAN)	n	7 - 12	6	
43	Lane Number	n	13 - 15	3	
115	Trace Data 1 (Echo Data)	an	16 - 31	16	
124.1	Working Key	an	32 - 47	16	c
126.1	Merchant Number	n	48 - 59	12	
126.2	Terminal Number	n	60 - 62	3	
126.3	Merchant Name	an	63 - 82	20	
Total Base Message Bytes Excluding Group Data:				82	

Example: FleetOne Batch Close Response

```
|0810|97|123456|001|TRACE*DATA*1****|*****|333333333333|222|MERCHANT*NAME***
****|
```

2.6.2.5 System Health Check Response

This response returns system health information.

TABLE 2-102 System Health Check

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0810
--	Bit Map Type	n	5 - 6	2	97
11	System Trace Audit Number (STAN)	n	7 - 12	6	
115	Trace Data 1 (Echo Data)	an	13 - 28	16	
124.1	Working Key	an	29 - 44	16	Blanks
126.1	Merchant Number	n	45- 56	12	

TABLE 2-102 System Health Check

Bit Number	Field Description	Data Type	Position	Field Length	Comments
126.2	Terminal Number	n	57 - 59	3	
126.3	Merchant Name	an	60 - 79	20	
Total Base Message Bytes Excluding Group Data:				79	

Example: System Health Check Response

```
|0810|97|123456|TRACE*DATA*1****|*****|000080000268|002|*****|
****||rs>R9970108RAFT=0200215RAFTHEALTHY=YES<gs>
```

2.6.2.6 Network Management Error Response

This response returns a decline/error message for the requested transaction.

TABLE 2-103 Network Management Error Response

Bit Number	Field Description	Data Type	Position	Field Length	Comments
00	Message Type Identifier	n	1 - 4	4	0810
--	Bit Map Type	n	5 - 6	2	99
11	System Trace Audit Number (STAN)	n	7 - 12	6	
115	Trace Data 1 (Echo Data)	an	13 - 28	16	
123.1	Error Text	an	29 - 48	20	
123.2	Response Code	n	49 - 51	3	
124.1	Working Key	an	52 - 67	16	c
Total Base Message Bytes Excluding Group Data				67	

Example: Network Management Error Response

```
|0810|99|123456|TRACE*DATA*1****|SYS*ERROR*CALL*****|124|*****|
```


Field Descriptions

This chapter provides detailed descriptions for all the fields/data elements included in the host capture message sets. Map to Data Elements/Field Numbers

Table 3-1 maps the names of data elements in the message alphabetically to their bit/field number.

TABLE 3-1 Data Element Bit Numbers

Data Element	Bit Number	Data Element	Bit Number
Account 1 Data	102	Cash Back Amount	60
Account 2 Data	103	Cashier Number	108.7
Account ID 1 Type	108.1	Check Error Response Text	91
Account ID 2 Type	108.2	Check Number	108.5
Acquiring Inst. ID Code	32	Check Request Type	138.1
Additional Amounts	128	Check Type	108.3
Additional Data	48	Check Service Vendor	138.2
Additional Data, Private EBT	111	Check Service Provider ID	138.3
Additional Response Data/ CVV2 / AVS Result Code	105.1	Clerk Number	55
Amount, Transaction	04	Customer Code/P.O. Number	109
Auth ID Response	65	Customer Phone and Zip Code	104
Auth Timer	129	Demo Merchant Flag	120.2
AVS Result Code/CVV2/Additional Response Data	105.1	Download Flag	124.2
Batch Close Date and Time	122.5	DUKPT Serial Number	117
Batch Julian Day/Batch Number	122.1	EFT Capture Number	120.5

TABLE 3-1 Data Element Bit Numbers

Data Element	Bit Number	Data Element	Bit Number
Batch Offset	61.1	Ending EFT Capture Number	122.3
Batch Open Date and Time	122.4	Error Text	123.1
Birth Date	108.6	Extended Payment Code	67
Card Acceptor ID Code	42	File Record Data	100
Card Acceptor Terminal ID	41	Fleet Customer Data	130
Card Sequence Number	112	Fleet Product Data	131
Card Type	120.3	Fleet Additional Response Data Number of Messages	132.2
Cardholder Identification (AVS)	106	Fleet Message Area 1	132.3
Fleet Message Area 2	132.4	Merchant Number	126.1
Fleet Message Area 3	132.5	P.O. Number/Customer Code	109
Fleet Message Area 4	132.6	Payment Service Indicator	105.2
Fleet Preferred Product Code	132.1	Payment Type/Settlement Inst.	127.1
Full MICR Data	101	PIN Data	52
Full Name	138.7	POS Condition Code	25
Identification Type	138.4	POS Device Capability Code	107
Identification Data	138.5	POS Entry Mode	22
Invoice/Folio Number	63.1	POSA Network ID	133
Item Code Five	63.6	POSA SAF Reference Number Request	136
Item Code Four	63.5	POSA SAF Reference Number Response/Transaction Identifier	105.3
Item Code One	63.2	POSA Stand-In Indicator	135
Item Code Three	63.4	POSA UPC Data	134
Item Code Two	63.3	Primary Account Number	02
Julian Day/Batch Number	61.2	Processing Code	03
Julian Day/Batch Number	120.1	Release Julian Day	122.2
Lane Number	43	Replacement Amount	137
Local Transaction Date	12	Requesting Terminal	61.3
Local Transaction Time	13	Response Code	123.2
Manager Number	108.4	Retrieval Reference Number	37

TABLE 3-1 Data Element Bit Numbers

Data Element	Bit Number	Data Element	Bit Number
Merchant Name	126.3	Returns, Amount	86
Merchant Number	126.1	Returns, Count	74
Message Type Identifier	00	Sales, Amount	88
MICR Data	138.6	Sales, Count	6
Multi-Message Flag	122.6	Settlement Code	66
Network Mgmt. Info. Code	70	STAN	11
Network Mnemonic/Card Type	120.3	State Code	62.1
Original Data Elements	90	Supplies-Draft Flag	122.7
Switch Date	120.4	Track Data	45
Tax Amount	110	Transaction Amount	04
Terminal Number	126.2	Transaction Identifier/POSA SAF Reference Number Response	105.3
Token Original Transaction Date	139	Transmission Date and Time	07
Token Original Transaction Time	140	VISA Validation Code	105.4
Trace Data 1	115	Working key	124.1

3.1 Processor Routing Code

This field contains two characters followed by a period. Use this to identify and route the message through the Worldpay system. The host capture transaction from a controller (Terminal Type 610) supports the processor routing code I2.

3.2 Network Routing Code

Use this six-position field to route the transaction through the front-end communications network (for example, CompuServe's Routing Identifier - CRI). In the beginning of this field, insert the Demographic Code Worldpay assigned to you at the beginning of the project. You can then zero (0) fill or space fill the remaining 4 bytes.

3.3 Bit Map Type

This two-digit field appears in all messages. Use it in conjunction with the Message Type Identifier to indicate which data elements the message includes.

Table 3-2 and Table 3-3 list the request and response messages types respectively for each transaction type. The number in the Request Optional Group Data column of both tables indicates group data, *Gnnn*, applicable to each transaction type.

3.3.1 Request - Message Types by Transaction Type

Table 3-2 lists request message types by transaction type.

TABLE 3-2 Request - Message Bit Maps by Transaction Type

Transaction Type	Message Type	Bit Map Type	Request Optional Group Data
Check Inquiry/Verification Request	0100	07	1, 4, 9, 38
Credit Card Auth Only/ Account Status Inquiry/ Visa Product Eligibility Inquiry Request	0100	21	1, 2, 3, 4, 7, 8, 9,15, 16, 17, 20, 22, 24, 26, 28, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Auth Only with AVS/Account Status Inquiry with AVS Request	0100	25	1, 2, 3, 4, 7, 8, 9,15, 16, 17, 20, 22, 24, 26, 28, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Cash Advance Authorization Only Request	0100	08	1, 2, 3, 4, 7, 8, 9, 16, 17, 20, 24, 26, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Full/Partial Authorization Reversal Request	0100	09	1, 2, 3, 4, 9, 14, 20, 22, 26, 28, 33, 34, 35, 36, 38, 41, 42, 48
Debit/Credit Card Balance Inquiry (DUKPT Key) Request	0100	10	1, 4, 9, 26, 28, 38, 48
De-tokenization Conversion Request	0100	51	9, 28, 38
EBT Card Balance Inquiry (DUKPT) Request	0100	14	22, 28, 38
Fleet Card Authorization Only Request	0100	40	1, 4, 7, 8, 9, 17, 26, 38
Gift Card Balance Inquiry/Mini-Statement Request	0100	60/80	1, 4, 5, 9, 18, 26, 28, 38, 47, 48

TABLE 3-2 Request - Message Bit Maps by Transaction Type

Transaction Type	Message Type	Bit Map Type	Request Optional Group Data
Tokenization Conversion Request	0100	50	9, 26, 28, 38
Enhanced Check Authorization Request	0200	32	1, 4, 9, 38
Credit Card Cash Advance Request	0200	02	1, 2, 3, 4, 7, 8, 9, 16, 17, 20, 24, 26, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Prior Authorization — Extended Request	0200	22	1, 2, 3, 4, 7, 8, 9, 16, 17, 20, 24, 26, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Sale Request	0200	22	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 15, 16, 17, 19, 20, 21, 22, 24, 26, 28, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Sale — Extended Request	0200	23	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 15, 16, 17, 19, 20, 21, 22, 24, 26, 28, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Cash Advance, Purchase/Corporate Card Request	0200	22	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 15, 16, 17, 20, 21, 22, 24, 26, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Cash Advance Request	0200	02	1, 4, 9, 20, 21, 22, 26, 28, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Cash Advance with AVS Request	0200	25	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 15, 16, 17, 20, 21, 22, 24, 26, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Return Request	0200	22	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 15, 16, 17, 20, 21, 22, 24, 26, 28, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Return — Extended Request	0200	23	1, 4, 9, 20, 21, 22, 26, 28, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Cash Advance Request	0200	02	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 15, 16, 17, 19, 20, 21, 22, 24, 26, 28, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Sale — Extended with AVS Request	0200	26	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 15, 16, 17, 20, 21, 22, 24, 26, 28, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Sale with AVS Request	0200	25	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 15, 21, 22, 24, 26, 33, 34, 35, 36, 38, 41, 42, 48
Debit Card Return (DUKPT Key) Request	0200	10	1, 4, 9, 26, 28, 38, 48
Debit Card Sale (DUKPT Key) Request	0200	10	1, 4, 9, 26, 38, 48

TABLE 3-2 Request - Message Bit Maps by Transaction Type

Transaction Type	Message Type	Bit Map Type	Request Optional Group Data
EBT Return (Food Stamp, DUKPT Key) Request	0200	14	1, 4, 9, 26, 28, 38
EBT Sale/Withdrawal (DUKPT Key) Request	0200	14	1, 4, 9, 15, 22, 26, 28, 29, 30, 31, 38
EBT Voice Authorization/Voucher Clear Request	0200	13	1, 4, 9, 26, 38
EBT Voice Authorization Voucher Return Request	0200	13	1, 4, 9, 26, 28, 38
Fleet Card Return Request	0200	40	1, 4, 7, 8, 9, 17, 26, 28, 38
Fleet Card Sale Request	0200	40	1, 4, 7, 8, 9, 17, 26, 38
Gift Card Activation Request	0200	60/80	1, 4, 5, 9, 18, 26, 38, 47, 48
Gift Card Close Request	0200	60/80	1, 4, 5, 9, 18, 26, 28, 38
Gift Card Completion Request	0200	60/80	1, 4, 9, 14, 18, 26, 28, 38
Gift Card Preauthorization Request	0200	60/80	1, 4, 9, 18, 26, 28, 38
Gift Card Purchase Request	0200	60/80	1, 4, 9, 18, 26, 28, 38, 47, 48
Gift Card Refund Request	0200	60/80	1, 4, 9, 18, 26, 28, 38, 47, 48
Gift Card Reload Request	0200	60/80	1, 4, 5, 9, 18, 26, 28, 38
Gift Card Unload Request	0200	60/80	1, 4, 5, 9, 18, 26, 28, 38
Credit Card Cash Advance Prior Authorization Request	0220	01	1, 2, 3, 4, 7, 8, 9, 16, 17, 20, 24, 26, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Prior Authorization — Extended Request	0220	22	1, 2, 3, 4, 8, 9, 10, 12, 13, 14, 17, 21, 22, 26, 28, 33, 34, 35, 36, 38, 41, 42, 48
Credit Card Prior Authorization/Adjustment Request	0220	24	1, 2, 3, 4, 8, 10, 12, 13, 14, 17, 21, 22, 26, 28, 33, 34, 35, 36, 38, 48
EMV Offline Approval Advice (Credit/Debit Card Sale/Return) Request	0220	34	1, 2, 3, 4, 8, 10, 12, 13, 14, 17, 21, 22, 26, 28, 33, 34, 35, 36, 38, 42, 48
EMV Offline Approval Advice (Credit/Debit Card Sale/Return) — Ext Request	0220	35	1, 2, 3, 4, 8, 10, 12, 13, 14, 17, 21, 22, 26, 28, 33, 34, 35, 36, 38, 42, 48
Fleet Card Force Post Request	0220	40	1, 4, 8, 9, 12, 14, 13, 17, 26, 38

TABLE 3-2 Request - Message Bit Maps by Transaction Type

Transaction Type	Message Type	Bit Map Type	Request Optional Group Data
Enhanced Check Authorization Reversal (Void) Request	0400	32	1, 4, 9, 38
Credit Card Reversal (Void) Request	0400	01	9,14, 26, 27, 28, 34, 35, 36, 38, 42, 48
Debit Card/EBT Reversal (Void) (DUKPT) Request	0400	04	9,14, 26, 27, 28, 34, 35, 36, 38, 48
EBT Voice Authorization/Voucher Clear Reversal (Void) Request	0400	13	1, 4, 9, 26, 28, 38
Fleet Card Reversal (Void) Request	0400	40	9,14, 22, 26, 27, 28, 38
Fleet Card Reversal (Void) Request - Fleet Data included	0400	42	9,14, 22, 26, 27, 28, 38
Gift Card Reversal (Void) Request	0400	60/80	5, 6, 9, 14, 18, 22, 26, 27, 28, 38
Batch Release Request	0500	01	None
Batch Inquiry Request	0500	01	9
FleetOne Batch Close Request	0800	05	None
Gift Card Batch Totals Request	0500	60	9
Lane Validation Request	0800	05	9
Line Management Test (Echo Test) Response	0800	01	None

3.3.2 Response - Message Bit Maps by Transaction Type

Table 3-3 lists response message bit maps by transaction type.

TABLE 3-3 Response - Message Bit Maps by Transaction Type

Transaction Type	Message Type	Bit Map Type	Response Optional Group Data
Authorization Approval Response	0110	90	1, 9, 11, 12, 13, 15, 16, 17, 22, 23, 28, 999

TABLE 3-3 Response - Message Bit Maps by Transaction Type

Transaction Type	Message Type	Bit Map Type	Response Optional Group Data
Check Inquiry/Verification Approval Response	0110	70	None
Check Inquiry/Verification Error Response	0110	71	None
Debit, Credit and Check Error Response	0110	99	9, 11, 12, 15, 16, 23, 28, 998, 999
Fleet Card Authorization Approval Response	0110	41	9, 11, 12, 28, 999
Fleet Card Error Response	0110	49	9, 11, 12, 28, 998, 999
GC Mass Transaction/EBT Balance Inquiry Approval Response	0110	61	1, 9, 11, 12, 13, 15, 16, 17, 22, 23, 28, 99
GC Mini-Statement Approval Response	0110	61	2, 3, 4, 5, 9, 11, 13, 29, 30, 31, 999
GC/POSA/Debit/Credit Balance Inquiry Approval Response	0110	90	1, 9, 11, 12, 13, 15, 16, 17, 22, 23, 28, 999
Gift Card/EBT Error Response	0110	62	5, 9, 11, 13, 28, 998, 999
Token/De-token Conversion Approval Response	0110	53	17, 28
Credit/Debit Approval Response	0210	91	9, 11, 12, 16, 17, 22, 23, 28, 999
Enhanced Check Authorization Approval Response	0210	70	None
Enhanced Check Authorization Error Response	0210	71	None
Credit/Debit Error Response	0210	99	9, 11, 12, 16, 23, 28, 998, 999
Fleet Card Approval Response	0210	41	9, 11, 12, 17, 28, 999
Fleet Card Error Response	0210	49	9, 11, 12, 28, 998, 999
EBT Approval Response	0210	61	2, 3, 5, 9, 11, 13, 17, 19, 20, 21, 28, 999
Gift Card Approval Response	0210	61	2, 3, 5, 9, 11, 13, 17, 19, 20, 21, 28, 999
Gift Card/EBT Error Response	0210	62	None
Gift Card Preauthorization Approval Response	0210	63	5, 9, 11, 17, 28, 999
Credit/Debit Approval Response	0230	91	9, 11, 16, 22, 28, 999
Gift Card/EBT Error Response	0230	62	None

TABLE 3-3 Response - Message Bit Maps by Transaction Type

Transaction Type	Message Type	Bit Map Type	Response Optional Group Data
Credit/Debit Error Response	0230	99	9, 11, 16, 28, 998, 999
Fleet Card Error Response	0230	49	11, 28, 998, 999
Fleet Card Approval Response	0230	41	9, 11, 28, 999
EBT Approval Response	0230	61	2, 3, 5, 9, 11, 28, 999
Enhanced Check Authorization Reversal (Void) Approval Response	0410	70	None
Enhanced Check Authorization Reversal (Void) Error Response	0410	71	None
Credit/Debit/Check Reversal (Void) Error Response	0410	99	9, 11, 23, 28, 998, 999
Credit/Debit Reversal (Void) Approval Response	0410	91	9, 11, 16, 23, 28, 999
Fleet Card Reversal (Void) Approval Response	0410	41	9, 11, 28, 999
Fleet Card Reversal (Void) Error Response	0410	49	9, 11, 28, 998, 999
EBT Reversal (Void) Error Response	0410	62	5, 9, 11, 13, 28, 999
Gift Card Reversal (Void) Error Response	0410	62	5, 9, 11, 28, 998, 999
EBT Reversal (Void) Approval Response	0410	61	5, 9, 11, 13, 28, 999
Gift Card Reversal (Void) Approval Response	0410	61	5, 9, 11, 13, 28, 999
Gift Card Preauthorization Reversal (Void) Approval Response	0410	63	5, 9, 28, 999
Approval Response	0510	92	18, 999
Gift Card Batch Inquiry Response	0510	92	5, 999
Reconciliation Error Response	0510	99	999
Line Management Test (Echo Test) Response	0810	94	999
Lane Validation Response	0810	97	999

TABLE 3-3 Response - Message Bit Maps by Transaction Type

Transaction Type	Message Type	Bit Map Type	Response Optional Group Data
FleetOne Batch Close Response	0810	97	11, 999
Network Management Error Response	0810	99	999

Field: 00 Message Type Identifier

This field appears in every supported message type by Worldpay's host capture message set. The first two digits identify the class of the message (authorization, financial, reversal, and so on). The last two digits represent the message function (request or response). For more information about the message sets, see [Chapter 2, "610 Controller Request and Response Messages"](#).

Type = n; **Length** = 4

Field: 02 Primary Account Number

The field represents the debit or credit card number associated with the transaction you want to reverse (void). Left justify and space fill the data. This field can contain the encrypted PAN when the POS uses a supported encryption vendor's software.

NOTE: For EMV processing, send tag 5A (PAN) in this field. Do not include it in the chip data.

When a transaction uses a token (that is, the POS condition code's position 8 is **5** with group request data [G028 –Token Utilization](#)), you must set this field to spaces for applicable base request messages.

Type = an; **Length** = 19

Message Type

The 0400 Reversal request must contain the PAN field.

Field: 03 Processing Code

The field comprises three two-digit subfields that indicate how the transaction specified by the message type affects the customer's related account(s).

NOTE: The authorization service can update the From and To account information. The operating rules for the authorization service may require the terminal device to print the account information on the receipt.

Type = n; Length = 6

Message Type

This six-digit field may appear in the following message types:

- 0100 and 0110 Authorization request and response
- 0200 and 0210 Financial request and response
- 0220 and 0230 Financial request and response
- 0400 and 0410 Reversal request and response
- 0500 Reconciliation request

Values:

The following tables shows the layout of the Processing Code field and the possible values for each subfield. You cannot use nulls.

Table 3-4 lists the Action Code subfield values applicable to positions 1-2.

TABLE 3-4 Action Code (Positions 1-2)

Subfield Values	Subfield Description
00	Credit, debit, Fleet or EBT sale
01	Credit, debit, or EBT withdrawal/cash advance
02	Credit card sale adjustment
03	ECC Check Guarantee
04	Check Inquiry/Verification
05	ECC Check Conversion
17	Credit card no show
18	Gaming/Quasi-cash
20	Credit, debit, Fleet or EBT return
22	Credit card full/partial authorization reversal

TABLE 3-4 Action Code (Positions 1-2)

Subfield Values	Subfield Description
30	Debit/Credit balance inquiry
31	EBT balance inquiry
41	Card Holder Funds Transfer - Debit
42	Card Holder Funds Transfer - Credit
50	Bill Payment
51	Credit card - AVS only request
52	Credit card - AVS and authorization
53	Credit card cash advance - AVS and authorization
54	Credit Card Completion
58	Gift Card Preauthorization
59	Gift Card Completion
61	Gift Card Activation
62	Gift Card Purchase
63	Gift Card Refund
64	Gift Card Reload
65	Gift Card Unload
66	Gift Card Close
67	Gift Card Balance Inquiry
68	Batch Totals for Gift Card
69	Gift Card Mini Statement
71	Gift Card Mass Activation
74	Gift Card Mass Reload
75	Gift Card Mass Unload
76	Gift Card Mass Close
77	Gift Card Mass Balance Inquiry
80	Tokenization
81	De-tokenization
82	Convert HVT to LVT
90	Full Download ¹

TABLE 3-4 Action Code (Positions 1-2)

Subfield Values	Subfield Description
91	Partial Download ¹
92	Print Transmittal
93	Batch Release
94	TCS Batch Inquiry Upload ¹
95	TCS Batch Upload ¹

¹ These are internal codes that the Worldpay platform supports; however, they are not transmitted in terminal-to-host or host-to-terminal messages.

Table 3-5 lists the From Account Type subfield values applicable to position 3.

TABLE 3-5 From Account Type (Position 3)

Subfield	Subfield Description
0	Default account (gift card, POSA, debit and check authorization transactions)
1	Savings account
2	Checking account
3	Fleet card account
4	Credit card account
6	EBT Cash benefit account
7	EBT FS voucher
8	EBT Food stamp account (all credit card transactions)
9	EBT WIC account

Table 3-6 lists the inbound message designator subfield value applicable to position 4.

TABLE 3-6 Inbound Message Designator (Position 4)

Subfield	Subfield Description
0	Default

Table 3-7 lists the To Account Type (0110, 0210, and 0410 message types) subfield values applicable to position 5.

TABLE 3-7 Inbound Message Designator (Position 5)

Subfield	Subfield Description
0	Default account (all authorization requests)
1	Savings account
2	Checking account
4	Credit card account
8	EBT Food stamp account

Table 3-8 lists the outbound message designator subfield values applicable to position 6.

TABLE 3-8 Outbound Message Designator (Position 6)

Subfield	Subfield Description
0	Default
1	Terminal is in multi-trans mode (dial terminals only)

Field: 04 Amount, Transaction

This field represents the monetary value associated with the cardholder's authorization, debit, or credit transaction request. Enter the amount as a nine-digit number in the terminal, which you should right-justify and zero fill. It implies the decimal point. This field does not include cash back.

TABLE 3-9 Required Field Contents Based on Transaction Type

Transaction Type	Required Field Contents
Authorization reversals	The approved amount authorized from the original transaction For timeout scenarios where the approved amount is not known, populate this field with the original amount requested in the timed-out transaction.
AVS verification only (Processing code 514000) request	Zero fill.
MasterCard and Discover Account Status Inquiry	Zero fill.
Visa Product Eligibility Inquiry	Zero fill.
EBT WIC purchases	The amount of the transaction before the merchant applies any coupons or discounts

Type = n; **Length** = 9

Message Type

This field may appear in the following message types:

- 0100 - Authorization request
- 0110 - Authorization response
- 0200 - Financial request
- 0220 - Financial request
- 0400 - Unsolicited Reversal Request

Field: 07 Transmission Date and Time

This field represents the date and time of the transaction. The response message echoes it back. Reply messages copy this field from the request.

Type = n; **Length** = 10 (MMDDYYhhmm)

Use a 24-hour (military) notation for the time portion. For example, 1114971346 represents Nov. 14, 1997, at 1:46 p.m.

Message Type

The transmission date and time field may appear in the following message types:

- 0100 – Check and financial authorization request (controller)
- 0100 – Partial reversal
- 0110 – Authorization response
- 0200 – Financial request (controller)
- 0210 – Financial response
- 0220 – Credit card prior authorization
- 0400 – Reversal (void) request (controller)
- 0410 – Reversal (void) response

TABLE 3-10 Required Field Contents Based on Message Type

Message Type	Required Field Contents
Host capture terminal	The date and time that the host processed the transaction
Host capture controller	The date and time at which the controller transmitted the transaction to Worldpay, which is set by the controller
0400 reversal	The date and time apply to the reversal/void request itself, not to the original transaction

Field: 11 System Trace Audit Number (STAN)

The in-store controller creates this number at transaction time to uniquely identify the transaction.

In most cases, the STAN must be unique across the batch and not repeat. In the case of the 610 message set, this requirement extends to the lanes as well. The only time that a STAN will repeat in a batch is in a timeout reversal (TOR) condition. You must pass the STAN of the original transaction to the Worldpay host in the TOR. This allows the host to match on the original transaction in order to reverse it.

Type = n; **Length** = 6

Message Type

This field appears in every message type supported by Worldpay and the in-store controller.

Field: 12 Local Transaction Date

This field indicates the date on which the transaction occurred at the point of sale.

Type = n; Length = 6 (MMDDYY)

Message Type

This field appears in all request messages handled by the in-store controller.

TABLE 3-11 Required Field Contents Based on Message Type

Message Type	Required Field Contents
0400 reversal/void requests	The transaction you want to void See 07 Transmission Date and Time on page 208.
Gift Card Completion	The Local Transaction Date the message receives in the Gift Card Preauthorization approval message
Unsolicited reversal	The Local Transaction Date the message receives in the original Authorization request message

Field: 13 Local Transaction Time

This field indicates the time (hhmmss) at which the transaction occurred at the point of sale.

Type = n; **Length** = 6 (hhmmss)

Message Type

This field appears in all request messages handled by the in-store controller

TABLE 3-12 Required Field Contents Based on Message Type

Message Type	Required Field Contents
0400 reversal/void requests	The transaction you want to void See 07 Transmission Date and Time on page 208.
Gift Card Completion	The Local Transaction Date the message receives in the Gift Card Preauthorization approval message
Unsolicited reversal	The Local Transaction Date the message receives in the original Authorization request message

Field: 22 Point-of-Service Entry Mode

The field contains two subfields that indicate the method used to enter the primary account number (PAN) and whether the POS terminal allows entry of personal identification numbers (PINs).

For Visa transactions, use a value of **10** to indicate a subsequent payment in a recurring/installment stream or card on file. Worldpay changes this to a value of **01** for non-Visa transactions.

Type = n; **Length** = 3

Message Type

This field must appear in the following messages:

- 0100 – Authorization request
- 0200 – Financial request
- 0220 – Financial request

Values

Table 3-13 lists the POS entry mode subfield values applicable to position 1-2.

TABLE 3-13 POS Entry Mode (Position 1-2)

Subfield	Subfield Description
00	Unknown
01	Manual Entry
02	Magnetic – Track 2
03	Bar code read (POSA Prepaid one-step)
04	OCR read
05	Integrated circuit card read (EMV)
07	Swiped MICR for check authorization Integrated circuit card via proximity (EMV) for all other transactions
08	Proximity contactless EMV
09	PAN entry via electronic commerce, including remote chip
10	Credentials on file.
79	Fallback from EMV to manual entry
80	Fallback from EMV to mag stripe
81	Magnetic – Track 1
82	PAN entry via electronic commerce, including chip
91	Proximity contactless mag stripe

Table 3-14 lists the POS Terminal PIN-Entry Capability subfield values applicable to position 3.

TABLE 3-14 POS Entry Mode (Position 3)

Subfield	Subfield Description
0	Unknown
1	Terminal device accepts PIN entry
2	Terminal device does not accept PIN entry
8	PIN pad inoperative
9	PIN verified by terminal device (EMV offline PIN verification)

Field: 25 Point-of-Service Condition Code

The field contains four subfields. Together they identify the kind of terminal and indicate whether the customer, the customer's credit card or both were present at the time of the transaction.

Type = n; **Length** = 10

Message Type

This field must appear in the following messages:

- 0100 – Authorization request
- 0200 – Financial request
- 0220 – Financial request
- 0400 – Unsolicited reversal request

Values:

The following tables show the layout of the field and the possible values for each subfield. You cannot use nulls.

Position 1 of bit 25 must always match position 1 of bit 107. You must set other positions in bit 25 to the correct value for the transaction type.

Table 3-15 lists the terminal class codes applicable to positions 1-3.

TABLE 3-15 Terminal Class (Positions 1-3)

Position	Subfield Values
1	0 – Unspecified (default) 1 – Limited amount terminal 2 – Unattended (ATM) 3 – Unattended, including automated dispensing, self service, and Cardholder Activated Terminals. 4 – Electronic cash register (ECR), which all retail transactions must use. 7 – Telephone device (dial terminal) 8 – Mobile contactless transaction 9 – MPOS
2	0 – Cardholder operated (default)
3	0 – POS device on premises of terminal owner (default)

Table 3-16 lists the presentation data codes applicable to positions 4-6.

TABLE 3-16 Presentation Data (Positions 4-7)

Position	Subfield Values
4	0 – Customer present (default) 1 – Customer not present (SAF transaction) 2 – Customer not present, which Mail Order/Telephone Order (MOTO) and eCommerce transactions must use. 5 – Secure Electronic commerce Transaction (SET) with cardholder certificate 6 – Non-authenticated security transaction with SET merchant certificate 7 – Non-authenticated security transaction without SET merchant certificate (for example, channel-encrypted transaction) 8 – Non-secure transaction
5	0 – Card present (default)
6	0 – POS device does not have card retention capability (default)
7	0 – Original presentment (default) 1 – Recurring payment 2 – Installment payment 3 – One-time bill payment, initial CNP credential on file, subsequent unscheduled COF and cardholder initiated COF 5 – Resubmission of Debit Transaction 6 - Partial/Split Payment 7 - Re-authorize Full Amount 8 - Standing Authorization

Table 3-17 lists the security condition codes applicable to position 8.

NOTE: E2EE transparent mode transactions need to use a value 0, 3, or 5 in position 8.

TABLE 3-17 Security Condition (Position 8)

Position	Subfield Values
8	<ul style="list-style-type: none"> 0 – No security concern (default) 1 – Encrypted data indicator (see End-To-End Encryption (E2EE) on page 602) 2 – DUKPT E2EE using G026 – POS Encrypted Data 3 – Tokenize transaction (request host generate and return token) and token conversion requests 4 – Encrypted data indicator and Tokenize transaction (request host generate and return token) 5 – POS using token (group request data G028 –Token Utilization must be present in message) for de-token conversion 6 – POS using Registration-ID (group request data G028 –Token Utilization must be present in message). 7 – POS using Card Network Tokenization (including Apple Pay In-App).

[Table 3-18](#) lists the advice reason codes applicable to positions 9 and 10.

TABLE 3-18 Advice Reason Code (Positions 9-10)

Position	Subfield Values
9	<ul style="list-style-type: none"> 0 – Not an advice (default) 1 – Pass Through Reversal transaction 2 – DCC request for rate 3 – Stand-in transaction 4 – EMV offline approval - unable to go online 5 – EMV offline approval - online available
10	<ul style="list-style-type: none"> 0 – Not an advice (default) 8 – Check authorization with manager override

Field: 32 Acquiring Institution Identification Code

This code (referred to as Bank ID for Worldpay) identifies the acquiring institution (that is, the merchant bank, merchant grouping, or merchants' hierarchy) for the associated Card Acceptor ID Code (referred to as Merchant Number for Worldpay).

Type = n; **Length** = 4

Message Type

This field must appear in the following message types:

- 0100 Authorization request
- 0200 Financial request
- 0220 Financial request
- 0400 Reversal request
- 0500 Reconciliation request
- 0800 Network management request

Field: 37 Retrieval Reference Number

This field identifies and tracks the original transaction. It is conditional and is present in the message only when the Bit Map Type is not 99.

Type = n; **Length** = 8

Message Type

This field must appear in the following message types:

- 0110 Check authorization response
- 0210 Financial response
- 0230 Financial response
- 0410 Reversal response

Field: 41 Card Acceptor Terminal Identification

This field (referred to as the Terminal ID for Worldpay) identifies the terminal at the merchant (card acceptor) location at which the merchant entered the transaction.

Type = n; **Length** = 3

Message Type

This field must appear in all transaction request messages.

Field: 42 Card Acceptor Identification Code

This field, in conjunction with the acquiring institution identification code ([32 Acquiring Institution Identification Code](#) on page 217), uniquely identifies the merchant to Worldpay.

Type = n; **Length** = 12

You must always send 12 characters.

Message Type

This field (referred to as Merchant ID for Worldpay) must appear in all transaction request messages.

Field: 43 Lane Number

This field identifies the cashier location at which the transaction occurred. Always use **0** for the first byte and **01** to **99** to define the Lane Number in the second and third bytes.

Type = n; **Length** = 3

Message Type

This field appears in the following controller message types:

- 0100 Authorization request
- 0200 Financial request
- 0220 Financial request
- 0400 Reversal (void) request

Field: 45 Track Data

This field contains up to 76 alphanumeric, encrypted, or special characters of data read from track 1 or track 2 of the magnetic stripe on the card, excluding the beginning and end sentinels and the LRC character.

NOTE: The Discover network requires merchants to submit the card expiration date with each authorization request or the card transaction may be disputed.

NOTE: For EMV processing, send tag 57 (Track 2) in this field. Do not include it in the chip data. This field includes the expiration date.

Type = ans; Length = 76

Message Type

Track data must appear in the following message types:

- 0100 Authorization request
- 0200 Financial request
- 0220 Financial request

Additional Format Information

If you manually enter the cardholder information (PAN and expiration date), you must right-justify and space fill the data using the following format:

Primary Account Number= [YYMM] [CVV2]

where YYMM is the expiration date on the card.

When you manually enter Gift Card/POSA prepaid transactions, they should also follow this format.

The expiration date, CVV2, and field delimiter characters for POSA prepaid cards are optional. When the expiration date and CVV2 are not applicable, then the track data field only contains the primary account number of the card.

CVV2 is the Visa CVV2, MasterCard CVC2, or American Express CID number printed on the card. These values are optional; however, if the merchant POS system allows entry of this value, but it is not available for some reason, you should use one of the following codes in place of the actual CVV2/CVC2/CID value:

- NP (not present on the card)
- IL (on the card, but is not legible)

On American Express cards, you must not remove the spaces that are embedded in the account number on track 1 before transmitting to Worldpay.

For EMV chip card transactions, you must still populate this field, even if track data is supplied within the tag data.

Example: Expiry Date is 12/00 and No CVV2 is Supplied

4012999999999999=0012

Example: Expiry Date is 12/00 and CVV2 Value Equals 847

4012999999999999=0012847

Example: Expiry Date is 12/00 and CVV2 is Not on the Card

4012999999999999=0012NP

Example: Expiry Date is 12/00 and CVV2 is Illegible

4012999999999999=0012IL

Token Conversion

When the track data field of a request message contains the primary account number, you must put it in the following format:

Example: Expiry Date Must Be Zeros

4012999999999999=0000

When a transaction using token (POS condition code position 8 equals **5** with group request data [G028 – Token Utilization](#)), you must set this field to spaces. Use POS entry mode manual entry for applicable base request messages.

POSA Prepaid Processing

Following are the types of POSA prepaid processing:

- **One-Step**
One-Step implies that the prepaid card product is bar-code-scanned only. Typically, the bar code contains a UPC value, the account number information, plus padding characters (typically leading zeros). The POS device extracts the account number and removes any leading characters before placing it into the track data field. If the expiration date and/or CVV2 value are applicable, then you should format them based on track data standards and placed them into the track data field.
- **Two-Step**
Two-Step implies that the merchant scans the prepaid card product bar code and scans it. The barcode scan portion is identical to the One-Step process. You must use the applicable track 1 or track 2 from the swipe (step 2) to populate the track data field.

P2PE Encrypted Expiration Date (OnGuard only)

In the case of OnGuard transactions with encrypted expiration dates, you should zero fill the expiration date in this field.

Example: Expiry Date Must Be Zeros

4012999999999999=0000

Example: Expiry Date Must Be Zeros, but CVV2 Included

4012999999999999=0000847

Field: 48 Additional Data

This field contains the last retrieval reference number of the last EFT transaction received by the terminal.

Type = n; **Length** = 8

Message Type

This field must appear in the following message types:

- 0100 Authorization request
- 0200 Financial request
- 0220 Financial request
- 0400 Reversal request
- 0500 Reconciliation request
- 0800 Network management request

The void-undelivered logic transmits this data and uses it to determine whether terminal and host agree on what is the last valid EFT transaction. If they are not in sync, the host assumes the terminal never received the approval on the last transaction and voids the last transaction stored at the host.

For controllers using the void undelivered logic, you must maintain the retrieval reference number at the lane level. If the controller is not using the void undelivered logic, you can zero fill this field.

NOTE: Bit 37 of a 0110 check authorization response returns a retrieval reference number. It is for franking purposes only. The terminal or controller should not retain it.

Field: 52 Personal Identification Number (PIN) Data

The PIN data field uniquely identifies a cardholder at the POS terminal. It is primarily for debit transactions. Each four-bit group in the field translates to a single hexadecimal character to yield a total of 16 ASCII display characters. [G036 – Credit Card PIN Data](#) contains this field for credit card transactions using a PIN.

Type = an; **Length** = 16 (64 binary bits)

Message Type

This field may appear in the following message types:

- 0100 Authorization request
- 0200 Financial request
- 0220 Financial request
- 0400 Reversal request

This field may contain spaces in 0400 reversal requests; however, it must contain spaces in PINless Debit requests.

Field: 55 Clerk Number

This field identifies the employee associated with the transaction. If not applicable, pad it with zeros.

Type = n; **Length** = 8

Message Type

This field appears in all controller requests that represent in-lane transactions.

Field: 60 Cash Back Amount

This field represents the amount of money the cardholder receives back. You should not include this amount in the transaction amount field.

Type = n; **Length** = 9

The entered amount can be up to seven digits. In the message, right-justify and pad it with zeros to the full nine positions.

Message Type

This field appears in the 0100 authorization and 0200 financial request messages.

For an AVS verification only (Processing code 514000) request, fill this field with zeros.

For cash advance (Processing codes 014000 and 534000) requests, the cash back amount includes the cash advance amount.

Field: 61.1 Batch Offset

The Worldpay platform uses this to determine how far back to go when determining the totals returned to the terminal. To request the current open batch, the field would contain zero. For the last closed batch, the terminal operator would enter a **1**. To start at an earlier batch, the terminal operator would enter a value greater than **1**.

Type = n; **Length** = 1

Message Type

This field appears in the 0500 reconciliation control message.

Field: 61.2 Julian Day/Batch Number

Worldpay uses this field to determine which batch the operator is requesting totals for.

Type = n; **Length** = 6

The field contains the three-digit Julian day and a three-digit batch number. This field is set to **0** (contains 6 zeros) when the terminal is set for batch offset inquiry.

Message Type

This field appears in the 0500 reconciliation control message.

Field: 61.3 Requesting Terminal

Worldpay uses this field on batch inquiries to indicate which Terminal ID (Card Acceptor Terminal Identification) for the specified Merchant ID (Card Acceptor ID) to use when determining the totals that will return to the terminal. To retrieve the totals for the terminal generating the transaction request, the field would contain the Terminal ID.

Type = n; **Length** = 3

Message Type

This field appears only in the 0500 reconciliation control message.

Field: 62.1 Reserved for future use

See [103 Account ID 2 Data](#) on page 255.

Field: 62.2 Reserved for future use

See [108.6 Birth Date](#) on page 272.

Field: 62.3 Reserved for future use

See [108.5 Check Number](#) on page 271.

Field: 63.1 Invoice/Folio Number

American Express retail transactions require this field for settlement. If the message also includes the P.O. Number/Customer Code field ([109 P.O. Number/Customer Code](#) on page 274), Worldpay ignores this field unless you have space filled bit 109.

Type = n; **Length** = 6

Message Type

This field appears in the 0200 and 0220 financial messages for those transactions (usually designated for specific card types) that use the extended prompts option.

Field: 63.2 Item Code One

Use this to cross reference a table in the Worldpay database that designates the type of merchandise purchased. American Express retail transactions require this field for settlement.

Type = n; **Length** = 4

Message Type

This field appears in the 0200 and 0220 financial messages for those transactions (usually designated for specific card types) that use the extended prompts option.

Field: 63.3 Item Code Two

Use this field to cross reference a table in the Worldpay database that designates the type of merchandise purchased. American Express retail transactions require this field for settlement.

Type = n; **Length** = 4

Message Type

This field appears in the 0200 and 0220 financial messages for those transactions (usually designated for specific card types) that use the extended prompts option.

Field: 63.4 Item Code Three

The field is used to cross reference a table in the Worldpay database that designates the type of merchandise purchased. American Express retail transactions require this field for settlement.

Type = n; **Length** = 4

Message Type

This field appears in the 0200 and 0220 financial messages for those transactions (usually designated for specific card types) that use the extended prompts option.

Field: 63.5 Item Code Four

Use this field to cross reference a table in the Worldpay database that designates the type of merchandise purchased. It is required when settling American Express retail transactions.

Type = n; **Length** = 4

Message Type

This field appears in the 0200 and 0220 financial messages for those transactions (usually designated for specific card types) that use the extended prompts option.

Field: 63.6 Item Code Five

The field is used to cross reference a table in the Worldpay database that designates the type of merchandise purchased. American Express retail transactions require this field for settlement.

Type = n; **Length** = 4

Message Type

This field appears in the 0200 and 0220 financial messages for those transactions (usually designated for specific card types) that use the extended prompts option.

Field: 65 Authorization Identification Response

This field contains an authorization number that the authorizing institution assigns to the transaction.

NOTE: This field is expected to be all numeric; however, because the network generates the data in this field and Worldpay passes it through, it is possible that other characters, such as blanks, will be sent through.

Type = n; Length = 6

Message Type

This field appears in the following messages:

- 0110 Authorization response (controller)
- 0200 EBT voice authorization/voucher clear request
- 0220 Financial request (prior authorized sale transactions) (controller)
- 0210 Financial response (controller)
- 0230 Financial response (controller)
- 0410 Reversal response (controller)

Field: 66 Settlement Code

The field indicates whether the store totals and the Worldpay totals match.

Type = n; **Length** = 1

Message Type

This field appears in the 0510 reconciliation response message for the 610 message set.

Values

Valid values returned in this field are as follows:

- **1** - Totals sent match Worldpay totals
- **2** - Totals sent do not match Worldpay totals

For batch inquiry requests, Worldpay does not perform the totals check, and the response returns a value of **1**.

Field: 67 Extended Payment Code

This field pertains specifically to JCB transactions where the consumer can specify the number of installment payments they want to make for each purchase.

Type = n; **Length** = 2

Message Type

This field appears in the 0200 and 0220 financial request message.

Values:

[Table 3-19](#) lists possible values.

TABLE 3-19 Extended Payment Code Field Values

Field Value	Description	Field Value	Description
00	Default	12	Twelve payments
01	Single payment	18	Eighteen payments
03	Three payments	24	Twenty-four payments
06	Six payments	99	Revolving credit

Field: 70 Network Management Information Code

Type = n; Length = 3

TABLE 3-20 Message Type Values

Message Type	Values
All requests	<ul style="list-style-type: none"> • 000 - Default (no key change required) • 101 - Key change requested • 900-999 - Log transaction as given error. Worldpay records this transaction as an error transaction with the given code and the error server name as SLHBAS.
Full reversals	400 - suspected fraud
EMV reversals	<ul style="list-style-type: none"> • 401 - Card removed • 402 - Chip decline after host approval • 403 - PIN Pad not available
0800	<ul style="list-style-type: none"> • 301 - Line Management Test (Echo Test) • 360 - Terminal Validation • 380 - FleetOne Batch Close • 801 - System Health Status

Field: 74 Returns, Count

This field indicates the total number of credit, debit, and EBT return transactions.

Type = n; **Length** = 6

For Gift Card transactions, zero fill this field.

Message Types:

This field appears in the 0500 reconciliation request message for the controller interface.

Field: 76 Sales, Count

This field indicates the total number of credit, debit, and EBT sale transactions and check conversion transactions.

Type = n; **Length** = 6

Message Type

This field appears in the 0500 reconciliation request message for the controller interface.

For Gift Card transactions, zero fill this field.

Field: 86 Returns, Amount

This field indicates the total dollar amount of credit, debit, and EBT return transactions.

Type = n; **Length** = 12

Message Type

This field appears in the 0500 reconciliation request message for the controller interface.

For Gift Card transactions, zero fill this field.

Field: 88 Sales, Amount

This field indicates the total dollar amount of credit, debit, EBT sale and check conversion transactions.

Type = n; **Length** = 12

Message Type

This field appears in the 0500 reconciliation request message for the controller interface.

For Gift Card transactions, zero fill this field.

Field: 90 Original Data Elements

This field contains the retrieval reference number from the original transaction response and helps identify the original transaction for reversal processing. For timeout reversals, where the original transaction's retrieval reference number is not known, populate this field with zeros.

Type = n; **Length** = 8 (0400 reversals), 9 (0100 authorization reversal request)

Message Type

This field must appear in 0400 reversals and in 0100 authorization reversal request messages.

When using [G014 – Original Authorization Retrieval Reference Number](#), zero fill this field.

Field: 91 Check Error Response Text

This field contains text provided from a VISA POS Check conversion authorization attempt that the check verification service subscribed to by the merchant did not approve.

Type = an; **Length** = 192

Field: 100 File Record Data

This field contains a single file-update record.

Type = an; **Length** = 87

Message Type

This field must appear in the 0320 file update message.

Values:

[Table 3-21](#) lists the fixed-format bad-check-file update record data fields that Worldpay supports.

TABLE 3-21 File Record Data Field Names

Field Name	Attributes	Comments
Bank Number	ans 9	Bank routing/transit number as seen on the check.
Account Number	ans 18	Checking account number as seen on the check.
Check Number	n 5	Sequential number of the check assigned by the bank and printed on the check.
Check Number Appendage	a 2	Alpha character assigned to differentiate two checks from the same account with the same check number (such as is possible with starter checks).
Check Amount	n 8	Its format is 999999^99, where it implies the decimal point.
Check Date	ans 8	Its format is MM/DD/YY, which is the date written on the check with the slashes included.
Driver's License	ans 25	Space fill if not present.
Drivers License State Code	an 2	U.S. postal state code where the driver's license was issued. Space-fill if not present.
Member	an 3	For Future Use
Store Number	an 5	For Future Use
Reason Code	a 1	Reason check was returned. <ul style="list-style-type: none"> • N = Non-sufficient funds • A = Account closed • R = Refer to maker • O = Other • S = Stop payment

TABLE 3-21 File Record Data Field Names

Field Name	Attributes	Comments
Transaction Code	a 1	Transaction identification code. <ul style="list-style-type: none">• A = Add check• C = Change transaction• D = Delete check (payment)

Field: 101 Full MICR Data

This field contains the unaltered raw MICR data from the check reader.

Type = an; **Length** = 63

Field: 102 Account ID 1 Data

This field contains the primary account number used to authorize a check transaction.

Type = an; **Length** = 28

Formats:

MICR Data: [Transit Routing Number (9 byte)][Account Number][space-fill up to 28 bytes]

Field: 103 Account ID 2 Data

This 28-character field contains the secondary account number that authorizes a check transaction. If the field contains a driver's license number, you must make the characters uppercase.

Type = an; **Length** = 28

Formats:

DL# Data: [2-char State Code][Drivers License Number][space-fill up to 28 bytes]

TABLE 3-22 Request Messages

Message Type	Bit Type
0100	04
0100	07
0200	16
0400	16

Field: 104 Customer Phone Number and ZIP Code

The field contains two data subfields. The first 10 positions are the customer phone number, which you left justify and space fill. The last nine positions contain the ZIP code. If the ZIP code is present, make it five or nine characters in length and left justify it. If it is only five characters, pad it with spaces.

Type = an; **Length** = 19

Field: 105.1 Additional Response Data/CVV2/AVS Result Code

This field contains the CVV2 and address verification (AVS) result codes. For transactions that request CVV2 and/or AVS, it provides an additional indication that the person using the card is the person the bank issued the card to.

The first character is the CVV2 result code, the second character is the AVS result code (space when the transaction does not qualify for AVS). Visa and MasterCard return CVV2/CVC2 response codes.

Type = an; **Length** = 2

Message Type

This field must appear in the following message types:

- 0100 EFT partial reversal request
- 0110 Authorization response
- 0220 Financial request (Bit Map Type 04, 24)
- 0210 Financial response
- 0230 Financial response
- 0410 Reversal response

Values:

[Table 3-23](#) and [Table 3-24](#) list the CVV2 and AVS result codes.

TABLE 3-23 CVV2 Result Codes

CVV2 Result Code (Position 1)	Description
E	For PayPass transactions, this indicates an error in the length of the unpredictable number during CVC3 validation (MasterCard only).
M	CVV2/CVC2 value matches.
N	CVV2/CVC2 value does not match.
P	CVV2/CVC2 value was not processed.
S	CVV2/CVC2 was on the card, but the request said it was not.
U	CVV2/CVC2 validation was not available.
Y	For swiped and PayPass transactions, this indicates an error in the calculated CVC1 or CVC3 value from the magnetic stripe (MasterCard only).

TABLE 3-24 AVS Result Codes

AVS Result Code (Position 2)	Description	Domestic/International Use
A	Address matches, ZIP does not	Both
B	Street addresses match, postal codes not verified	Both
C	Street addresses and postal codes not verified	Both
D	Street addresses and postal codes match	International
E	Edit error or ineligible transaction for AVS	Both
F	Street address and postal codes match, UK only	International
G	Address information not verified for international transaction	International
I	Address information not verified	International
M	Street addresses and postal codes match	International
N	Neither address nor ZIP matches	Both
P	Codes match, street addresses not verified	Both
R	System unavailable or time-out	Domestic
S	Address verification currently not supported	Domestic
U	Address information unavailable	Domestic
W	Nine digit zip matches, address does not	Domestic
X	Address and nine digit zip match	Both
Y	Address and zip both match	Domestic
Z	ZIP matches, address does not	Both

Field: 105.2 Payment Service Indicator

For Visa, the field contains the Authorization Characteristics Indicator (ACI) value returned by Visa. It determines whether the authorization qualifies for Visa Custom Payment Service (CPS). When the value is N or T, it indicates the authorization is not CPS qualified. The remaining qualified values are documented by Visa.

For Mastercard, the field contains a legacy CVC (Card Validation Character) compliance flag which Worldpay uses internally. This is always hard coded to A. Use Field 105.1 to determine the actual CVC result.

For all other Networks, this field is blank.

Type = an; **Length** = 1

Message Type

This field must appear in the following message types:

- 0100 EFT partial reversal request
- 0110 Authorization response
- 0220 Financial request (Bit Map Type 04, 24)
- 0210 Financial response
- 0230 Financial response
- 0410 Reversal response

Field: 105.3 (Visa)/Banknet Data (MC)/POSA SAF Reference Number

The field contains information the authorizer provides.

For VISA CPS implementation, it is a unique identifier that links together all related transactions authorized and cleared through VisaNet. If the Payment Service Indicator (bit 105.2) is **A** and this field is not all zeros, it may appear on receipts to facilitate retrieval requests but it is not required. e-commerce Transaction Receipts require the printing of the Transaction ID.

NOTE: The Visa Transaction ID is a dynamic value that indicates the unique value to linked to an individual transaction.

For POSA Prepaid, the field contains the POSA SAF Reference Number that the host uniquely assigns. This value occupies the first twelve positions. Left justify and space fill it. The POS device should use this value to populate POSA SAF Reference Number (field 136) when it sends a POSA SAF Activation/Reload transaction request message. POSA SAF requests also require that you set the POSA Stand-In Indicator (Field 135) to a value of **Y** in the transaction request message.

Type = an; **Length** = 15

Values

For MasterCard, the field contains the data shown in [Table 3-25](#).

TABLE 3-25 MasterCard Subfield Positions and Values

Position	Subfield Description	Subfield Values
1-9	Banknet Reference Number	
10	N/A	Empty
11	Magnetic stripe/CVC invalid	<ul style="list-style-type: none"> N - No CVC error Y - CVC error P - Could not be validated
12	Magnetic stripe/CVC status change	<ul style="list-style-type: none"> N - No downgrade Y - Downgrade (The Acquirer has not completed the CVC compliance monitoring period.)
13	Magnetic stripe/CVC track edit errors	<ul style="list-style-type: none"> N - No Banknet error A, B, C, D, E, F, G, H, I, J - Banknet errors (Refer to the MasterCard Message Specification.)
14	N/A	Empty

TABLE 3-25 MasterCard Subfield Positions and Values

Position	Subfield Description	Subfield Values
15	Transaction Category Code	<ul style="list-style-type: none">• H = Hotel• F = Restaurant• R = Retail• A = Auto• T = Direct Market• X = Travel

Message Type

This field must appear in the following message types:

- 0100 EFT partial reversal request
- 0110 Authorization response
- 0220 Financial request (Bit Map Type 04, 24)
- 0210 Financial response
- 0230 Financial response
- 0410 Reversal response

Field: 105.4 VISA Validation Code

For VISA transactions, the code in the field determines the accuracy of the authorization data. VISA generates it using a VISA-proprietary algorithm based on the following request and response data fields.

Primary Account Number	Authorization Identification Response
Transaction Amount	Response Code
Merchant Type Payment	Service Indicator
POS Entry Mode Code (positions 1-2)	Transaction Identifier

For MasterCard transactions, this field contains the Banknet date.

Type = an; **Length** = 4

Message Type

This field must appear in the following message types:

- 0100 EFT partial reversal request
- 0110 Authorization response
- 0220 Financial request (Bit Map Type 04, 24)
- 0210 Financial response
- 0230 Financial response
- 0410 Reversal response

Field: 106 Cardholder Identification (AVS)

This field contains the data Worldpay uses for address verification. Positions 1-20 contain the cardholder's address data, which you should left justify and space fill. Positions 21-29 contain the ZIP code.

If the ZIP (or Postal) Code is present, it must follow the format for cardholder's country where the card was issued as follows:

- Canada – The Postal Code must be in the standard alphanumeric format (for example, A1B 2C3), left justified and padded to the right with spaces. All alphabetic characters must be uppercase. The single space between the first three and last three alphanumeric characters is required.
- United Kingdom – The Postcode must be in the standard 6-to-8 byte alphanumeric format including the single space between the two blocks of characters (for example, AA9A 9AA), left justified and padded to the right with spaces. All alphabetic characters must be upper case. The single space between the two blocks of alphanumeric characters is required.
- United States – The ZIP Code must be either 5 digits (standard format) or 9 digits (Zip+4 format), left justified, and padded to the right with spaces.
- All other countries – Provide the Postal Code as received, left justified, and padded to the right with spaces.

Type = an; **Length** = 29

Message Type

This field must appear in the following message types when the Bit Map Type is 05, 06, 25, or 26.

- 0100 authorization request
- 0200 financial transaction request message

Field: 107 Point-of-Service Device Capability Code

The field contains two subfields that indicate the type of POS device in use and the device's ability to read encoded data.

Type = an; **Length** = 2

Subfield Values:

You must not use 00 to populate bit 107. The standard convention is to set the first position of bit 107 to match the first position of bit 25. You must set the second value of bit 107 to the terminals' best method of reading encoded data. For example, if a POS device can read encoded data from both a magnetic stripe and from an ICC, then you must preset bit 107 to Worldpay as 45.

Table 3-26 shows the subfields and their applicable values.

TABLE 3-26 Point-of-Service Device Capability Code (Positions 1-2)

Position	Subfield Description	Subfield Value
1	Type of POS device	0 – Unspecified 1 – Limited amount terminal 2 – Unattended (ATM) 3 – Unattended automated dispensing/self service ¹ 4 – ECR ² 7 – Telephone device (dial terminal) ³ 8 – Mobile Phone 9 – Tablet

TABLE 3-26 Point-of-Service Device Capability Code (Positions 1-2)

Position	Subfield Description	Subfield Value
2	Method used to read encoded data	<p><space> – Not Specified</p> <ul style="list-style-type: none"> • 0 – Unknown • 1 – Terminal cannot read encoded data • 2 – Magnetic stripe read capability • 3 – Bar code read capable • 4 – OCR read capable • 5 – Chip-capable terminal • 6 – MICR Read. (Used for “SMS” POS Check Service, U.S. only.) • 7 – MICR Read and Image-capable. (Used for “SMS” POS Check Service, U.S. only.) • 8 – Proximity read capability Terminal • 9 – Terminal does not have the capability to read card data • A - Mobile Network Operator (MNO) controlled removable secure element (SIM or UICC) personalized for use for a mobile device or tablet. • B - Mobile Device with a fixed (non-removable) secure element controlled by the MNO, for example, code division multiple access (CDMA) • C - Removable secure element not controlled by the MNO, for example, memory card personalized for use for a mobile device. • D - Mobile device with a fixed (non-removable) secure element not controlled by the MNO. • E - Contactless Magstripe • S - Manual Entry Capability and Magnetic Stripe Read Capability • T - Manual Entry Capability, Magnetic Stripe Read Capability, and Chip-Capable Terminal

¹ Cardholder Activated Terminal (CAT) transactions need to use a code of 3x.

² Any transactions other than CAT transactions should use 4x.

³ When using a dial terminal, transactions need to use a code of 7x.

Message Type

This field must appear in the following messages:

- 0100 authorization request
- 0200 financial request
- 0220 financial request
- 0400 reversal request

Field: 108.1 Account ID 1 Type

This describes the type of ID that the Account 1 Data field ([102 Account ID 1 Data on page 254](#)) contains.

Type = an; **Length** = 1

Values:

[Table 3-27](#) lists the values for Account ID 1 Type.

TABLE 3-27 Account ID 1 Type Values

Value	Description
Blank	None
D	Driver's License
M	MICR
C	Courtesy Card
S	Social Security

Message Type

This field appears in the 0100 expanded check authorization request (Bit Map Type 04 or 07).

Field: 108.2 Account ID 2 Type

This field describes the type of ID the Account 2 Data field ([103 Account ID 2 Data](#) on page 255) contains.

Type = an; **Length** = 1

Message Type

This field appears in the 0100 expanded check authorization request (Bit Map Type 04 or 07).

Values:

[Table 3-27](#) lists the values for Account ID 2 Type.

Field: 108.3 Check Type

This field identifies the type of checking account involved in a check authorization request transaction. The values for this field are different depending upon whether you use it in a check transaction, or a Visa POSA check conversion and other check authorization transactions.

Type = an; **Length** = 122

Message Type (Check Transaction):

This field appears in the following message types:

- 0100 check verification/guarantee
- 0200 conversion reversal transaction
- 0400 conversion reversal transactions

Values (Check Transaction):

[Table 3-28](#) lists the Check Type values.

TABLE 3-28 Check Type Values (Check Transaction)

Value	Description
Blank	Unknown (Default)
1	Personal check
2	Payroll check
3	Government check
4	Travelers check
5	Money order
6	Cashier's check
7	Counter check
8	Two party check
9	Business check

Message Type (Visa POSA Check Conversion and Other Check Authorization Transactions):

This field appears in the 0100 expanded check authorization request (Bit Map Type 04 or 07).

Values (Visa POSA Check Conversion and Other Check Authorization Transactions):

[Table 3-29](#) lists the Check Type values.

TABLE 3-29 Check Type Values (Visa POSA Check Conversion and Other Check Authorization Transaction)

Value	Description
Blank	Personal (Default)
B	Business
G	Government
P	Payroll
I	Personal (ID Free Certegy)

Field: 108.4 Manager Number

This field contains the employee number of the manager requesting a manager override. When byte 10 of the POS condition code is 8, it indicates a manager override.

Type = n; **Length** = 8 (Bit Map Types 32 and 70), 6 (for any other Bit Map Type)

Message Type

Table 3-30 shows the message and bit map types for the request and response messages.

TABLE 3-30 Manager Number Request and Response Messages

Request Messages		Response Messages	
Message Type	Bit Map Type	Message Type	Bit Map Type
0100	04	N/A	N/A
0100	07	N/A	N/A
0100	32	N/A	N/A
0200	16	0210	51
0200	32	0210	70
0400	16	N/A	N/A
0400	32	N/A	N/A

Field: 108.5 Check Number

This optional field contains the number on a check.

Type = n; Length = 6

Message Type

Table 3-31 shows the message and bit map types for the request and response messages.

TABLE 3-31 Check Number Request and Response Messages

Request Messages		Response Messages	
Message Type	Bit Map Type	Message Type	Bit Map Type
0100	04	0210	51
0100	07	0410	51
0200	16		
0400	16		

Field: 108.6 Birth Date

This field contains the customer's birth date. If birth date is unavailable, the field should contain all zeros.

Type = n; **Length** = 6 or 8

Message Type

The field is six bytes long for a request message with a message type of 0100 and a bitmap type of 07.

[Table 3-32](#) shows the message and bit map types for the request and response messages. The field is eight bytes long for these messages.

TABLE 3-32 Birth Date Request and Response Messages

Request Messages		Response Messages	
Message Type	Bit Map Type	Message Type	Bit Map Type
0200	16	0210	51
0400	16	0410	51
0100	32	0110	70
0200	32	0210	70
0400	32	0410	70

Field: 108.7 Cashier Number

This field identifies the employee associated with the transaction. It is required for the host capture terminal message; however, it is optional in the controller message, where the same data may appear in [55 Clerk Number](#) on page 227.

Type = n; Length = 8

Message Type

[Table 3-33](#) shows the message and bit map types for the request and response messages.

TABLE 3-33 Cashier Number Request and Response Messages

Request Messages		Response Messages	
Message Type	Bit Map Type	Message Type	Bit Map Type
0100	04	0110	90
0200	16	0210	51
0400	16	0410	51
0100	32	0110	70
0200	32	0210	70
0400	32	0410	70

Field: 109 P.O. Number/Customer Code

This field contains the purchase order number applicable to a financial transaction or the customer code associated with a purchase card. When not in use, pad it with spaces.

Type = ans; **Length** = 20

Message Type

It is required in the following message types:

- 0100 credit authorization only (Bit Map Type 21 or 25)
- 0200 and 0220 credit card requests (Bit Map Types 21–26)
- 0200 VISA POS check conversion request (Bit Map Type 16)
- 0400 VISA POS check conversion request (Bit Map Type 16)
- 0100 check verification/guarantee request (Bit Map Type 32)
- 0200 check conversion request (Bit Map Type 32)

The field is optional in the 0200 financial request for a private-label (Bit Map Type 07) or fuel (Bit Map Type 09) sale.

Field: 110 Tax Amount

This field contains the dollar amount of tax included in the transaction in the format 999999999. A value of all 9s (999999999) in the request message indicates a non-taxable transaction. A value of all 8s (888888888) in the request message indicates a tax-exempt transaction.

For non-corporate/purchase cards, you can send this data element as all zeros.

Type = n; **Length** = 9

Message Type

This field appears in the following message types where the requests apply to corporate or purchase credit cards:

- 0100 authorization requests
- 0200 financial requests

Field: 111 Additional Data, Private EBT

This field is present only when the processing code indicates an EBT transaction and contains the voucher number required for clearing EBT voice authorizations.

Type = ans; **Length** = 15

Message Type

This field is conditional in the 0200 financial message.

Field: 112 Card Sequence Number

You require this field if the card has a generation number and the card was not swiped. The card sequence number distinguishes between separate cards with the same primary account number.

Type = n; Length = 3

Message Type

This field is conditional in the 0200 financial request message when the processing code indicates an EBT transaction.

NOTE: For EMV processing, populate tag 5F34 (Card Sequence Terminal Number) in this field.

Field: 115 Trace Data 1 (Echo Data)

All controller messages include this field. It is an echo field for the controller's use. Worldpay echoes the data exactly as it received it.

Type = ans; **Length** = 16

Message Type

In the host capture terminal message set, this 16-character field must appear in the 0800 (Bit Map Type 02) and 0810 (Bit Map Type 94) network management request and response when processing the line management test function (echo test).

Field: 117 DUKPT Serial Number

For PIN-based transactions using DUKPT encryption, this is the terminal serial number the encryption process uses. The POS system (typically from the PIN pad) populates this for every PIN-based request. If the generated serial number is less than 20 characters, left pad it with Fs.

Type = an; **Length** = 20

Note the following:

- [G036 – Credit Card PIN Data](#) includes this field for credit card transactions that use a PIN.
- You can use spaces in this field for 0400 reversal requests.
- You must use spaces in this field for PINless Debit requests.

Field: 120.1 Julian Day/Batch Number

This field indicates the batch that captured the EFT transaction at the host. It contains the three-digit Julian day on which the batch opened and the three-digit batch number. (The batch number increases by one whenever a batch releases and resets to one for each Julian day). The field does not appear if Bit Map Type is 99.

Type = n; **Length** = 6

Message Type

The field appears in the following message types:

- 0210 financial response
- 0230 financial response
- 0410 reversal response messages

Field: 120.2 Demo Merchant Flag

The field indicates whether or not the terminal operates in demonstration or production mode. It does not appear if Bit Map Type is 99.

Type = an; **Length** = 1

Message Type

This field appears in the following message types:

- 0210 financial response
- 0230 financial response
- 0410 reversal response

Values

- **Y** -Demo mode
- **N** - Production mode

Field: 120.3 Network Mnemonic/Card Type

This field does one of the following depending on the transaction type.

- The four-character Network Mnemonic appears in the 0210 and 0230 financial response and 0410 reversal response messages for debit transactions. It indicates which network (switch) authorized the transaction. It applies only to debit transactions when the Bit Map Type is not 99.
- The two- to four-character Card Type appears in the 0110 purchase/corporate card, check verification/guarantee authorization responses, 0210/0230 credit, check conversion responses, and 0410 reversal response messages for credit transactions and check conversion reversals. The in-store application and Worldpay (BIN table) control this value.

The third character, when present, indicates the card category, which are as follows:

- L (Business-to-Business settlement match edits eligible card)
- B or O (Business)
- R (Corporate)
- S (Purchase) are the VISA purchase-card categories
- S is the MasterCard purchase-card category.

The fourth character, if present, is the authorization source indicator that Visa returns. You should left justify the code and space fill the remainder of the field.

Table 3-34 lists the valid values for Card Type. It does not list debit and EBT. An example of a network switch value for payment type DB is MAES; an example for payment type EB is EWA1.

TABLE 3-34 Card Types

Card Type (Position 1)	Card Category (Position 3)	Auth Source Code (Position 4)	Description
AE			American Express
CA			Check Authorization, Paper check Verification/Guarantee
CB			Carte Blanche
DC			Diners Club
DS			Discover/Novus
GC			Gift Card
JC			JCB (Japanese Credit Bureau)
MC	S		MasterCard
PO			POSA Prepaid
VI	A, B, C, D, E, F, G, H, I, J, K, L, O, P, Q, R, S, V	As returned by VISA	Visa

TABLE 3-34 Card Types

Card Type (Position 1)	Card Category (Position 3)	Auth Source Code (Position 4)	Description
CT	C, V, G		Check Conversion (C onversion/ V erification/ G uarantee) applicable to VISA POS check

Field: 120.4 Switch Date

This field reflects the date that the switch (network) is operating under.

Type = an; **Length** = 6 (MMDDYY)

Message Type

This field appears in the following message types for debit transactions:

- 0210 financial response
- 0230 financial response
- 0410 reversal response

Field: 120.5 EFT Capture Number

This field contains the sequential reference number issued by Worldpay and applies only to the host capture terminal message set.

Type = an; **Length** = 3

Message Type

This field appears in the following message types:

- 0210 financial response
- 0230 financial response
- 0410 retrieval response

Field: 122.1 Batch Julian Day/Batch Number

This field reflects which batch the operator is receiving totals for. It contains the three-digit Julian date and a three-digit batch number.

Type = n; **Length** = 6

Message Type

This field appears in the 0510 reconciliation control response message when the Bit Map Type is 92.

Field: 122.2 Release Julian Day

This field reflects the Julian date of when the host released the batch for settlement.

Type = n; **Length** = 3

Message Type

This field appears in the 0510 reconciliation control response message when the Bit Map Type is 92.

Field: 122.3 Ending EFT Capture Number

This field reflects the ending sequence number associated with the batch the host is reporting.

Type = n; **Length** = 3

Message Type

This field appears in the 0510 reconciliation control response message when the Bit Map Type is 92.

Field: 122.4 Batch Open Date and Time

This field reflects the day and time that the host opened the batch it is reporting.

Type = n; Length = 10

Format the contents as MMDDYYhhmm, expressing the time in military (24-hour) format.

Message Type

This field appears in the 0510 reconciliation control response message when the Bit Map Type is 92.

Field: 122.5 Batch Close Date and Time

This field reflects the day and time that the host reported the batch closed (released for settlement).

Type = n; **Length** = 10

The contents are formatted as MMDDYYhhmm with the time expressed in military (24-hour clock) format.

Message Type

This field appears in the 0510 reconciliation control response message when the Bit Map Type is 92.

Field: 122.6 Multi-Message Flag

This field signals the terminal that the host has additional information (totals) to transmit. This field appears only when the Bit Map Type is 92. Terminal applications do not currently support this field.

Type = n; **Length** = 1

Message Type

This field appears in the 0510 reconciliation control response message.

Field: 122.7 Supplies-Draft Flag

Use this flag to indicate (Y/N) whether a merchant retains drafts or mails them to the bank for retrieval purposes.

Type = an; **Length** = 1

Message Type

This field is part of the 510 reconciliation response when the Bit Map Type is 92.

Field: 123.1 Error Text

The field indicates an error condition. The error text displays on the POS terminal.

Type = an; **Length** = 20

Message Type

This field must appear in all response messages when the Bit Map Type is 99 (that is, error responses).

Field: 123.2 Response Code

Use this field to further define the cause of a decline or error response. It displays in the scroll area of the terminal.

Type = n; **Length** = 3

Message Type

This field must appear in all response messages when the Bit Map Type is 99 (that is, error responses). In the case of the 0330 file update response (Bit Map Types 81 and 89), both approval and error messages include the response code.

POSA Prepaid Transactions

When the POS device receives error response code values 001 or 795, it should place the transaction on a store-and-forward (SAF) queue for retransmission. SAF request messages must have the POSA-Stand-In indicator ([135 POSA Stand-In indicator](#)) set to **Y** and include the POSA SAF Reference Number ([136 POSA SAF Reference Number](#)) of the original transaction when available.

Field [105.3 \(Visa\)/Banknet Data \(MC\)/POSA SAF Reference Number](#) of the response message provides the POSA SAF Reference Number. You should treat a POS device time-out the same as if you had received a 001 response code, except you should set the POSA SAF Reference Number to spaces. If you use SAF queuing, the POS should use parameters to determine number of retries and retry interval.

Field: 124.1 Working Key

The field contains blanks if the host does not require a key exchange. If the field does not contain blanks, the terminal uses this working key for future debit/EBT transaction processing.

Type = an; **Length** = 16

Message Type

This field appears in all response messages; however, when the message employs DUKPT encryption, the message does not include it.

Field: 124.2 Download Flag

Use this field to notify the merchant that they need to load the terminal with a program and/or parameter change.

Type = n; **Length** = 1

Message Type

This field appears in all terminal response messages.

Values:

The acceptable values are as follows:

- **0** – No download is required
- **1** – Full download is required
- **2** – Partial download is required

Field: 126.1 Merchant Number

This field identifies the merchant.

Type = n; **Length** = 12

Message Type

This field appears in the 0810 network management response to a terminal validation request (Bit Map Type 95).

Field: 126.2 Terminal Number

This field identifies the terminal.

Type = n; **Length** = 3

Message Type

This field appears in the 0810 network management response to a terminal validation request (Bit Map Type 95).

Field: 126.3 Merchant Name

This field contains the name of the merchant.

Type = an; **Length** = 20

Message Type

This field appears in the 0810 network management response to a terminal validation request (Bit Map Type 95).

Field: 127.1 Payment Type/Settlement Institution/Gift Card Transactions

This field indicates what the sales (count, amount) and returns (count, amount) values that follow actually represent.

Type = an; **Length** = 3

Message Type

This field appears in the 0510 reconciliation control response when the Bit Map Type is 92.

Values:

Gift Card Transactions types are:

- ACT (Activation)
- PUR (Purchase)
- REF (Refund)
- REL (Reload)
- UNL (Unload)
- CLO (Close)
- INQ (Balance Inquiry Count)

There is no dollar amount associated with this transaction.

Field: 127.2 Sales Count

This field indicates the total number of sale transactions for the specified payment type/settlement institution. For Gift Card transactions, this field contains the total number of transactions for the specific type.

Type = n; **Length** = 3

Message Type

This field must appear in the 0510 reconciliation response when the Bit Map Type is 92.

Field: 127.3 Sales Amount

This field indicates the total dollar amount of sale transactions for the payment type/settlement institution specified in [127.1 Payment Type/Settlement Institution/Gift Card Transactions](#).

Type = n; Length = 9

Message Type

This field must appear in the 0510 reconciliation response when the Bit Map Type is 92.

Field: 127.4 Returns Count

This field indicates the total number of return transactions for the payment type/settlement institution specified in field [127.1 Payment Type/Settlement Institution/Gift Card Transactions](#).

Type = n; **Length** = 3

For Gift Card transactions, zero fill this field.

Message Type

This field must appear in the 0510 reconciliation response when the Bit Map Type is 92.

Field: 127.5 Returns Amount

This field indicates the total dollar amount of return transactions for the payment type/settlement institution specified in field [127.1 Payment Type/Settlement Institution/Gift Card Transactions](#).

Type = n; **Length** = 9

For Gift Card transactions, zero fill this field.

Message Type

This field must appear in the 0510 reconciliation response when the Bit Map Type is 92.

Field: 128 Additional Amounts

This 20-byte field contains information, up to six amounts and related account data (120 bytes total), for which specific data elements are not defined.

Type = ans; **Length** = 120

Message Type

Use this field is used in 0110, Premier Issue Mass Transaction, EBT responses and in 0210 for EBT and POSA Prepaid and Gift Card responses, where it contains balance information.

Values:

The data-element breakdown, occurring six times, is shown in [Table 3-35](#).

TABLE 3-35 128 Additional Amounts Subfields

Position	Subfield Description	Subfield Values
1-2	Account type	40 – Gift Card 06/96 – Cash benefit 97 - WIC 08/98 – Food stamp
3-4	Amount type	01 – Ending balance 02 – Available balance 03 – Gift Card/WIC Authorized Amount 18 – Beginning balance 40 – Amount, cash 57 – Pre-authorized amount/WIC original amount
5-7	Currency code	840 = US
8-20	Amount (s+n 12)	s = 0 or C for credit, D for debit (from the account perspective).

For example, a \$10.00 ending-balance amount in a food stamp response would appear as follows where the sign bit is in bold text: 0801840**0**0000000001000.

NOTE: Worldpay returns this field initialized to zero for Gift Card Mass Inquiry responses. You can find Gift Card Mass inquiry data in the group data response fields [R002 - Gift Card Mass Transaction \(Greater than 25 Cards\)](#)/[R003 – Gift Card Mass Transaction](#) for approved inquiry transactions.

Field: 129 Auth Timer

NOTE: Worldpay will support this field in the future.

This field is the amount of time in minutes after which the gift card preauthorization will expire if it does not receive the completion message.

Data Type = n; **Length** = 4

Message Type

This field must appear in a gift card preauthorization.

Field: 130 Fleet Customer Data (Fleet Card)

This field represents the customer data that you can use in Fleet transactions. For more information, see [Fleetcor and Fleetone Transactions](#) on page 595 in [Appendix B, "Special Transaction Processing"](#).

Use the value **000** (zeros) in bytes 1 – 3 to indicate no Fleet Customer Data and no other subfield data/values are required.

Data Type = LLLvar...an 999; **Length** = 0 - 999

Bytes 1-3 LLLvar...an 999 (total length of data to follow)

Message Type

This field appears in the 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40).

Subfield 1 Customer Prompted Data

Bytes 4-6 LLLvar...an 252 (Length of subfield 1); 000 (zeros) in bytes 4 – 6 to indicate no Customer Prompted Data

Element Structure, repeating format <CODE><LL><DATA>

Bytes 7-8 CODE (Customer prompt code)

Bytes 9-10 LLvar (Length of data to follow)

Bytes 11+ DATA (Customer prompted data)

There are no embedded spaces for alphanumeric DATA (customer prompted data).

[Table 3-36](#) lists the codes for bytes 7-8 of this field.

TABLE 3-36 Codes (Bytes 7-8)

Code	Name	Attribute	Max Length	Notes
00	User ID	an	8	
01	Vehicle ID/Number	an	6	
02	Vehicle Tag	an	8	
03	Card ID/Driver Number	an	6	
04	Odometer	n	7	Six digit maximum for FleetOne
05	Drivers License Number/WEX Purchase Device Sequence Number	an	12/5	Include the 5 digit PDSN on all Wright Express transactions. For all other fleet card types, you use this field to include up to 12 characters of a driver's license number.
06	Drivers License State/Province Abbreviation	an	2	
07	Drivers License Name	an	20	Use last name followed by first name.

TABLE 3-36 Codes (Bytes 7-8)

Code	Name	Attribute	Max Length	Notes
08	Work Order/P.O. Number	an	15	
09	Invoice Number	an	10	
0A	Trip Number	n	6	
0B	Unit Number	n	6	Driver's assigned unit number
0C	Trailer Hours/Refer Hours	n	8	Formatted in military time as from/to 09001700 (9-5pm)
0D	Date of Birth	n	8	Cardholders date of birth formatted as mmddyyyy
0E	ZIP/Postal Code	an	9	Cardholder's zip code
0F	Data	n	20	May contain any additional numeric Fleet data not defined by the codes
10	Entered Data	an	20	May contain any additional alphanumeric Fleet data not defined by the codes
11	Cash Back Amount	n	9	
12	Job Number	n	6	Driver's assigned job number
13	Maintenance ID	an	10	
14	Department	an	10	
15	VIN (Vehicle ID number)	an	17	
16	Drivers ID Number PIN	n	6	Four digit maximum for Fleet One
17	Prompt Code	an	Variable (maximum length of 51)	Defines the prompt series that follows. Not valid for FleetCor.
18	Pump Number	an	Variable (maximum length of 51)	For FleetCor, the maximum length is 2 bytes.
19	Site Transaction Number	an	Variable (maximum length of 51)	Transaction number per day per merchant location For FleetCor, the maximum length is 4 bytes.

Subfield 2 Service Level

1 byte, an

Table 3-37 lists the codes for the Service Level subfield.

TABLE 3-37 Service Level Subfield Codes

Code	Description	Attribute
0	Self-serve	an
1	Full-serve	an
2	Other or Non-Fuel	an
3	Mini-serve	an
4	Maxi-serve	an
9	Unknown	an

Subfield 3 Restriction Code (Fleet Card)

2 bytes, an, left-justify, blank fill

Subfield 4 Oil Company Name (Fleet Card)

4 bytes, an, left-justify, blank fill

Subfield 2 Service Level Definition

This one-character value indicates the service level at the merchant location. If unknown, use code value 9.

Subfield 3 Restriction Code Definition

This two-character value indicates any restriction on this card.

Subfield 4 Oil Company Name Definition

This four-character value indicates the oil company code.

Field: 131 Fleet Product Data (Fleet Card)

This field represents product data that you can use in Fleet transactions. For more information, see [Fleetcor and Fleetone Transactions](#) on page 595 in [Appendix B, "Special Transaction Processing"](#).

NOTE: Wright Express and Voyager both require the inclusion of product data.

Use the value **000** (zeros) in bytes 1 – 3 to indicate no Fleet Customer Data.

Data Type = LLLvar...an 999; **Length** = 0 - 999

Bytes 1-3 LLLvar...an 999 (total length of data to follow)

Element Structure

Subfields 1 thru 7:

Bytes 4-5 Llvvar...an (Length of subfields 1 thru 7)

Element Structure, repeating format <CODE><LL><DATA>

Bytes 6-7 CODE (Fleet Product Data)

Bytes 8-9 Llvvar (Length of data to follow)

Bytes 10+ DATA (Subfield data 1 thru 7)

[Table 3-38](#) lists the codes for bytes 6-7.

TABLE 3-38 Fleet Production Codes (Bytes 6-7)

Code	Description	Attribute	Length	Format
01	Merchant Discount Amount (Fleet Card) identifies the amount of discount a merchant receives for this transaction type. It appears in the 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40).	n	08	Dollar amount of the transaction (9999999^99), no decimal point, right-justify, and zero fill.
02	Participant Discount Amount (Fleet Card) identifies the amount of discount a participant receives for this transaction type. It appears in the 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40).	n	08	Dollar amount of the transaction (9999999^99), no decimal point, right-justify, and zero fill.

TABLE 3-38 Fleet Production Codes (Bytes 6-7)

Code	Description	Attribute	Length	Format
03	Sales Tax Amount (Fleet Card) identifies the sales tax amount for the Non Fuel Gross products. Use this field for the tax amount for all fleet card types except for Wright Express and Fleetcor. Wright Express and Fleetcor transactions must use the product code values for tax. It appears in the 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40).	n	09	Dollar amount of the transaction (9999999^99), no decimal point, right-justify, and zero fill.
04	Gross Fuel Transaction Amount (Fleet Card) identifies the gross fuel amount. It appears in the 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40).	n	09	Dollar amount of the transaction (9999999^99), no decimal point, right-justify, and zero fill.
05	Gross Non-Fuel Transaction Amount (Fleet Card) identifies the Gross Non Fuel amount for the Non Fuel Gross products. It appears in the 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40).	n	09	Dollar amount of the transaction (9999999^99), no decimal point, right-justify, and zero fill.
06	Net Non-Fuel Transaction Amount (Fleet Card) identifies the Net Non Fuel amount for the Net Non Fuel Gross products. It appears in the 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40).	n	09	Dollar amount of the transaction (9999999^99), no decimal point, right-justify, and zero fill.
07	Product Code Set (Fleet Card) identifies the Fleet product code set used. It appears in the 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40).	an	03	It contains the value 001 to indicate the NACS (National Association of Convenient Stores) product code set.

08 Product Code Information (Fleet Card)

This variable length field contains information to support up to eight product codes and related data. Use it in 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40). It has subfields 8a through 8g.

LLLvar...an 168 (Maximum length of subfield 8)

Use the value **000** (zeros) in the maximum length of subfield 8 to indicate no Fleet Product Code Information.

[Table 3-39](#) lists the subfields for byte 8.

TABLE 3-39 Fleet Production Codes (Byte 8) Subfields

Subfield	Description	Attribute	Length	Format and Values
8a	<p>Number of Product Codes (Fleet Card)</p> <p>This field precedes the product code array and identifies the number of repeating product codes for up to eight products and related data. Use it in 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40). Its individual subfields are 8b through 8g.</p>	n	3	<p>Element Structure, repeating format<DATA></p> <p>DATA (Fleet product code data) subfields 8b thru 8g</p> <p>Valid values are 001 through 008.</p> <p>Right-justify and zero fill the subfield.</p>
8b	<p>Product Code (Fleet Card) identifies the NACS product code associated with this transaction. For the most up-to-date NACS codes, refer to the NACS website. Use it in 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40). Use product codes 950 through 954 to indicate tax for Wright Express and Fleetcor transactions. Do not use these codes for other fleet payment types.</p>	n	3	<p>Right-justify and zero fill the subfield.</p>
8c	<p>Product Type identifies the type of product. It appears in the 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40).</p>	an	1	<ul style="list-style-type: none"> F - Fuel N - Non-fuel

TABLE 3-39 Fleet Production Codes (Byte 8) Subfields

Subfield	Description	Attribute	Length	Format and Values
8d	Amount identifies the total dollar amount of the product. It appears in the 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40).	n	12	<p>Dollar amount of the transaction (9999999999^99), no decimal point, right-justified, and zero filled.</p> <p>Sending a value of all 9s (999999999999) in this field with tax product code mentioned in Subfield 8b description indicates that this is a non-taxable transaction. Sending a value of all 8s (888888888888) in this field with tax product code in Subfield 8b indicates that this is a tax-exempt transaction.</p>
8e	Product Quantity identifies the number of product units sold. It appears in the 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40).	n	8	Three implied decimal places (99999^999), no decimal point, right-justify, and zero fill.
8f	Unit Price identifies the price per unit of the product. It appears in the 0100, 0200, and 0400 requests with Fleet Transactions (Bit Map Type 40).	n	8	Contains the unit price dollar amount. Three implied decimal places,(99999^999), right-justify, and zero fill
8g	Unit of Measure identifies the product's unit of measurement. It appears in the 0100, 0200, and 0220 requests with Fleet Transactions (Bit Map Type 40).	an	1	<ul style="list-style-type: none"> • C - Case or carton • G - Gallons • K - Kilograms • L - Liters • O - Other • P - Pounds • Q - Quarts • U - Units • Z - Ounces

Field: 132 Fleet Additional Response Data (Fleet Card)

This 83-byte field contains information that consists of a length, a preferred product code, and up to 4 message areas. Use it in 0110, 0210, and 0410 responses with Fleet Transactions (Bit Map Type 40).

Field: 132.1 Fleet Additional Data Number of Messages

This two-digit field determines the number of message areas that the response includes. Use it in 0110, 0210, and 0410 requests with Fleet Transactions (Bit Map Type 40).

Field: 132.2 Fleet Preferred Product Code

This three-digit field contains the preferred product code. Use it in 0110, 0210, and 0410 responses with Fleet Transactions (Bit Map Type 40).

Field: 132.3 Fleet Message Area 1

This twenty-digit contains the first line of custom response text. Use it in 0110, 0210, and 0410 responses with Fleet Transactions (Bit Map Type 40).

Field: 132.4 Fleet Message Area 2

This twenty-digit contains the second line of custom response text. Use it in 0110, 0210, and 0410 responses with Fleet Transactions (Bit Map Type 40).

Field: 132.5 Fleet Message Area 3

This twenty-digit contains the third line of custom response text. Use it in 0110, 0210, and 0410 responses with Fleet Transactions (Bit Map Type 40).

Field: 132.6 Fleet Message Area 4

This twenty-digit contains the fourth line of custom response text. Use it in 0110, 0210, and 0410 responses with Fleet Transactions (Bit Map Type 40).

Field: 133 POSA Network ID

This four-byte field defines the POSA network that authorizes the POSA transaction.

This field must appear in all POSA transactions. [Table 3-40](#) lists the POSA networks.

TABLE 3-40 POSA Network IDs

Network ID	Description
GDOT	Green Dot
GDT2	Green Dot (Alternate)
INCM	InComm
NSPD	Netspend
PRES	PreSolutions
SVSG	Stored Value Systems
SWAY	Safeway
VALU	ValueLink

NOTE: Merchants who do not participate in POSA need to fill the POSA Network ID field with 4 spaces. Contact Worldpay, LLC for supported networks.

If the merchant processes POSA cards, but the point-of-sale system is unable to determine the POSA Network, then that merchant can only successfully process for a single POSA network. In this case, you must set up the POSA Network ID field at the point of sale to always indicate the merchant's selected network (for example, SWAY). You should either hard-code the value into the system or set it as a parameter. If the merchant also sells their own gift cards via non-POSA networks, then they must register the BIN range(s) for their gift cards with Worldpay for processing.

Field: 134 POSA UPC Data

This twenty-byte field contains the POSA scanned UPC (bar code data) on the card used to authorize the POSA prepaid transaction.

This field must appear in all POSA prepaid transactions.

Field: 135 POSA Stand-In indicator

Use this one-byte field to indicate a POSA store and forward transaction request due to a merchant stand-in condition. It is applicable to POSA activation and reload SAF transaction requests only. Use a value of **Y** if the POS device out or the host responds with response code 001 or 795, and load the POSA SAF reference number into field 136 of the request message. Field 105.3 of every POSA response message returns the POSA SAF Reference Number and should retain it for use in any SAF retransmission request.

When setting the POSA Stand-In indicator to **N**, you must initialize the POSA SAF reference number to spaces.

This field must appear in any POSA activation or reload SAF requests when the POS device queues the transaction for re-transmission.

Field: 136 POSA SAF Reference Number

This twelve-byte field contains a unique number generated by the host for each POSA prepaid transaction.

The host returns this value on every POSA prepaid transaction that it approves or declines. For more information, see [105.3 \(Visa\)/Banknet Data \(MC\)/POSA SAF Reference Number](#). In a Store-and-Forward scenario, where the POS queues the transaction for re-transmission, this field contains the POSA SAF reference number of the original Activation/Reload transaction in the POSA prepaid request message. If a POSA device time out occurs, no POSA SAF Reference Number is available; thus, set the POSA SAF Reference Number to spaces and the POSA Stand-In Indicator (field 135) to **Y**.

Field: 137 Replacement Amount

In a partial authorization reversal, the Replacement Amount defines the new total amount of the authorization. While the Transaction Amount field must contain the original amount authorized. The host subtracts the Replacement Amount from the Transaction Amount to determine the reversal amount. For timeout reversals and for other cases where you want a full reversal, use zero for the Replacement Amount.

You must make the Replacement Amount less than the Transaction Amount. Currently, only VISA and MasterCard payment types support partial reversals.

Field: 138.1 Check Request Type

This two-character field identifies the type of check request. Currently, only ECHO check transactions support it. This field appears in the 0100 check verification/conversion and 0200 check conversion transactions. [Table 3-41](#) shows the possible field values.

TABLE 3-41 Check Request Type Values

Value	Description
Paper Check Verification	P0 - Paper check, verification, with/without ID P1 - Paper check, verification or ID, No MICR
Paper Check Guarantee	P3 - Paper check, guarantee verification, with/without ID P4 - Paper check, guarantee verification or ID, No MICR
Paper Check Payroll Verification	P5 - Paper check payroll verification, with/without ID
Electronic Conversion with Verification	C0 - Conversion with verification, with/without ID C1 - Conversion with verification override
Electronic Conversion with Guarantee	C2 - Conversion with guarantee with/without ID
Electronic Conversion Only	C3 - Conversion only, with/without ID C4 - Conversion override
Telephone/Mail Order (MOTO) Conversion with Verification ACH Capture	T0 - Telephone/MOTO conversion with verification, with/without ID T1 - Telephone/MOTO conversion with verification authorization override
Telephone/Mail Order (MOTO) Conversion with Guarantee ACH Capture	T2 - Telephone/MOTO conversion with guarantee, with/without ID
Web/e-Commerce Conversion with Verification ACH Capture	W0 - Web/e-Commerce conversion with verification, with/without ID W1 - Web/e-Commerce conversion with verification authorization override
Web/e-Commerce Conversion with Guarantee ACH Capture	W2 - Web/e-Commerce conversion with guarantee and with/without ID

[Table 3-42](#) indicates check request types applicability to request message types.

TABLE 3-42 Check Request Types for Request Messages

Message Type	Check Request Types
0100	P0, P1, P3, P4, P5, T0, T2, W0, W2

TABLE 3-42 Check Request Types for Request Messages

Message Type	Check Request Types
0200	C0, C1, C2, C3, C4, T0, T1, T2, W0, W1, W2

Field: 138.2 Check Service Vendor

This 4-character field indicates the requested check service vendor. Use the value **ECHO**, because Worldpay only supports Electronic Clearing House Incorporated (ECHO) check transactions.

This field is associated with [138.3 Check Service Provider ID](#) on page 329. If both are blank, then the host processor uses the default values in the merchant profile to route and process the transaction.

Field: 138.3 Check Service Provider ID

This 15-character field indicates the requested check service provider ID for processing. For check transactions using the vendor Electronic Clearing House Incorporated (ECHO), it only allows a maximum of ten characters. Use the value **ECHO**, because Worldpay only supports ECHO check transactions.

This field is associated with [138.2 Check Service Vendor](#) on page 328. If both are blank, then the Host processor uses the default values from the merchant profile to route and process the transaction.

Field: 138.4 Identification Type

This two-character field describes the ID type followed by ID entry that [138.5 Identification Data](#) on page 331 contains. Currently, Worldpay only supports ECHO check transaction processing. This field appears in the 0100 check verification/guarantee, 0200 check conversion and 0400 check conversion reversal (void) transactions. [Table 3-43](#) shows the possible values for this field.

TABLE 3-43 Identification Type Values

ID Type	Description
0	Unknown
1	U.S. Driver's License
¹ 2	Canadian Driver's License
¹ 3	Mexican Driver's License
4	State ID Card
¹ 5	Canadian ID
¹ 6	Mexican ID
7	Military ID
¹ 8	Law Enforcement
9	U.S. Government ID (Social Security Number)
¹ A	Passport
B	Alien Registration Card
¹ C	Immigration Card
S	Swiped
M	Manual

¹ The host processor does not currently support this ID type value.

Field: 138.5 Identification Data

Use the Identification Data field for swiped or manually entered transactions that require identification data. Currently, Worldpay only supports ECHO check transaction processing.

This field appears in the 0100 check verification/guarantee, 0200 check conversion and 0400 check conversion reversal (void) transactions. This 37-character field contains the identification data associated with [138.4 Identification Type](#) on page 330.

If the field contains a manually entered driver's license number, you must make all alpha characters uppercase. If the field contains a swiped driver's license number, you must make it Track II format and exclude the beginning sentinels, the end sentinels, and the LRC characters.

The host processor does not alter all other identification types that are passed for authorization. [Table 3-44](#) shows the formats for the Identification Data types.

TABLE 3-44 Identification Data Type Formats

Type	Format
Manually Entered Driver's License	DL# Data: [2-char State Code][Drivers License Number]
Track II Swiped Driver's License	6360231818453871=100519810507

Field: 138.6 MICR Data

This 63-character field contains the primary account number used to authorize a check transaction. Currently, Worldpay only supports ECHO check transaction processing, which is applicable to both manually entered and check reader devices. This field appears in the 0100 check verification/guarantee, 0200 check conversion and 0400 check conversion reversal (void) transactions. You must submit MICR data processed by a check reader device in TOAD format and TAC format for manually entered. [Table 3-45](#) shows the formats for the MICR Data types.

TABLE 3-45 MICR Data Type Formats

Type	Format
TAC	T[Transit Routing Number (9 byte)]A[Account Number]C[Check Number][space-fill up to 63 bytes]
TOAD	T[Transit Routing Number (9 byte)]T[Account Number]O[Check Number][space-fill up to 63 bytes]

Field: 138.7 Full Name

This 35-character field contains the full name of the account holder. Currently, Worldpay only supports ECHO check transaction processing. ECHO requires the full name for all ECHO check request transactions when origination is from a Web/e-Commerce and Mail order/telephone (MOTO) environments.

Field: 139 Token Original Transaction Date

This field contains the POS date of the original tokenized or de-tokenized transaction. Use this optional field for tokenization or de-tokenization conversion requests. If you want a historical Token ID, use the token original transaction date in conjunction with the token original transaction time. Typically, you use this when the host rotates the merchant's token key. The merchant and Worldpay coordinate the rotation of token keys. Its format is CCYYMMDD. When unknown, use all 9s in this field.

Field: 140 Token Original Transaction Time

This field contains the POS time of the original tokenized or de-tokenized transaction. Use this optional field for tokenization conversion or de-tokenization conversion requests. If you want a historical Token ID, use the token original transaction time in conjunction with the token original transaction time. Typically, you use this when the host rotates the merchant's token key. The merchant and Worldpay coordinate the rotation of token keys. If the token original transaction time is unknown, use all 9s in this field.

The six-digit field is in HHMMSS format, expressed in 24-hour (military) notation. For example, 134602 represents 1:46:02 P.M.

Group Data

With the introduction of Group Data, the layout of all existing request and response messages are frozen. These are now referred to as Base Request/Response Messages. The new Group Data fields provide the means for adding additional fields to these base messages and Group Data enables logical grouping of similar data and facilitates expansion of existing request and response messages.

Group Data adheres to the following general rules:

- The host considers Group Data optional data.
- You can use Group Data in conjunction with other Group Data.
- Group Data are not order dependent.
- Group Data can consist of one or more fields.
- All request messages begin with a G. (Descriptions begin [on page 339](#).)
- All response messages begin with an R. (Descriptions begin [on page 472](#).)

Worldpay reserves [R999 – Error Group Data Response](#) for any errors that may occur during acquirer host processing of Request Group Data fields.

For a request message, the Group Data contains a leading fixed alphabetic character G followed by a unique three-digit number for request messages (for example, G004). For a response message, the Group Data contains a leading fixed alphabetic character R followed by a unique three-digit number for response messages (for example, R008).

Group separators occur at the end of every Group Data appearance. The group separator value is Hex 1D.

Field separators delimit variable length fields within a group unless the field is the only or last in a group, then a group separator appears. Field separators also delimit fixed, variable fields, or both within a field definition. The field separator value is Hex 1C.

When you want group data in request messages or when the host determines that group data is applicable in a response message, record separators appear. Only one record separator exists in request messages, response messages or both. It immediately follows the base message prior to any group data. The record separator value is Hex 1E.

Optional Group Data appears at the end of a request message. In the following example, the Group Data is G001 and G004, where <gs> is the group separator, and <rs> is the record separator:

```
|<rs>G00112345678901T1234567890UNIQUE<gs>|G00400112345678<gs>|
```

Examples may also include the following:

- * - Represents a space
- <fs> - Represents a field separator
- <gs> - Represents a field separator
- <rs> - Represents a record separator
- | - This character represents a separator for illustrative purposes. You should not include it in any messages.

4.1 Request Groups

This section defines the following groups available to use in request messages:

- G001 – Merchant Reference Data
- G002 – eCommerce Verified by Visa
- G003 – eCommerce MasterCard SecureCode
- G004 – Discretionary Data
- G005 – Gift Card Mass Transaction
- G006 – Gift Card Mass Transaction Reversals
- G007 – Visa Card-Level Results
- G008 – POS Data Code
- G009 – Optional Processing Indicators
- G010 – AMEX Additional Charges
- G011 – AMEX CID Data for Swiped Transactions
- G012 – AMEX Transaction Identifier/Discover Network Reference ID/Visa Transaction Identifier
- G013 – Original Authorization Amount
- G014 – Original Authorization Retrieval Reference Number
- G015 - Additional Amounts Request
- G016 – Digital Identification Data
- G017 – Discover/Carte Blanche/Diners Club International/Japanese Credit Bureau/China Union Pay POS Data Code
- G018 – Gift Card CVV2 & Security Code
- G019 – Visa Special Program Data
- G020 – VISA Contactless payWave
- G021 – Fee Data
- G022 – Transaction Specific Indicators
- G023 – Restaurant Tip Amount
- G024 – Amex Telephone Number/E-mail Address Verification Data
- G025 – Reserved
- G026 – POS Encrypted Data
- G027 – Encrypted Track
- G028 –Token Utilization
- G029 – EBT WIC Merchant ID
- G030 – EBT WIC Pass-thru Data Field #1
- G030 - Benefit Card Services UPC/PLU Pass-Thru Data (Usage 2)
- G031 – EBT WIC Pass-thru Data Field #2
- G031 - Benefit Card Services UPC/PLU Pass-Thru Data #2 (Usage 2)
- G032 – EBT WIC Pass-thru Data Field #3

- G032 – Benefit Card Services UPC/PLU Pass-Thru Data #3 (Usage 2)
- G033 – DCC Request Data
- G034 – POS Identification Data
- G035 – EMV Tag Data
- G036 – Credit Card PIN Data
- G037 – Card Network Tokenization Data
- G038 – Customer Discretionary Data
- G039 – MasterCard Wallet Identifier
- G040 – Encrypted CVV2 / Expiration Date
- G041 – Discover D-PAS In-App Cardholder Authentication Data
- G042 – Merchant Soft Descriptors
- G043 – Level 3 Descriptors
- G044 – Mastercard Remote Mobile Payment Type
- G045 – Synchrony Promo Request
- G046 – Reversal/Advice Reason Code
- G047 – Transaction Qualifier
- G048 – Additional Request Data
- G049 – Ecommerce Discover Fraud Enhancement Data
- G050 – Multi-Clearing Information
- G051 – Cardholder Funds Transfer Data
- G052 – eCommerce Discretionary Data
- G054 – MAC Encryption Key Data Request
- G055 – Message Authentication Data
- G056 - Enhanced Check Authorization Request Data
- G057 - Customer Bill-To Address
- G058 – Customer Ship-To Address
- G059 – Customer Order Information
- G060 – Customer Internet Connection Information
- G061 – FIS Loyalty Data
- G062 – Amex Seller ID
- G063 – Merchant Fraud Customer Name
- G064 – Valutec Data
- G065 – Mastercard DSRP Cryptogram
- G066 – Remote Commerce Acceptor Identifier
- G070 – AliPay Request Data
- G087 - Transaction Identifier
- G088 - Worldpay IP PreFrontEnd Only Special Processing Data
- G090 – Amazon Pay Request Data

- [G091 – Benefit Card Services UPC/PLU Pass-Thru Data #4](#)

4.1.1 G001 – Merchant Reference Data

This occurs in settlement to uniquely identify a merchant's transaction. It can occur in any 0100, 0200, or 0220 authorization request transaction. The POS device assigns it to each transaction. It is a 17-character maximum alphanumeric field.

The Draft Locator Id field is a unique value that identifies a merchant's transaction. The POS device assigns it to each transaction. Its data populates into eComm IQ for the merchant to reference.

The Merchant Reference Number data does not populate into eComm IQ; it returns to the POS.

TABLE 4-1 G001 - Merchant Reference Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Draft Locator Id	ans	1 - 11	11	
02	Merchant Reference Number	ans	12 - 28	1 - 17	Variable 17 maximum

Example

Following is an example of group field G001:

```
|G00112345678901T1234567890UNIQUE<gs>|
```

4.1.2 G002 – eCommerce Verified by Visa

This is for eCommerce websites that support Verified by VISA (VBV) Internet payer authentication transactions. It can occur in any eCommerce VISA credit 0100, 0200, or 0220 authorization request transaction when you want VISA VBV authentication. All other authorization requests ignore it. You cannot use this group in conjunction with [G003 – eCommerce MasterCard SecureCode](#) or [G041 – Discover D-PAS In-App Cardholder Authentication Data](#).

Field 01 and 02 support Visa issuers' Authentication Control System (ACS) protocol 1.0.2. Each field is a 40-character ASCII representation of a 20-byte numeric binary field.

When present, the host includes the data in the authorization request message to VISA. The response to the POS device includes an Electronic Commerce Indicator field that indicates the result of authentication. See [R001 – e/m Commerce Authentication Result](#) on page 472 for applicable return values and details.

TABLE 4-2 G002 - eCommerce Verified by Visa

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Transaction ID / XID	an	1 - 40	40	The Transaction ID/XID is optional. Visa must certify issuers to use this field. The field should contain spaces when not in use.
02	TransStain/CAVV data	an	41 - 80	40	This is a multi-use field for Visa Secure Electronic Commerce (VSEC) transactions. It contains encrypted data for verification purposes depending on the Visa service involved.
03	Electronic Commerce Indicator	an	81 - 81	1	5, 6, 7, or 8 For more information, see Position 4 in 25 Point-of-Service Condition Code on page 214. The merchant authentication request to the cardholder's issuer generates the Electronic Commerce Indicator (ECI) value.

Example

The following is an example of group field G002:

```
|G002*****0000002A5A029647FBF201D649BAC000000000005<
gs>|
```

4.1.3 G003 – eCommerce MasterCard SecureCode

This is for eCommerce websites that support MasterCard SecureCode. It can appear in any eCommerce MasterCard credit 0100, 0200, or 0220 authorization request transaction when you want a MasterCard SecureCode. When present, the host includes the data in the authorization request message to MasterCard. All other authorization transaction requests ignore it.

You cannot use this group in conjunction with [G002 – eCommerce Verified by Visa](#) or [G041 – Discover D-PAS In-App Cardholder Authentication Data](#).

TABLE 4-3 G003 - eCommerce MasterCard SecureCode

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	UCAF Collection Indicator	an	1 - 1	1	<p>Valid values are:</p> <ul style="list-style-type: none"> • 0 - UCAF data collection is not supported by the merchant • 1 - UCAF data collection is supported and UCAF data is present with unauthenticated data • 2 - UCAF data collection is supported and UCAF data is present with authenticated data <p>If the UCAF accountholder authentication value (AVV) is present, then you must make the UCAF collection indicator 2.</p>
02	UCAF Accountholder Authentication Value (AVV)	an	2 - 33	1 - 32	<p>The value, Base64 encoded, is variable in length up to 32 characters depending on the authentication Secure Payment Application (SPA) algorithm or service that you use. The value defaults to spaces.</p> <p>Note: The field uses the AVV value when the UCAF collection indicator has a value of 1 or 2.</p>

Example

The following is an example of group field G003:

```
|G0032Hyn+7Yfi1EUAREAAAAvNUe6Hv8<gs>|
```


4.1.4 G004 – Discretionary Data

This supplements the transaction with additional data. If you do not want to use a field, fill it with blanks. Blank fields are ignored.

TABLE 4-4 G004 - Discretionary Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Lane number	n	1 - 3	3	000 - 999
02	Cashier number	n	4 - 11	8	00000000 - 999999999
03	Merchant Category Code	n	12 - 15	4	0000 - 9999

Example

The following is an example of group field G004:

```
|G00400112345678<gs>|
|G004001123456785411<gs>|
|G004*****5411<gs>|
```

4.1.5 G005 – Gift Card Mass Transaction

Use this with Premier Issue Gift Card request messages to allow the processing of multiple gift card transactions in a single request. The presence of the G005 group data indicates a Gift Card Mass Transaction request.

In a range of cards to process, the G005 group data contains the POS entry mode and track data of the last card number in that range. The beginning card number (bit number 45) and the dollar amount (bit number 4) for all transactions are in the base messages. The dollar amount for all transactions is the same.

Field 01, Track POS Entry Mode, indicates the format of data in Field 02. For more information, see [22 Point-of-Service Entry Mode](#) on page 212.

Field 02, Track Data Last Card Range, contains up to 76 alphanumeric or special characters of data read from track 1 or track 2 of the magnetic stripe on the card, excluding the beginning and end sentinels and the LRC character. Right-justify and space fill the data. For more information, see [45 Track Data](#) on page 222).

Gift Card Activations, Reloads, Closes, Balance Inquiry and Unloads can all use G005 and also the reversals for these transactions. The current limit is 9,999 cards in a single gift card mass transaction; however, the recommended limit is 5,000 cards.

When void requests messages are constructed, they must contain both Group data G005 and G006.

TABLE 4-5 G005 - Gift Card Mass Transaction

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Track POS entry mode	n	1 - 2	2	See valid values in bit 22, positions 1 - 2.
02	Track data last card range	ans	3 - 78	Up to 76	Variable (76 maximum) See valid format structures in bit 45.

Example

The following is an example of group field G005:

```
|G00502*****5896290000000016=06121011234567890123<gs>
|
```

4.1.6 G006 – Gift Card Mass Transaction Reversals

This is for use with Premier Issue Gift Card Mass Transaction reversal request messages. It contains the fields required from the original transaction to process a Gift Card Mass Transaction reversal. When void requests messages are constructed, they must contain both Group data G005 and G006.

TABLE 4-6 G006 - Gift Card Mass Transaction Reversals

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Processing Code	n	1 - 6	6	This field must contain a valid value. Voidable Gift Card Mass processing codes are 71000 (Activation), 740000 (Reload), 750000 (Unload) and 760000 (Close).
02	Point-of-Service Condition Code	n	7 - 16	10	Provide field 02's value from the original transaction; if not available, then default to zeros.
03	Local Transaction Date	n	17 - 22	6	MMDDYY
04	Local Transaction Time	n	23 - 28	6	hhmmss

Example

The following is an example of group field G006:

```
|G006770000000000000000050306142223<gs>|
```

4.1.7 G007 – Visa Card-Level Results

VISA Product Eligibility Inquiry requests require this. Its presence indicates that the terminal can receive the Visa Card-level results in the response ([R006 – Card-Level Results](#) on page 482).

TABLE 4-7 G007 - Visa Card-Level Results

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes

Example

The following is an example of group field G007:

|G007<gs>|

4.1.8 G008 – POS Data Code

This is a series of values that identify terminal capability, terminal environment, and point-of-interaction security data. The values differ by card type. It indicates specific conditions that were present at the time a transaction occurred.

AMEX specifications call for the POS Data Code from the authorization to match the one used for settlement. When processing Auth-only followed by Force Post, the POS Data Codes must match.

TABLE 4-8 G008 - POS Data Code

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	POS Data Code	ans	1 - 12	12	

For MasterCard chip transactions, use the combination of values in [Table 4-9](#) for subfields 8 and 9 in [Table 4-10](#) to specify the Cardholder Verification Method (CVM).

TABLE 4-9 Subfield 8 and 9 Values for CVM

CVM	Subfield 8	Subfield 9
Offline PIN	1	1
Online PIN	1	3
Signature	5	4
No CVM	0	0

TABLE 4-10 G008 Subfields for Mastercard

Subfield	Description	Values	
1	Terminal data: Card Data Input Capability	<ul style="list-style-type: none"> 0 – Unknown; data not available 1 – Manual; no terminal 2 – Magnetic stripe reader capability 4 – Optical reader capability (OCR) 5 – Integrated Circuit card capability (ICC) 6 – Key entry only capability A – PAN auto entry via contact less magnetic stripe 	<ul style="list-style-type: none"> B – Magnetic stripe reader and key entry capability C – Magnetic stripe reader, ICC, and key entry capability D – Magnetic stripe reader and ICC capability E – ICC and key entry capability M – PAN auto-entry via contactless M/Chip V – Other capability

TABLE 4-10 G008 Subfields for Mastercard

Subfield	Description	Values	
2	Terminal data: Cardholder Authentication Capability	<ul style="list-style-type: none"> 0 – No electronic authentication capability 1 – PIN entry capability 2 – Electronic signature analysis capability 	<ul style="list-style-type: none"> 5 – Electronic authentication capability is inoperative 6 – Other 9 – Unknown; data unavailable
3	Terminal Data: Card Capture Capability Value Description	<ul style="list-style-type: none"> 0 – No capture capability 1 – Card capture capability 9 – Unknown; data unavailable 	
4	Terminal Operating Environment	<ul style="list-style-type: none"> 0 – No terminal used 1 – On card acceptor premises; attended terminal 2 – On card acceptor premises; unattended terminal 3 – Off card acceptor premises; attended 	<ul style="list-style-type: none"> 4 – Off card acceptor premises; unattended 5 – On cardholder premises; unattended 6 – Off cardholder premises; unattended 9 – Unknown; data unavailable
5	Cardholder Present Data	<ul style="list-style-type: none"> 0 – Cardholder present 1 – Cardholder not present (unspecified) 2 – Cardholder not present (mail/facsimile transaction) 3 – Cardholder not present (phone order or from automated response unit [ARU]) 	<ul style="list-style-type: none"> 4 – Cardholder not present (standing order/recurring transactions) 5 – Cardholder not present (electronic order using PC, Internet, mobile phone, or PDA) 9 – Unknown; data unavailable
6	Card Present Data	<ul style="list-style-type: none"> 0 – Card not present 1 – Card present 9 – Unknown, data unavailable 	
7	Card Data: Input Mode	<ul style="list-style-type: none"> 0 – Unspecified; data unavailable 1 – Manual input; no terminal 2 – Magnetic stripe reader input 6 – Key entered input A – PAN auto-entry via contactless magnetic stripe B – Magnetic stripe reader input; track data captured and passed unaltered 	<ul style="list-style-type: none"> C – Online Chip F – Offline Chip M – PAN auto-entry via contactless M/Chip S – Electronic commerce, no security, channel-encrypted T – Electronic commerce (accepts it for life cycle transaction only)
8	Cardholder Authentication Method (See Table Table 4-9.)	<ul style="list-style-type: none"> 0 – Not authenticated 1 – PIN 2 – Electronic signature analysis 5 – Manual signature verification 	<ul style="list-style-type: none"> 6 – Other manual verification (such as a driver's license number) 9 – Unknown; data unavailable S – Other systematic verification

TABLE 4-10 G008 Subfields for Mastercard

Subfield	Description	Values	
9	Cardholder Authentication Entity (See Table 4-9.)	<ul style="list-style-type: none"> 0 – Not authenticated 1 – ICC Offline PIN 2 – Card acceptance device (CAD) 3 – Authorizing agent. Online PIN 	<ul style="list-style-type: none"> 4 – Merchant/card acceptor signature 5 – Other 9 – Unknown; data unavailable
10	Card Data Output Capability	<ul style="list-style-type: none"> 0 – Unknown; data unavailable 1 – None 2 – Magnetic stripe write 3 – ICC S – Other 	
11	Terminal Data Output Capability	<ul style="list-style-type: none"> 0 – Unknown; data unavailable 1 – None 2 – Printing capability only 3 – Display capability only 4 – Printing and display capability 	
12	PIN Capture Capability	<ul style="list-style-type: none"> – No PIN capture capability 1 – Unknown; data unavailable 2 – Reserved 3 – Reserved 4 – PIN capture capability 4 characters maximum 5 – PIN capture capability 5 characters maximum 6 – PIN capture capability 6 characters maximum 	<ul style="list-style-type: none"> 07 – PIN capture capability 7 characters maximum 8 – PIN capture capability 8 characters maximum 9 – PIN capture capability 9 characters maximum A – PIN capture capability 10 characters maximum B – PIN capture capability 11 characters maximum C – PIN capture capability 12 characters maximum

TABLE 4-11 G008 Subfields for AMEX

Subfield	Description	Values	
1	Terminal data: Card Data Input Capability	<ul style="list-style-type: none"> 0 – Unknown; data not available 1 – Manual; no terminal 2 – Magnetic stripe reader capability 3 – Bar Code 	<ul style="list-style-type: none"> 5 – Integrated Circuit card capability (ICC) 6 – Key entry only capability X – Magnetic stripe signature

TABLE 4-11 G008 Subfields for AMEX

Subfield	Description	Values	
2	Terminal data0: Cardholder Authentication Capability	<ul style="list-style-type: none"> 0 – No electronic authentication capability or Unknown 1 – PIN 2 – Electronic Signature Analysis 	<ul style="list-style-type: none"> 3 – Biometrics 4 – Biographic 6 – Other
3	Terminal Data: Card Capture Capability Value Description	<ul style="list-style-type: none"> 0 – No capture capability or Unknown 1 – Card capture capability 	
4	Terminal Operating Environment	<ul style="list-style-type: none"> 0 – No terminal used or unknown 1 – On card acceptor premises; attended terminal 2 – On card acceptor premises; unattended terminal 3 – Off card acceptor premises; attended 	<ul style="list-style-type: none"> 4 – Off card acceptor premises; unattended 5 – On cardholder premises; unattended 9 – Unknown; data unavailable S – Electronic delivery of product T – Physical delivery of product
5	Cardholder Present Data	<ul style="list-style-type: none"> 0 – Cardholder present 1 – Cardholder not present (unspecified) 2 – Cardholder not present (mail/facsimile transaction) 3 – Cardholder not present (phone order or from automated response unit [ARU]) 	<ul style="list-style-type: none"> 4 – Cardmember not present, standing authorization — Use this for situations where Cardmember billing information is on record (card on file); however, the billing frequency and amount are variable (for example, travel, car rental, lodging, “preferred clubs”, “frequent customer”, and so on.) 9 – Cardmember not present, recurrent billing — Use this for regular recurring transactions, such as a periodic billings (for example, membership dues, subscribed services, insurance premiums, wireless services, newspaper and other regularly scheduled charges). The recurring billing amount can vary. S – Cardmember not present, electronic transaction (for example, Internet)

TABLE 4-11 G008 Subfields for AMEX

Subfield	Description	Values	
6	Card Present Data	<ul style="list-style-type: none"> 0 – Card not present 1 – Card present W – Transponder (RFID token) — For transactions initiated by an electronic, radio-frequency device (transponder or RFID, e.g., Speedpass), Field 22 Position 6 Code W may be used alone, or in conjunction with Field 62 transponder security/ID (code AXTN). Alternately, a transponder security/ID code may be entered in Field 62 without code W in Field 22 Position 6. Ideally, both items are transmitted. For more details, see page 89. Verifying if express pay applicable. 	<ul style="list-style-type: none"> X- Contactless transactions, including American Express Expresspay. For more information, see the <i>American Express Global Credit Authorization Guide</i>. Z - Digital wallet - application initiated (including application initiated Payment Token) transactions
7	Card Data: Input Mode	<ul style="list-style-type: none"> 0 – Unspecified; data unavailable 1 – Manual input; no terminal 2 – Magnetic stripe reader input 3 – Bar Code 5 – ICC EMV chip card transaction with track 2 	<ul style="list-style-type: none"> 6 – Key entered input 9 – Technical Fallback (initiated as ICC but completed with other non-chip-card technology, such as magnetic stripe) S – Manually entered or keyed transaction with keyed CID W – Swiped transaction with keyed CID
8	Cardholder Authentication Method	<ul style="list-style-type: none"> 0 – Not authenticated, Unknown 1 – PIN 2 – Electronic signature Analysis 3 – Biometrics 	<ul style="list-style-type: none"> 4 – Biographic 5 – Manual signature verification 6 – Other manual verification S – Electronic Ticket Environment
9	Cardholder Authentication Entity	<ul style="list-style-type: none"> 0 – Not authenticated 1 – Integrated Circuit Card (ICC) 2 – Card acceptance device (CAD) 	<ul style="list-style-type: none"> 3 – Authorized Agent (Identified in authorizing agent institution identification code) 4 – By Merchant 5 – Other
10	Card Data Output Capability	<ul style="list-style-type: none"> 0 – Unknown; data unavailable 1 – None 3 – ICC (Integrated Circuit Card) 	
11	Terminal Data Output Capability	<ul style="list-style-type: none"> 0 – Unknown; data unavailable 1 – None 2 – Printing capability only 	<ul style="list-style-type: none"> 3 – Display capability only 4 – Printing and display capability

TABLE 4-11 G008 Subfields for AMEX

Subfield	Description	Values	
12	PIN Capture Capability	<ul style="list-style-type: none"> • 0 – No PIN capture capability • 1 – Unknown; data unavailable • 4 – Four characters • 5 – Five characters • 6 – Six characters 	<ul style="list-style-type: none"> • 7 – Seven characters • 8 – Eight characters • 9 – Nine characters • A – Ten characters • B – Eleven characters • C – Twelve characters

Example

The following is an example of group field G008:

```
|G008000000000000<gs>|
```

4.1.9 G009 – Optional Processing Indicators

This is a series of codes that identify terminal capability and environment. All fields must use one of the valid values specified; Worldpay interprets invalid values as 0 or N respectively.

If the request message sends Groups G009 and G017, the Partial Approval Indicator (subfield 02) in [G017 – Discover/Carte Blanche/Diners Club International/Japanese Credit Bureau/China Union Pay POS Data Code](#) overrides the Discover Partial Approval Indicator (field 02) in [G009 – Optional Processing Indicators](#). In the future, Worldpay may add additional flags to expand host support.

Terminal applications that support partial approvals (subfields 01, 02, 03, and 13) and balance inquiries must be able to receive and interpret Group R007 additional amounts. For more information, see [Partial Approval](#) on page 592.

For more information about special processing, see [Appendix B, "Special Transaction Processing"](#).

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
01	Visa/MasterCard Partial Approval Indicator	an	1-1	1	<p>Applies to Visa and MasterCard credit card transactions.</p> <p>Valid values are:</p> <ul style="list-style-type: none"> • 0 - Partial approval is not supported. • 1 - Partial approvals supported • 2 - Estimated authorization • 3 - Estimated authorization and partial authorization eligible • 4 - Partial approvals are supported for US and foreign amounts <p>Any other values are interpreted as zero.</p>	Y

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
02	Discover Partial Approval Indicator	an	2-2	1	<p>Applies to Discover credit card transactions only.</p> <ul style="list-style-type: none"> • 0 - Partial Approval Not Supported • 1 - Partial Approval Supported (Discover can partially approve Merchandise and Cash Over.) • 2 - Partial Approval Supported (Discover can partially approve Merchandise. Discover must full approve or decline Cash Over.) • 3 - Partial Approval Supported (Discover must fully approve or decline Merchandise. Discover can partially approve Cash Over.) • 4 - Partial Approval Supported (Discover must fully approve or decline Merchandise and Cash Over.) <p>Discover interprets any other values as zero.</p>	Y
03	AMEX Partial Approval Indicator	an	3-3	1	<p>This field only applies to AMEX credit card transactions.</p> <ul style="list-style-type: none"> • 0 – partial approval is not supported • 1 – partial approvals supported • 2 – no partial approval but return available balance in response <p>Interprets any other values as zero.</p>	Y

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
04	Capable of accepting return AMEX TID flag	an	4-4	1	<ul style="list-style-type: none"> N – Not supported by the front-end device Y – Indicates that the terminal application can accept the Amex Transaction Identifier in response messages in response group R009. Interprets any other values as No.	Y
05	Balance Inquiry accepting capable	an	5-5	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Indicates that the terminal application can accept response group R007 - Additional Amounts for balance inquiry transactions. Interprets any other values as No.	Y
06	Return Authorization Retrieval Reference Number	an	6-6	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Indicates that the response should include response group R008. Terminal applications should begin requesting this with all authorizations to meet upcoming network requirements. Interprets any other values as N.	Y
07	Application capable of receiving Group R010 - Text Message Currently only supported for Sale transactions by the MasterCard Rewards Program and ECHO check transactions	an	7-7	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Front-end capable of receiving response group R010 Interprets any other values as N.	Y

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
08	Application requests Group R011 - Signature Capture Data generated by the host in a response	an	8-8	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Front-end capable of receiving response group R011 Interprets any other values as N.	N
09	Capable of accepting return Discover Network Reference ID flag	an	9-9	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Indicates that the terminal application can accept the Discover Network Reference ID in response messages in response group R009. Interprets any other values as N.	N
10	Capable of accepting return Market Specific Data field	an	10-10	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Indicates that the terminal application can accept the Market Specific Data field in response messages in response group R012. Interprets any other values as N.	N
11	Gift Card PIDN (Premier Issue Dual Number) Capability flag Currently used for Worldpay Premiere Issue GC transactions only. Ignored on POSA Gift Card or Mass Gift Card transactions.	an	11-11	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Front-end capable of receiving converted gift card account number in response group R013. Interprets any other values as N.	N

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
12	Host Capture Adjustment Capability Flag	an	12-12	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Front-end capable of generating adjustment transactions <p>Any other values are interpreted as N.</p> <p>Setting this flag to Y turns off the auto-close feature on the host. Only set this flag to Y on terminal applications that intend to enable adjustment transactions; otherwise, set the value to N. You must set the flag when you open the batch.</p>	N
13	Partial Approval Indicator	an	13-13	1	<ul style="list-style-type: none"> 0 – Partial approval is not supported. 1 – Partial approvals are supported. <p>Interprets any other values as 0.</p> <p>Note: This is the overall indicator for any products that do not have assigned indicators like AMEX and Discover.</p>	N
14	Capable of receiving the Discover Network Response Codes	an	14-14	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Front-end capable of receiving the Discover Network Response Codes <p>Interprets any other values as N.</p>	N

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
15	Capable of receiving extended host error response details in response group R998	an	15-15	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Front-end is capable of receiving extended host error response details. <p>Any other values are interpreted as N.</p> <p>When set to Y and the host detects a transaction processing error, the host response message returns group response data R998 – Detail Extended Host Error Description. This provides additional details to the POS regarding host error. The Host ignores Y when it is not applicable to request message types.</p>	N
16	Request response group R018 for batch release or batch inquiry totals	an	16-16	1	<ul style="list-style-type: none"> N – Do not send R018. Y – Send R018. <p>Interprets any other values as N.</p>	N
17	Capable of accepting MasterCard DE 48, subelement 33 (PAN Mapping File Information) and provides the mapping between the virtual account data and actual account data	an	17-17	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Indicates that the terminal application can accept response group R024 - MasterCard PAN Mapping File Information. <p>Interprets any other values as N.</p>	N
18	Capable of accepting MasterCard DE 48, subelement 33 (PAN Mapping File Information) and provides the mapping between the virtual account data and actual account data	an	18-18	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Indicates that the terminal application can accept response group R025 - MasterCard Additional Processing Information for Chip Transactions. <p>Interprets any other values as N.</p>	N

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
19	Capable of accepting Visa field 62.25 (Spend Qualified Indicator) and indicates if the account has met its spend qualification threshold	an	19-19	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Indicates that the terminal application can accept response group R026 - Visa Spend Qualified Indicator. Interprets any other values as N.	N
20	Pinless Debit Indicator	an	20-20	1	<ul style="list-style-type: none"> N – Not supported by front-end device Y – Indicates that the terminal application supports Pinless Debit Ind Flag. Interprets any other values as N.	N
21	Capable of accepting Payment Account Data response R031.	an	21-21	1	<ul style="list-style-type: none"> N - Not supported by front-end device Y - Indicates that the terminal application can accept response group R031 - Payment Account Data. Interprets any other values as N.	N
22	Card not Present (CNP) Type Indicator	an	22-22	1	<ul style="list-style-type: none"> 0 - Card Present transaction 1 - Internet or E-Commerce CNP transaction 2 - Mail Order/Telephone Order (MOTO) CNP or Retail Key Entered CNP transaction Interprets any other values as zero.	N

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
23	Return E-Commerce Indicator and UCAF Indicator	an	23-23	1	<ul style="list-style-type: none"> N - Do not return E-commerce indicator. Y - Return the E-Commerce Indicator only. Deprecated in favor of the value U. Interprets any other values as N. U - Returns the E-Commerce Indicator and UCAF Indicator in response group R030. Worldpay returns the UCAF Indicator only for Mastercard transactions. 	N
24	Request Token Data Indicator	an	24-24	1	<ul style="list-style-type: none"> 1 - Returns token data set 1, which includes the Token Requestor ID, Token Assurance Level, Token Expiration Date, and the last 4 digits of the PAN. It returns in R032 - Returned Token Data. 0 - No token data returns in R032 - Returned Token Data. 	N
25	Visa Checkout Indicator	an	25-25	1	<ul style="list-style-type: none"> Y- Visa Checkout Transaction N - Not a Visa Checkout Transaction <p>Interprets any other values as N.</p>	N
26	Return TransactionID	an	26 - 26	1	<p>For use by Worldpay IP only.</p> <ul style="list-style-type: none"> N - Not supported by the front-end device Y - Indicates that the response should include response group R087. <p>Interprets any other values as N.</p>	N

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
27	POS Environment Indicator	an	27-27	1	<ul style="list-style-type: none"> C – Credential on File transaction for Visa F – Final Authorization transaction for Mastercard H- Partial Shipment (multi-shipment processing) J- Reauthorization of multi-shipment P – Not a Final Authorization transaction for Mastercard R – Recurring transaction for Visa I – Installment transaction for Visa Interprets any other values as N.	N
28	Digital Secure Remote Payment Indicator	an	28-28	1	<ul style="list-style-type: none"> N - Not a Digital Remote Secure Payment transaction Y - Transaction is a Digital Remote Secure Payment 	N
29	Request Network Retrieval Reference Number	an	29-29	1	<ul style="list-style-type: none"> N - Do not return the Network Retrieval Reference Number. Y - Return the Network Retrieval Reference Number in Field NR of R030 – Additional Response Data. Worldpay interprets any other values as N.	N
30	Capable of accepting Transaction Integrity Class (Mastercard) Response R033	an	30-30	1	<ul style="list-style-type: none"> N - Not supported by the front-end device Y - Indicates that the terminal application can accept response group R033 - Transaction Integrity Class (Mastercard) Interprets any other values as N.	N

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
31	Real Time Account Updater Request	an	31-31	1	Valid values are: <ul style="list-style-type: none"> N - Not supported by device Y - Can accept R057 and is requesting an updated PAN/Expiration Date for a Card On File transaction 	N
32	Credit Surcharge Request	an	32-32	1	Valid values are: <ul style="list-style-type: none"> N - Not supported by device Y - Merchant is set up for Credit Surcharging and is requesting it be calculated if it applies to the card type 	N
33	Account Updater Token Request	an	33-33	1	Valid values are: <ul style="list-style-type: none"> N - Do not tokenize PAN. Y - Tokenize PAN and receive it in R057. 	N
34	Merchant Fraud Data Request Indicator	an	34-34	1	Valid values are: <ul style="list-style-type: none"> N - Do not send back data. Y - Send back FraudSight in R071. 	
35	Transaction Eligible for Pinless Conversion Indicator	an	35-35	1	<ul style="list-style-type: none"> Y – Proceed with pinless conversion processing N – Opt out of Pinless Conversion <p>The field interprets any other values as Y.</p>	

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
36	POS Operating Environment Indicator	an	36-36	1	<ul style="list-style-type: none"> • 0 - No terminal used • 1 - On premises of card acceptor, attended • 2 - On premises of card acceptor, unattended • 3 - Off premises of card acceptor, attended • 4 - Off premises of card acceptor, unattended • 5 - On premises of cardholder, unattended <p>Note: Currently, this is ignored for non-WIC transactions.</p>	
37	Additional Response Data	an	37-37	1	<p>Valid values are:</p> <ul style="list-style-type: none"> • Y – Worldpay responds with additional reject and response data from the network in R072. • N – Worldpay does not respond with any data. 	
38	Benefit Card Services Transaction Request	an	38-38	1	<p>Valid values are:</p> <ul style="list-style-type: none"> • N – Not a Benefit Card Services transaction • Y – Designates transaction as Benefit Card Services <p>The field interprets any other value as N.</p>	
39	WEX Response Items Requested	an	39-39	1	<p>Valid values are:</p> <ul style="list-style-type: none"> • R - WEX Restrictions Requested • H - WEX Host-Based Prompts Requested • B - Both Restrictions and HBP Requested • N - No additional WEX support requested 	
40	Request Raw Network Data	an	40-40	1	<p>Valid values are:</p> <ul style="list-style-type: none"> • Y - Send back data in R075 if available. • N - Do not return data. 	

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
41	This is the conversion request from the credit card request to the pre-authorization debit, which will use EMD as settlement for the completions.	an	41-41	1	A value of Y lets credit card pre-authorizations convert to debit pre-authorizations and send back a checkpoint key in R037 for EMD settlement.	
42	Flag indicating the acquirer supports receiving the Mastercard 3-D Secure original authorization data in the reply for settlement purposes	an	42-42	1	A value of Y will attempt to send reply group R030 tag SL (Security Level) Indicator) and/or reply group R030 tag AA (UCAF/AAV data) in the reply.	
43	Flag indicating the acquirer supports receiving the Merchant Advice Codes (MACs) (DE 48, SE 84) data in the reply for settlement purposes	an	43-43	1	A value of Y will attempt to send reply group R030 tag AC (Merchant Advice Code) Indicator in the reply.	
44	Debit Optimization Request Flag	an	44	1	Valid values are: <ul style="list-style-type: none"> Y - Debit Optimization requested if applicable N - Debit Optimization not requested 	
45	Flag indicating the acquirer supports receiving the network terminal entry capability	an	45-45	1	A value of Y will prompt Worldpay to return the network terminal entry capability code in reply group R030, tag NC if available.	
46	Flag indicating the acquirer supports receiving the first position of the track's service code.	an	46-46	1	A value of Y will prompt Worldpay to return the first position of the track service code in reply group R030, tag SC if available.	

TABLE 4-12 G009 - Optional Processing Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
47	Return PAN Reference Id	an	47-47	1	A value of Y will prompt Worldpay to return to return the PAN Reference Id in response group R031 - Payment Account Data. Tag 02, if available.	
48	Reserved for future	an	48	1		
49	Flag indicating the customer would like to receive all available data associated with the Worldpay embedded or intelligent scheme token management service (TMS) if applicable.	an	49	1	Valid Values: <ul style="list-style-type: none"> Y - Return data in Response Group R030 N - Do not return data 	

Example

The following is an example of group field G009:

```
|G009000NNNNYNNNN0YYNNNNNN0N0NNNNNNNN|<gs>
```

4.1.10 G010 – AMEX Additional Charges

This contains up to five sets of amount fields that a terminal can send up. The host ignores any invalid data.

TABLE 4-13 G010 - AMEX Additional Charges

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	
01	Additional Charge Type	an	1-3	3	Lodging 019 Bar 023 Bar/Mini-Bar 028 Barber/Beauty Salon 017 Beverage 036 Business Center 022 Catering Charges 037 Convention Fees 016 Food 018 Food/Beverage 030 Gift Shop 029 Health & Fitness 025 Internet Service 052 Insurance Purchased	027 Laundry/Dry-Cleaning 020 Lodging 026 Movies/Pay-Per-View 024 Phone 031 Pro Shop 021 Restaurant/Room Service 047 Reward Program Transaction 058 Tip/Gratuitty 034 Tours

TABLE 4-13 G010 - AMEX Additional Charges

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	
					Auto 062 – Additional Miles / Kilometers / Distance 060 – Auto Rental Adjustment 065 – Cancellation Adjustment 041 – Charges Added After Check-Out / Departure 050 – Convenience Charge 051 – Delivery Charge 053 – Discount 035 – Equipment Rental 040 – Express Service Charge 055 – Freight/Shipping/Handling	061 – Fuel Charge 063 – Late Return 038 – Meeting/Conference Charges 042 – Misc. Charges/Fees 039 – No Show Charge 049 – Order Processing Charge 033 – Pet Fees 032 – Parking Fee 066 – Policy Adjustment 064 – Repairs 048 – Surcharge 054 – Tickets/Violations
					Taxes 015 – Airport Tax 001 – Goods & Services Tax (GST) 046 – Miscellaneous Tax	013 – Room Tax 056 – Sales Tax 067 – Stamp Duty 057 – Value Added Tax (VAT)
02	Additional Charge Sign	an	4	1	C – Positive Amount D - Negative Amount	
03	Additional Charge	n	5-13	9	The last two positions are the cents. For example, 000012345 is interpreted as \$123.45.	

Example

The following is an example of group field G010:

|G010023D000001500028D000001200<gs>|

NOTE: American Express determines these values.

4.1.11 G011 – AMEX CID Data for Swiped Transactions

Worldpay ignores this for transactions other than AMEX Swiped. It indicates whether the terminal will provide the CVV2/CID data and if it does, what the value is. The host ignores any invalid data.

TABLE 4-14 G011 - AMEX CID Data for Swiped Transactions

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	CID presence indicator	an	1	1	<ul style="list-style-type: none">1 – CID-PROVIDED2 – CID-ILLEGIBLE9 – CID-NOT-IMPRINTED
02	CID value	an	2 - 5	4	CID value is used only when the CID presence indicator equals 1.

Example

The following is an example of group field G011:

```
|G01116955<gs>|
```

4.1.12 G012 – AMEX Transaction Identifier/Discover Network Reference ID/Visa Transaction Identifier

This contains the AMEX TID/Discover Network Reference ID. Terminals that perform authorization-only transactions use it followed by Force Post. You cannot use it with authorizations. The host ignores any invalid data.

You can also use this field to send the Visa Transaction ID on subsequent occurrences of a recurring or installment payment transaction.

TABLE 4-15 G012 - AMEX Transaction ID/Discover Network Reference ID/Visa Transaction ID

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	AMEX Transaction Identifier / Discover Network Reference Identifier / Visa Transaction Identifier	n	1-15	15	

Example

The following is an example of group field G012:

```
|G012123456789012345<gs>|
```

4.1.13 G013 – Original Authorization Amount

Use this in conjunction with a Prior Authorization message to reflect cases where the settlement amount is different than the amount originally authorized. This field contains the originally authorized amount. The last two positions contain the cents, and it implies the decimal point. The host ignores any invalid data.

TABLE 4-16 G013 - Original Authorization Amount

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Original Authorization Amount	n	1-9	9	

Example

The following is an example of group field G013:

|G013123456789<gs>|

4.1.14 G014 – Original Authorization Retrieval Reference Number

This provides a way to send an original authorization retrieval reference number. It enables the host to retrieve the original authorization information, if still available, to supplement settlement data.

Use this field for the following:

- 0220 Force Post messages
- Incremental authorizations
- Full and partial reversals
- ECC sale acknowledgment

Use [G009 – Optional Processing Indicators](#) position 6 to request that the host return a transaction's RRN in [R008 – Original Authorization Retrieval Reference Number](#).

TABLE 4-17 G014 - Original Authorization Retrieval Reference Number

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Original Retrieval Reference Number	n	1-9	9	

Example

The following is an example of group field G014:

```
|G014123456789<gs>|
```

4.1.15 G015 - Additional Amounts Request

This is a mandatory group data field for IIAS and incremental authorization processing to the Worldpay host. (See [Incremental Authorization](#) on page 596.) The presence of this group is optional in an EBT WIC authorization request transaction. For more information about special processing, see [Appendix B, "Special Transaction Processing"](#).

This field can contain up to six amount sets (20 to 120 bytes) at any time.

NOTE: For Benefit Card Services transactions, G015 can contain up to 12 amount types and be 240 bytes long. For more information, see [Appendix C, "Benefit Card Services Processing"](#).

TABLE 4-18 G015 - Additional Amounts Request

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Account Type	an	1-2	2	<ul style="list-style-type: none"> • 00 – IIAS (Default) • 10 - Savings Account • 20 - Checking Account • 30 - Credit Card • 40 - Universal Account • 64 - Spending Power • 97 – EBT WIC Account

TABLE 4-18 G015 - Additional Amounts Request

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
02	Amount Type	an	3 - 4	2	<ul style="list-style-type: none"> • 4S – Total Amount Healthcare • 4U – Amount prescription/Rx • 4V – Amount vision/optical • 4W – Amount clinic/other qualified medical • 4X – Amount dental • 5A - Benefit Card Services OTC Requested Amount • 5B - Benefit Card Services OTC Approved Amount • 5C - Filters Spend OTC Balance Amount (for future use) • 5D - Benefit Card Services Food Requested Amount • 5E - Benefit Card Services Food Approved Amount • 5F - Benefit Card Services Food Balance Amount (for future use) • 5G - Benefit Card Services Program Discount Amount (for future use) • 5I - Benefit Card Services Other Amount • 43 - Incremental Authorization Cumulative Amount • 52 – EBT WIC Coupon/Discount Amount • 70 - Money Order Amount • GR – Gift Card (Reloadable) • GN – Gift Card (Non-reloadable) <p>You must include the Amount Type 4S for IIAS transaction requests. The sum of the additional amount type fields must not exceed the total healthcare amount (4S). Any amount type can only appear once.</p> <p>For EBT WIC transaction requests, an EBT WIC authorization request transaction can only contain a single amount type 52.</p>
03	Currency code	an	5 - 7	3	840 = US
04	Amount (s+n 12)	n	8 - 20	13	<p>C – Positive amount</p> <p>D - Negative amount</p>

Example

The following is an example of group field G015 showing a \$45.00 Total Healthcare Amount (4S) and a \$30.00 Amount prescription/Rx amount (4U):

```
|G015004S840C0000000004500004U840C0000000003000<gs>|
```

The following is an example of group field G015 showing a \$15.00 EBT WIC Coupon/Discount Amount (52):

```
|G0159752840C0000000001500<gs>|
```

4.1.16 G016 – Digital Identification Data

This is optional. It currently supports the VISA Digital Identification transaction in the message set. VISA Digital Identification transactions send both encoded magnetic data tracks in the request message, making it unique. If used, it requires all three data fields in the request. There are no default values.

TABLE 4-19 G016 - Digital Identification Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Track I or Track II indicator	n	1-1	1	<p>1 - Track I</p> <p>2 - Track 2</p> <p>If field 45 contains Track I data, this value is 2 and Field 02 should contain Track II data. You must give Field 22 with a value of 81.</p> <p>If field 45 contains Track II data, this value is 1 and Field 02 should contain Track I data. You must give Field 22 a value of 02.</p> <p>The host processor does not alter the host processor.</p>
02	Track Data	ans	2-77	76	<p>This field contains up to 76 alphanumeric or special characters of data read from track 1 or track 2 of the magnetic stripe on the card, excluding the beginning and end sentinels and the LRC character. Right-justify and space fill the field.</p> <p>Depending on the value in Field 01, Track I data must not exceed 76 bytes and Track II data must not exceed 37 bytes.</p> <p>This field depends on the value in Field 01. The length must not exceed the maximum number of bytes allowed for Track I or Track II.</p>
03	Digital Identification Data	an	78 - 185	108	<p>Hex representation of the Digital Identification data</p> <p>This data comes from the POS device that contains the Digital Identification read from the magnetic stripe of the card.</p>

Example

The following is an example of group field G016 Track II data:

```
|G0162*****1234567890123456=070700010  
2030405060708090A0B0C0D0E0F101112131415161718191A1B1C1D1E1F202122232425262728292A2B2C2D  
2E2F303132333435<gs>|
```

4.1.17 G017 – Discover/Carte Blanche/Diners Club International/Japanese Credit Bureau/China Union Pay POS Data Code

This indicates the specific card information capture conditions present at the time a card transaction took place at the point of service (POS).

If the request message sends [G009 – Optional Processing Indicators](#) and G017, the Partial Approval Indicator in G017 overrides the Partial Approval Indicator in G009.

TABLE 4-20 G017 - Original Authorization Retrieval Reference Number

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Discover/Carte Blanche/Diners Club International/Japanese Credit Bureau/China Union Pay POS Data Code	ans	1 - 13	13	

TABLE 4-21 G017 Subfields

Subfield	Description	Values	
1	POS Device Attendance Indicator: Indicates the merchant is attending the POS.	0 – Attended POS Device 1 – Unattended POS Device 2 – No POS Device used 9 – Unknown	
2	Partial Approval Indicator: Indicates if the merchant supports partial approvals.	0 – Partial approval not supported 1 – Partial Approval Supported: Merchants can partially approve Merchandise and Cash Over. 2 – Partial Approval Supported: Merchants can partially approve Merchandise. Merchants must fully approve or decline Cash Over.	3 – Partial Approval Supported: Merchants must fully approve or decline Merchandise. Merchants can partially approve Cash Over. 4 – Partial Approval Supported: Merchants must fully approve or decline Merchandise. Merchants must fully approve or decline Cash Over.
3	POS Device Location Indicator: Indicates the POS Device location.	0 – On premises of Merchant facility 1 – Off premises of Merchant facility (Merchant POS Device-remote location)	2 – On premises of Cardholder (home PC) 3 – No POS Device used (voice/ARU Authorizations) 9 – Unknown

TABLE 4-21 G017 Subfields

Subfield	Description	Values	
4	POS Cardholder Presence Indicator: Indicates whether or not the Cardholder is present at the point of service.	0 – Cardholder present 1 – Cardholder not present, unspecified 2 – Cardholder not present, mail/facsimile order 3 – Cardholder not present, telephone/ARU Order	4 – Cardholder not present, standing order/recurring transactions (Automatic Payments) 5 – Electronic Order (Internet) 9 – Unknown
5	POS Card Presence Indicator: Indicates if the card was present at the POS.	0 – Card present 1 – Card not present 9 – Unknown	
6	POS Card Capabilities Indicator: Indicates if the POS has card capture capabilities.	0 – POS device/operator has no Card capture capabilities 1 – POS device/operator has Card capture capabilities 9 – Unknown	
7	POS Transaction Status Indicator: Indicates purpose or status of the Request.	0 – Normal Request (original presentment) 4 – Preauthorized Request	
8	POS Transaction Security Indicator: Indicates the Card Acceptor's assessment of the Card presenter.	0 – No security concern 1 – Suspected fraud (Merchant suspicious) 2 – ID verified 3 – Cardholder verified by Biometrics 9 – Unknown	
9	POS E-commerce Indicator	0 - Unknown/Unspecified 1 - Transaction is not an e-commerce transaction 4 - In-App Authentication 5 - Card Transaction is a secure e-commerce transaction (Cardholder authenticated using ProtectBuy)	6 - Merchant attempted to authenticate the Cardholder information using ProtectBuy, but was not able to complete authentication, because the Cardholder or the Issuer does not participate in ProtectBuy 7 - E-commerce Card Transaction with data protection but not using ProtectBuy for Cardholder authentication
10	Reserved	Zero-filled.	

TABLE 4-21 G017 Subfields

Subfield	Description	Values
11	<p>POS Device Card Data Input Capability Indicator: Indicates the capabilities of the POS Device used by the Merchant for capturing Card data.</p> <p>This subfield overwrites the value sent on bit 45.2 and uses the value from G017.11 when it sends the transaction.</p>	<p>0 – Unspecified</p> <p>1 – No POS Device used (voice/ARU Authorization)</p> <p>2 – Magnetic stripe reader</p> <p>3 – Bar Code</p> <p>4 – Optical Character Recognition</p> <p>5 – Integrated Circuit Card Reader</p> <p>6 – Key Entry Only (manual)</p> <p>7 – Keyed and Magnetic Stripe</p> <p>C – Radio Frequency Identification (RFID) Chip</p> <p>H – Hybrid - Integrated Circuit Card Reader & Contactless capabilities</p> <p>R – Radio Frequency Identification (RFID) Magnetic Stripe</p> <p>S – Secure Electronic Transaction (SET) with certification</p> <p>T – SET without certificate</p> <p>U – Channel-encrypted Electronic Commerce Transaction (TLS)</p> <p>V – Non-secure Electronic Commerce Transaction</p>
12	Reserved	Zero fill.
13	Reserved	Zero-fill.

Example

The following is an example of group field G017:

```
|G0179099990900000<gs>|
```

4.1.18 G018 – Gift Card CVV2 & Security Code

This is optional. It authenticates the card used in the transaction. Similar to the CVV2, Worldpay denies the transaction for an invalid value. Additionally, Worldpay places a lock on the card after three failed Security Code attempts. Worldpay removes the lock for a successful transaction where the security code is not present and is not required. If the code is present, whether it is required or not, Worldpay validates it.

While setting up a new gift card program, the issuer must specify the security code length (4 - 12 digits) and conditions that require the security code. For example, an issuer may require the code on all eCommerce activations and Purchases, while designating it as optional on all others. A relationship manager can give further clarification.

You can optionally include either the CVV2, Security Code, or both in any gift card transaction request message.

You must always have the CVV2 fields present, even if spaces. All values pass through to the authorization end point for approval or decline.

TABLE 4-22 G018 - Gift Card CVV2 & Security Code

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	CVV2 indicator	an	1	1	<ul style="list-style-type: none"> 0 – Bypassed or Not Provided 1 – Value Present 2 – Value Illegible 9 – Value Not On Card
02	CVV2 value	an	2 - 5	4	If the CVV2 Indicator value is invalid, then Worldpay ignores all CVV2 data.
03	Security Code	an	6 - 17	4-12	Security code digits are optional.

Examples

The following is an example of group field G018 showing a 6-digit Security Code present but no CVV2 data supplied:

```
|G0180****333333<gs>|
```

The following is an example of group field G018 showing CVV2 and a 4-digit Security Code present:

```
|G018122223333<gs>|
```

The following is an example of group field G018 showing CVV2 and 6-digit Security Code present:

```
|G01812222333333<gs>|
```

The following is an example of group field G018 showing a 3-digit CVV2 and 12-digit Security Code present:

```
|G0181222 333333333333<gs>|
```

The following is an example of group field G018 showing a CVV2 present but no Security Code supplied:

```
|G01812222****<gs>|
```

4.1.19 G019 – Visa Special Program Data

This is required for VISA FluCare prepaid card sale transactions and must adhere to the following:

- The program identifier must contain a valid value.
- The program data must not exceed the maximum length of 502 characters.
- The minimum group data length is 2 characters.

The host processor does not alter the data and passes it through to VisaNet in the authorization request.

Visa FluCare private label prepaid card sale/authorization requests use a value of A for the Program Identifier, which indicates the merchant participates in the Citi FluCare program. The Program Data is the FluCare SKU Vaccine ID value assigned to a merchant, which has a maximum length of 12 characters.

TABLE 4-23 G019 – Visa Special Program Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Program Identifier	an	1 - 1	1	A – Visa FluCare program B – Z Reserved 0 – 9 Reserved
02	Program Data	ans	2 - 503	1 - 502	Variable 502 maximum

Example

The following is an example of group field G019:

```
|G019A123456789012<gs>|
```


4.1.20 G020 – VISA Contactless payWave

Use this in an authorization for a VISA contactless transaction. It can appear in any VISA contactless 0100 or 0200 credit card authorization request transaction; the host declines any other message types. There are no default host values. The data is unaltered by the host processor. Worldpay may add additional fields in the future to support VISA contactless transactions.

TABLE 4-24 G020 VISA Contactless payWave

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01 Required	Application Cryptogram - Contains the authorization request cryptogram (ARQC), transaction certificate (TC), or an application authentication cryptogram (AAC) generated by the card at the point of service.	an	1-16	16 ASCII hex values)	Must provide all 16 bytes
02 Required	Unpredictable Number - Contains the number used in the generation of the cryptogram for VSDC full transactions and contactless magnetic stripe transactions. It provides variability and uniqueness to the cryptogram.	an	17-24	8 ASCII hex values)	Must provide all 8 bytes
03 Required	Issuer Application Data (IAD) - Indicates if the chip or only the VISA discretionary portion of the IAD provides all of the issuer application data. The chip contains the issuer application data and transferred to the point of service device for processing.	an	25-88	64 ASCII hex values)	If data is less than maximum length, fill it with spaces
04 Required	Cryptogram Amount - Contains the transaction amount the chip uses when calculating the cryptogram.	n	89 - 100	12 ASCII values)	Must provide all 12 bytes
05 Required	Application Transaction Counter - Contains a count of the transactions performed within the card application. The count is incremented by one each time a transaction is initiated.	an	101 - 104	4 ASCII hex values)	Must provide all 4 bytes
06 Optional	Customer Exclusive Data - Contains confidential information the issuer placed on the chip required for authorization.	an	105 - 168	64 (ASCII hex values)	If the data is not available, fill it with spaces.
07 Optional	Form Factor Indicator - Contains additional capabilities of the card. Supports full size and mini-card.	an	169 - 176	8 ASCII hex values)	Must provide all 8 bytes
08 Options	Card Sequence Number - Contains the value assigned to the card by the issuer.	n	177 - 179	3 ASCII values)	Must provide all 3 bytes

Example

The following is an example of group field G020:

```
|G0204142434445464748303132343031323334353637383940414243444546474849505152535455565758  
595A4000000000350038383031323334353637383940414243444546474849505152535455565758595A404  
1304231001<gs>|
```

4.1.21 G021 – Fee Data

This sends convenience or surcharge fee data. Recurring payments or cash advance cannot use these transactions. Refer to card association regulations for details regarding fee usage.

Use the same Draft Locator Number (G001) for both transactions of a two-step convenience fee pair; however, there are no edits or original transaction look-ups for validation.

For credit card or debit card surcharge (Fee Type 4), put the fee in the Fee Amount field and also include it with the transaction amount.

You can send convenience fees in a single transaction or in two transactions. You must send VISA CPS/Debit tax fees using one of the following transaction methods:

- Single Convenience Fee Transaction (Fee Type 1)
Put the fee in the Fee Amount field of this group and also include it with the Transaction Amount.
- Two-Step Convenience Fee Transaction (Fee Types 2 and 3)
 - The first transaction must have a Fee Type of 2 and a Fee Amount of 0.
 - The second transaction must have Fee Type of 3 and both the Transaction Amount and Fee Amount must contain the convenience fee.
 - VISA limits the convenience fee amount for CPS/Debit Tax fee payment transactions. Worldpay recommends that you verify the fee limits and other terms during the merchant registration process.

TABLE 4-25 G021 - Fee Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Fee Type	an	1 – 1	1	<ul style="list-style-type: none"> • 1 – Single transaction with convenience fee • 2 – First transaction of two-step convenience fee • 3 – Second transaction of two-step convenience fee • 4 – Credit card or debit surcharge
02	Fee Amount	n	2 – 8	7	9999999 (2 digits decimal point implied) If the Fee Type is 1, the Fee Amount must be greater than zero and less than the transaction amount. For Fee Type 2, the Fee Amount must equal zero. For Fee Type 3, the Fee Amount must be greater than zero and equal to the transaction amount.

Example

The following is an example of group field G021:

|G02111234567<gs>|

4.1.22 G022 – Transaction Specific Indicators

This is a series of codes that identify a specific transaction type to the host processor. For more information about special processing, see [Appendix B, "Special Transaction Processing"](#).

TABLE 4-26 G022 - Transaction Specific Indicators

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Transaction Specific Indicator	an	1 - 1	1	<ul style="list-style-type: none"> A – VISA Aggregate transaction. B – VISA debt repayment transaction. C – MasterCard recurring test transaction. D – WIC Stand-Alone Balance Inquiry W - WEX Host Based Prompt 2nd Pass <p>Values 0 – 9, E – Z are reserved for future use</p> <p>For Field 01, Visa Aggregate transactions must meet the following criteria:</p> <ul style="list-style-type: none"> Include G009 and field 01 with VI/MC partial approval indicator set to 1 Configure terminal as ECOM Must have 0100 message type <p>For Field 01, MasterCard Test transactions must meet the following criteria:</p> <ul style="list-style-type: none"> Recurring or installment payment (POS condition code position 7) Must have 0100 message type Field 01 must include one of the following values: A, B, C or D. Worldpay ignores any other values. <p>In the future, Worldpay may add additional fields, indicators, or both to expand host support.</p>

Example

The following is an example of group field G022:

```
|G022B<gs>|
```

4.1.23 G023 – Restaurant Tip Amount

Use this in conjunction with a sale or adjustment message to log the tip amount received. The cents portion is the last two positions and the decimal point is implied. If the merchant is not configured on the host as Restaurant industry, Worldpay ignores this group.

For more information about special processing, see [Host Capture Adjustment Transactions](#) on page 598.

TABLE 4-27 G023 - Restaurant Tip Amount

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Tip Amount	n	1-9	9	Invalid data results in a declined transaction.

Example

The following is an example of group field G023:

```
|G023000000700<gs>|
```

4.1.24 G024 – Amex Telephone Number/E-mail Address Verification Data

Use this for authorizations only. It requires the Telephone Number or E-mail Address field. It uses the E-mail Address only for transactions where the cardholder is not present. Inappropriate use of this field (for example, transactions where the cardholder is present) may cause message rejection.

TABLE 4-28 G024 - Amex Telephone Number/E-mail Address Verification Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Telephone Number	an	1-10	10	Billing Telephone Number Left justify and character space fill alphanumeric phone numbers less than 10 digits. If only the telephone number is present, the length of the email address should equal zero followed by < gs>.
02	E-mail address length	n	11-12	2	This is the length of Field 03. Right-justify this with leading zeros. The Telephone Number must contain zeros if only the e-mail address is present.
03	E-mail address	an	13-72	0-60	E-mail address Field 3 – Alphanumeric and extra characters.

Example

The following is an example of group field G024:

```
|G024727298123423John.Smith@wherever.net<gs>|
```

4.1.25 G025 – Reserved

Reserved for Worldpay use.

4.1.26 G026 – POS Encrypted Data

This performs end-to-end-encryption (E2EE). The [R017 – End-To-End Encryption \(E2EE\) Response](#) response group supplies the requested response fields. The track data field of the base request message contains the encrypted track data or pseudo-track data. See [End-To-End Encryption \(E2EE\)](#) on page 602 section for more information.

For DUKPT usage, when field 1 POS Encryption Format is D, then field 3 Encrypted Data Format must be T, and you must use the subfield format shown in [Table 4-30](#) for field 10 Key Data.

For P2PE (Point-to-Point Encryption) usage, authorization requests must include G026. To meet requirements for PCI Point to Point Encryption validation, Worldpay also requires that you populate [G034 – POS Identification Data](#) with specific values. In Field 7 (Terminal/POS Device Make/Model Name) provide the same description and version as the PCI PTS listing description (for example, X10 v1.10). In Field 10 (Serial Number), populate it with the Verifone nine-digit serial number with delimiters (for example, xxx-xxx-xxx).

TABLE 4-29 G026 - POS Encrypted Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	POS Encryption Format	an	1	1	V – Voltage S – Semtek/VeriFone D –DUKPT L – Semtek/VeriFone Level4 O – OnGuard (IBM 610 Only) P - Onguard SDE E - Encryption Format Code for ADE Invalid values result in a decline.
02	Requested Response	an	2	1	C – Clear account number M – Masked account number L – Truncated, last 4 digits of account number O – Truncated, last 4 digits of account number and masked account number Invalid values result in a decline.

TABLE 4-29 G026 - POS Encrypted Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
03	Encrypted Track Data Format	an	3	1	<p>T – Swiped or manually entered pseudo track data field fully encrypted (required when DUKPT)</p> <p>E – Manually entered account number encrypted and then used to build pseudo track data (expiration date not encrypted)</p> <p>P – Encrypted PAN use only with void request where the encrypted primary account number is provided in the base void request (0400) message.</p> <p>Invalid values result in a decline.</p>
04	Reserved	an	4	1	For future expansion, spaces
05	Reserved	an	5	1	For future expansion, spaces
06	Reserved	an	6	1	For future expansion, spaces
07	Reserved	an	7	1	For future expansion, spaces
08	Reserved	an	8	1	For future expansion, spaces
09	Reserved	an	9	1	For future expansion, spaces

TABLE 4-29 G026 - POS Encrypted Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
10	Key Data and Encrypted Track/PAN Data (See DUKPT Usage below.)	an	10 - 1008	1 - 999	<p>Valid values depend on the Encryption Format:</p> <ul style="list-style-type: none"> Encryption Format V - You must convert the key data corresponding to the key used for encryption to hexadecimal representation (uppercase) before inclusion in this group. Binary data will result in unpredictable unstring of the message. Encryption Format S - Populate the key data with the raw eParms value. Encryption Format D - Populate the key data with the Encrypted Track Data in Base64-encoded format. Populate the Track Data field in the base message with spaces. Encryption Format L - Terminal Serial Number followed by "::-:" and raw eParms value. eParms value is optional. Terminal Serial number is limited to a maximum of 22 bytes, not including "::-:". Encryption Format O - Hexadecimal representation (upper-case) of the KSN data used for P2P encryption. Populate the key data with the Terminal Serial Number followed by delimiter "::-:" and raw eParms value. Always delimit the Terminal Serial Number with "::-:". The eParms value is optional. Encryption Format E - Populate the key data with the Encrypted Track Data in Base64-encoded format. Populate the Track Data field in the base message with spaces. See the description of Subfield 3 in Table 4-30.

TABLE 4-30 Subfield Format for Field 10 Key Data

Subfield Number	Name	Data Type	Position	Length	Valid Value/Notes
01	Key Serial Number Length	n	1	2	Must reflect the length of the Key Serial Number data that follows
02	Key Serial Number	an	3	variable	This is the Key Serial Number in Base64-encoded format.

TABLE 4-30 Subfield Format for Field 10 Key Data

Subfield Number	Name	Data Type	Position	Length	Valid Value/Notes
03	Encrypted Track Data	an	variable	variable	<p>This is the Encrypted Track Data in Base64-encoded format. It requires no length, because this is the end of the group data and terminates with a group separator character.</p> <p>This subfield includes one of the following:</p> <ul style="list-style-type: none"> • Magnetic Swipe Card Data • EMV Card Data • Manually Keyed Card Data <p>(Note: The format of the data represents the value before encryption; after encryption, it becomes a string of binary data.)</p>

NOTE: When using DUKPT E2EE, timeout reversals require G026. It does not use G027.

Example: Encryption Format V (Track 2), and Last 4 Digital of PAN

The following is an example of group field G026 that shows a request using Encryption Format V, indicates encrypted track 2, and requests truncated last 4 digits of account number in response:

```
|G026VLT*****ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF123  
4567890ABCDEF1234567890ABCD40EF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF12345678  
90ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDE  
F1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF123456  
7890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890<q>s|
```

Example: Encryption Format S (Track 2), eParms, and Clear Account Number Request

The following is an example of group field G026 that shows a request using Encryption Format S, indicates encrypted track 2 and includes eParms and requests clear account number in the response:

|G026SCT*****01010027250280350201150b00-000-00018026f380206<q>|

Example: Encryption Format L (Track 2), Terminal Serial Number, eParms, and Clear Account Request

The following is an example of group field G026 that shows a request using Encryption Format L, indicates encrypted track 2 and includes 22 digit terminal serial number, ePArms, and requests clear account number in response:

```
|G026LCT*****1234567890123456789012::01010027250280350201150b00-000-00018026f380206<gs>|
```

Example: Encryption Format L (Track 2), Terminal Serial Number, and Clear Account Request

The following is an example of group field G026 that shows a request using Encryption Format L, indicates encrypted track 2, includes a 12 digit terminal serial number, but no eParms data, and requests clear account number in response:

```
|G026LCT*****123456789012::<gs>|
```

Example: Encryption Format O (Track 2), and Request Truncated Last Four Digits of Pan

The following is an example of group field G026 that shows a request using Encryption Format O, indicates encrypted track 2, and requests truncated last 4 digits of account number in response:

```
|G026OLT***** FF0102010103028147020007DF04104D247C3317686F7374<gs>|
```

Example: Magnetic Swipe Card Data (Field 10, Subfield 3)

The following example depicts a scenario where Worldpay interprets Subfield 3 as a Magnetic Swipe Card Data transaction based on the value within Field [22 Point-of-Service Entry Mode](#). Field 22 has the following values that indicate Magnetic Swipe Card Data:

- Magnetic - Track 2 = 02
- Magnetic - Track 1 = 81

Encrypted swiped track data in Subfield 3 must include the following: a start sentinel, Track Data, an end sentinel, and LRC.

```
;4445222299990007=49121010000001230?L
```

Example: EMV Card Data (Field 10, Subfield 3)

The following example depicts a scenario where Worldpay interprets Subfield 3 as an EMV transaction based on the value within Field [22 Point-of-Service Entry Mode](#). Field 22 has the following values to specify an EMV transaction:

- Integrated circuit card read = 05
- Integrated circuit card via proximity = 81

The encrypted EMV track data in Subfield 3 must include DF9033 followed only by track data with no sentinels or LRC.

```
DF9033114445222299990007D49122010000001230
```

Example: Manual Keyed Card Data (Field 10, Subfield 3)

The following example depicts a scenario where Worldpay interprets Subfield 3 as a manually keyed transaction based on the value within Field [22 Point-of-Service Entry Mode](#). Field 22 has the following field that indicates it is a manually keyed transaction: Manual Entry = 01.

Encrypted manually keyed data includes the following: PAN (required), Expiry (optional), and CVV2 (optional). You must always have the values in this order. Worldpay concatenates all three values where a '.' represents a hexadecimal value 1D, which it uses as a delimiter between values.

NOTE: The Expiry and CVV2 fields are only for DUKPT and Verifone ADE.

PAN/Expiry/CVV2

4445222299990007.4912.321

PAN/Expiry

4445222299990007.4912

4.1.27 G027 – Encrypted Track

This provides a method for the POS (when managing void processing) to send the encrypted track data for reversals (0400) in the event of a timeout scenario. Is is only applicable to reversal/void base request messages. When this group is present in a request message, you must also include [G026 – POS Encrypted Data](#). Set the primary account number in the base reversal (0400) request message to spaces. See [End-To-End Encryption \(E2EE\)](#) on page 602 for more information.

TABLE 4-31 G027 - Encrypted Track

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Encrypted Track Indicator	an	1	1	1 – Track 1 2 – Track 2
02	Encrypted Track Data	an	1	76	This is encrypted track data, which you should right-justify and space fill.

Examples

The following is an example of group field G027:

```
|G0271ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF123456<gs>|
```

4.1.28 G028 –Token Utilization

Send this with a base request message to request the host to use token data to process transaction request rather than the card account number or track data.

It is applicable to the following POS request transaction types and should contain the token data returned ([R017 – End-To-End Encryption \(E2EE\) Response](#)) by the host in an approved previous transaction response:

- Reversal/Void
- Prior authorization
- Authorization full/partial reversal
- Recurring payment authorization
- Return
- Gift Card Refund/Reload/Unload/Inquiry/Close
- 610 prior authorization adjustment

For more information about special processing, see [Tokenization and De-tokenization](#) on page 610.

NOTE: When using this group request with transactions that utilize POS condition code or POS entry mode, set POS condition code position 8 to 5 and set POS entry mode to manual entry.

TABLE 4-32 G028 - Token Utilization

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01 Required	Token	an	1 – 19	19	This field must contain the value returned by host from a previous tokenized transaction. Right-justify and space fill it.
02 Required	Token ID	an	20 – 25	6	<p>This field must contain the value returned by host from a previous tokenized transaction. The exception is for a de-tokenization conversion with date, time or both provided in the base request message. Use spaces in this field.</p> <p>Valid values are:</p> <ul style="list-style-type: none"> • Token-ID (Legacy Tokens) • Six spaces (Omni Token) • R and 5 spaces (Registration-ID)

TABLE 4-32 G028 - Token Utilization

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
03 Optional	Card Expiration Date	an	26 – 29	4	<p>When in use, this field must contain a four byte numeric value in the format MMYT. When available, valid values for MM are 01-12 and for YY 01- 99; otherwise, use spaces when not applicable or for a de-tokenization conversion request.</p> <p>Note: Worldpay recommends that merchants provide expiry date with every transaction using a Token. Expiration Date is one of the simplest methods for fraud prevention in place. They are mandated by operating agreements with card brands to help protect against fraud. The issuing bank will likely decline online purchases and purchases over the phone that do not contain expiry date.</p>
04 Optional	CVV2	an	30 - 33	4	<p>When present, this field must contain the 3 byte CVV2 or the 4 byte AMEX CID. This field allows a clear CVV2 to be sent when transactions are token initiated, because a pseudo track is not present.</p> <p>Right-justify and space fill this field.</p>
05 Optional	Low Value CVV2 Token	an	34 - 51	18	<p>When present, this field must contain the 18 byte low value CVV2 token. If the clear CVV2 is included elsewhere in the message, Worldpay ignores this value.</p> <p>If not in use, space fill this field.</p>

Example

The following are examples of group field G028 with and without Field 04, where * is a space and <gs> is a group separator:

```
|G028***12345678901234561234561234<gs>|
```

```
|G028***123456789012345612345612341393<gs>|
```

4.1.29 G029 – EBT WIC Merchant ID

This contains a code assigned by a government agency to identify a grocer using the electronic benefits transaction or cash register receipt. Any 0100, 0200 inquiry or authorization WIC EBT request transaction must contain the Merchant Reference Number.

TABLE 4-33 G029 - EBT WIC Merchant ID

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	EBT WIC Merchant ID	ans	1 - 15	1-15	Variable 15 maximum

Example

The following is an example of group field G029:

|G029WN0073359002<gs>|

4.1.30 G030 – EBT WIC Pass-thru Data Field #1

This has a variable length field that contains WIC information, as defined in ANS X9.93 Financial Transaction Messages, passes through to the WIC Processor. It can contain as many complete WIC composite data elements as will fit within the total 999 positions of the bit. Where indicated by the WIC specification, if more composite data elements are required by the message than will fit into G030, place these additional composite elements in [G031 – EBT WIC Pass-thru Data Field #2](#) or [G032 – EBT WIC Pass-thru Data Field #3](#) or in both. Any 0200 WIC authorization request transaction can contain G030.

For more information about special processing, see [WIC: The Special Supplemental Nutrition Program for Women, Infants and Children](#) on page 616.

TABLE 4-34 G030 - EBT WIC Pass-thru Data Field #1

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	EBT WIC Pass-thru Data Field #1	ans	1 - 999	1-999	Variable 999 maximum

Example

The following is an example of group field G030:

```
|G030<... ANS X9.93 Financial Transaction Message(s)...><gs>|
```

4.1.31 G030 - Benefit Card Services UPC/PLU Pass-Thru Data (Usage 2)

Merchants will be required to send UPC/PLU data to Worldpay for eligible products. In a situation where a product sent in G030 is not found on the APL, merchants will be required to handle partial approvals. The remaining amount for items not found on the APL will be sent back in R007 under amount type 5I. If the message requires more composite data elements than will fit into G030, these additional elements are placed in G031, G032, and G091 as indicated. For more information, see [Appendix C, "Benefit Card Services Processing"](#).

TABLE 4-35 G030 Data Format

Field Number	Request Optional Group Description	Data Type	Position	Length	Valid Value/Notes
01	Benefit Card Services UPC/PLU Pass Thru Data Field #1	ans	1-999	1-999	Variable 999 maximum

TABLE 4-36 G030 Fields

Field Description	Field Length	Notes
UPC/PLU Tag	AN 5	*PS*\ Designates field 106 as UPC/PLU pass-thru data
Purchase Item Data Length	N 4	
UPC/PLU Indicator	N 1	0 = UPC, 1 = PLU
UPC/PLU Value	N 15	UPC/PLU value. Right-justified, padded with 0s
UPC/PLU Check Digit	N 1	Calculated using UPC-A check digit algorithm from GS1
Category Code	AN 2	Identifies the product/produce item at a macro level, e.g. "milk"
Sub-category Code	AN 3	Identifies the product/produce item at a micro level, e.g. "skim"
Benefit Purse Type	AN 2	Benefit purse type value as defined for requested amount type values (Blank on requests)
Units	N 5	Quantity of package measure
Package Measure	A 10	Ounces, Gallon, and so on
Original Item Price	N 6	
Purchase Quantity	N 5	
Discount Amount	N 6	
Coupon Amount	N 6	For future use
Coupon Quantity	N 5	For future use

TABLE 4-36 G030 Fields

Field Description	Field Length	Notes
Final Price	N 6	Final Price = Original Item Price x Purchase Quantity less (Discount Amount + Coupon Amount), Right-justified, zero-filled
UPC/PLU Data Length	N 2	Right justify and zero fill.
Item Action Code	N 2	00 = Approved / on APL. 04 = Not Approved/Not on APL. 07 = Exceeds Available/on APL. '00' on requests

4.1.32 G031 – EBT WIC Pass-thru Data Field #2

This contains WIC information, as defined in ANS X9.93 Financial Transaction Messages, that passes through to the WIC Processor.

It can contain as many complete WIC composite data elements as will fit within the total 999 positions of the bit. Any 0200 WIC authorization request transaction can contain G031, which already contains the G030 group data item.

For more information about special processing, see [WIC: The Special Supplemental Nutrition Program for Women, Infants and Children](#) on page 616.

TABLE 4-37 G031 - EBT WIC Pass-thru Data Field #2

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	EBT WIC Pass-thru Data Field #2	ans	1 - 999	1-999	Variable 999 maximum

Example

The following is an example of group field G031:

```
|G031<... continuation of ANS X9.93 Financial Transaction Message(s) ...><gs>|
```

4.1.33 G031 - Benefit Card Services UPC/PLU Pass-Thru Data #2 (Usage 2)

This is a variable length field that contains UPC/PLU information to be sent out to the networks for Benefit Card Services processing. This is a continuation field used to submit more product data. See [Appendix C, "Benefit Card Services Processing"](#) for more information.

TABLE 4-38 G031 Data Format

Field Number	Request Optional Group Description	Data Type	Position	Length	Valid Value/Notes
01	Benefit Card Services UPC/PLU Pass Thru Data Field #2	ans	1-999	1-999	Variable 999 maximum

4.1.34 G032 – EBT WIC Pass-thru Data Field #3

This contains additional WIC information, as defined in ANS X9.93 Financial Transaction Messages, that passes through to the WIC Processor.

It can contain as many complete WIC composite data elements as will fit within the total 999 positions of the bit. G032 can appear in any 0200 WIC authorization request which already contains G030 and G031 group data items.

For more information about special processing, see [WIC: The Special Supplemental Nutrition Program for Women, Infants and Children](#) on page 616.

TABLE 4-39 G032 - EBT WIC Pass-thru Data Field #3

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	EBT WIC Pass-thru Data Field #3	ans	1 - 999	1-999	Variable 999 maximum

Example

The following is an example of group field G032:

```
|G032<... continuation of ANS X9.93 Financial Transaction Message(s)...><gs>|
```


4.1.35 G032 – Benefit Card Services UPC/PLU Pass-Thru Data #3 (Usage 2)

This is a variable length field that contains UPC/PLU information to be sent out to the networks for Benefit Card Services processing. This is a continuation field used to submit more product data. See [Appendix C, "Benefit Card Services Processing"](#) for more information.

TABLE 4-40 G030 Usage 2 Data Format

Field Number	Request Optional Group Description	Data Type	Position	Length	Valid Value/Notes
01	Benefit Card Services UPC/PLU Pass Thru Data Field #3	ans	1-999	1-999	Variable 999 maximum

4.1.36 G033 – DCC Request Data

Use this in DCC second pass transactions both when the cardholder has accepted the proposed conversion rate, and when the cardholder has rejected the conversion rate. Include it in every authorization that follows the customer's decision on a DCC conversion rate, but do not include it in any other transaction.

For more information about special processing, see [Dynamic Currency Conversion \(DCC\)](#) on page 621.

TABLE 4-41 G033 - DCC Request Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	DCC Transaction Amount	n	1 – 12	12	
02	DCC Conversion Rate	n	13 – 20	8	
03	DCC Currency Code	n	21 - 23	3	
04	DCC Indicator	an	24	1	Y = The customer accepts the conversion rate. N = The customer rejects the conversion rate

Example

The following is an example of group field G033:

```
|G03312345678901212345678123Y<gs>|
```

4.1.37 G034 – POS Identification Data

This provides identification data for POS applications and associated devices. Applications using EMV chip card technology require it and ultimately all 610 applications will require it in the future.

TABLE 4-42 G034 - POS Identification Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	VAR Name	ans	1 – 6	6	Space fill if no data
02	VAR Version	ans	7 - 12	6	Space fill if no data
03	Gateway Name	ans	13 – 18	6	Space fill if no data
04	Gateway Version	ans	19 - 24	6	Space fill if no data
05	POS App Name	ans	25 – 34	10	Space fill if no data
06	POS App Version	ans	35 - 40	6	Space fill if no data
07	Terminal/POS Device Make/Model Name	ans	41 – 50	10	Space fill if no data
08	Terminal App Name	ans	51 – 60	10	Space fill if no data
09	Terminal App Version	ans	61 - 66	6	Space fill if no data
10	Serial Number	ans	67 – 82	16	Space fill if no data

Example

The following is an example of group field G034:

```
|G034123456123456123456123456789012345612345678901234561234567890123456
<gs>|
```

4.1.38 G035 – EMV Tag Data

This contains EMV tag data in BER-TLV format as defined in ISO/IEC 8825. The POS application and chip card involved in the transaction determine the EMV chip card data. You must include this tag data for all chip card transactions, including offline approvals that will use message type 0220. You can find any corresponding response data in [R023 – EMV Response Data](#).

There are specific values used in bit 70 Network Management Info Code for EMV reversals, specific bit 22 POS Entry Mode values for EMV, as well as corresponding POS Data Code values ([G008 – POS Data Code/G017 – Discover/Carde Blanche/Diners Club International/Japanese Credit Bureau/China Union Pay POS Data Code](#)).

TABLE 4-43 G035 - EMV Tag Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	One or more EMV primitive BER-TLV data objects	ans	1 – 999	999	Variable 999 maximum Base64 encoded ASCII string Only use valid tags as per the EMVCO and Worldpay standards. Worldpay bypasses unknown tags.

[Table 4-44](#) and [Table 4-45](#) list the tag data that is required and conditional. The host does no tag data editing; however, the network or issuer can decline invalid tag data. Note that the presence of tag data does not eliminate the standard message requirements for other fields. For example, you must still populate the field Transaction Amount in a message, even though tag 9F02 is sent.

TABLE 4-44 G035 Required Tags

Description	Tag	Format	Length
Amount, Authorized	9F02	n 12	6
Application Cryptogram	9F26	b	8
Application Interchange Profile	82	b	2
Application Transaction Counter (ATC)	9F36	b	2
Cryptogram Information Data	9F27	b	1
Dedicated File (DF) Name	84	b	5-16
Issuer Application Data	9F10	b	1 – 32
Software Versions (Kernel)	FF21	ans	1 – 20
Terminal Capabilities	9F33	b	3
Terminal Country Code	9F1A	n 3	2
Terminal Verification Results	95	b	5
Transaction Currency Code	5F2A	n 3	2

TABLE 4-44 G035 Required Tags

Description	Tag	Format	Length
Transaction Date	9A	n 6	3
Transaction Type	9C	n 2	1
Unpredictable Number	9F37	b	4
Version Header (current value 0001)	FF01	n 4	2

TABLE 4-45 G035 Conditional Tags

Description	Tag	Format	Length
Additional Terminal Capabilities	9F40	b	5
Amount, Other (Cash back –zero for non-cash back transactions)	9F03	n 12	6
Application Identifier – ICC	4F	b	5 – 16
Application Identifier Terminal	9F06	b	5 - 16
Application Priority Indicator	87	b	1
Application Usage Control	9F07	b	2
Application Version Number – ICC	9F08	b	2
Application Version Number – Terminal	9F09	b	2
Cardholder Verification Method (CVM) Results	9F34	b	3
Card Sequence Terminal Number	5F34	n 2	1
Contactless Capability	FF22	an 1	1
Customer Exclusive Data	9F7C	b	1 - 32
Form Factor Indicator	9F6E	b	32
Interface Device (IFD) Serial Number	9F1E	an 8	8
Issuer Action Code - Default	9F0D	b	5
Issuer Action Code - Denial	9F0E	b	5
Issuer Action Code - Online	9F0F	b	5
Issuer Country Code	5F28	n 3	2
Issuer Script Results (Reversals only)	9F5B	b	1 - 21
POS Entry Mode	9F39	n 2	1
Terminal Capability Flag	FF20	an 1	1
Terminal Type	9F35	n 2	1

TABLE 4-45 G035 Conditional Tags

Description	Tag	Format	Length
Transaction Category Code	9F53	b	1
Transaction Sequence Counter	9F41	n 4 - 8	2 - 4
Transaction Status Information	9B	b	2
Transaction Time	9F21	n 6 HHMMSS	3

For more information about the format types, see [Table 2-1 on page 42](#).

Tag Data Format

The information within the single Base64 encoded field is one or more primitive BER-TLV data objects. Below is a summary of the BER-TLV encoding rules. See ISO/IEC 8825 for complete details.

|Tag (T) |Length (L) |Value (V) |

Tag: The tag is one or two bytes long. The last five bits (bits 4-8) of the first byte of the tag determines the number of bytes used for the tag. If these five bits are all set to 1, the next byte is part of the tag. If all five bits are not set to 1, the next byte is not part of the tag.

Length: The length is one or two bytes long. The first bit of the first byte of the length position determines the number of bytes used to specify the length. If the first bit of the length position is zero (0), the next seven bits of the first byte carry the length and the length position is only one byte long. The length of the data element is in the range of 1-127. If the first bit of the length position is 1, the next seven bits contain the number of subsequent bytes used for the length. The length of the data element is in the range of 1-255.

Value: This is the actual EMV card data.

The POS device must convert the binary tag data to Base64, because the 610 message formats do not allow the presence of binary data.

Custom EMV Tags

Refer to the [EMVCO standards](#) for standard EMV tag data information.

In addition to the standard EMV tags documented in EMV 4.3, Book 3, Worldpay provides additional custom tags which [Table 4-46](#) lists. EMV 4.3, Book 4 describes the characters in the Format column.

TABLE 4-46 G035 Custom EMV Tags

Description	Tag	Format	Length	Worldpay Comments	Worldpay Defined Values
Software Versions (Kernel)	FF21	ANS	1 - 20	EMV Kernel Version	EMVCo Application Kernel (i.e. EMV DC30 V4.65)

TABLE 4-46 G035 Custom EMV Tags

Description	Tag	Format	Length	Worldpay Comments	Worldpay Defined Values
Version Header	FF01	N4	2	Header version assigned by Worldpay	Current value 0001
Contactless Capability	FF22	AN 1	1	Indicates contactless capability of device	0 – on-contactless transaction 1 – MSD Capable 2 – EMV Grade Contactless Capable
Terminal Capability Flag	FF20	AN 1	1	Defines chip capable devices	0 – Non-chip capable device 5 – Chip capable device

Example

The following is an example of group field G035:

Field	Tag	Ln	Value
Application Cryptogram	: 9F26	08	47CAFEAFB47951FC
Cryptogram Information Data	: 9F27	01	80
Issuer Application Data	: 9F10	12	0110A000032400000000000000000000FF
Unpredictable Number	: 9F37	04	5263063F
Application Transaction Counter	: 9F36	02	0001
Terminal Verification Results	: 95	05	8020008000
Transaction Date	: 9A	03	120523
Transaction Type	: 9C	01	00
Amount, Authorized	: 9F02	06	000000001159
Transaction Currency Code	: 5F2A	02	0124
Application Interchange Profile	: 82	02	1800
Terminal Country Code	: 9F1A	02	0124
CVM Results	: 9F34	03	1E0300
Terminal Capabilities	: 9F33	03	E0B0C8
Terminal Type	: 9F35	01	22
Dedicated File (DF) Name	: 84	07	A0000000041010

Application Version Number	: 9F09	02	0002
Card Sequence Terminal Number	: 5F34	01	01
Version Header	: FF01	02	0001

Hexadecimal TLV data (125 bytes, binary)

```
9F260847CAFEAFB47951FC9F2701809F10120110A000032400000000000000000000FF9F370452
63063F9F36020001950580200080009A031205239C01009F02060000000011595F2A020124820218
009F1A0201249F34031E03009F3303E0B0C89F3501228407A00000000410109F090200025F340101
FF01020001
```

The following shows an example after Base64 encoding (168 bytes, ASCII):

nyYIR8+r7R5UfyfJwGAnxASARCgAAMkAAAAAAAAAAAAAAD/nzcEuMGP582AgAbIQWAIACAAJoDEgUj
nAEAnwIGAAAAABFZXyoCASSCAhgAnxoCASSfNAMEAwCfMwPgSmi fNQEihAegAAAABBAQnwkCAAJfNAEB
/wECAAE=

NOTE: The number of output bytes per input byte is approximately $4 / 3$ (33% overhead) with Base64.

The following shows the example framed within G035:

```
|G035nyYIR8+r7R5UfyfJwGAnxASARcGAAmKAAAAAAAAAAAAAAD/nzcEUmMGP582AgAbIQWAIACAAJo
DEgUjnAEAnwIGAAAAABFZXyoCASSCAhgAnxoCASSfNAMEAwCfMwPgSmiFNQEIhAegAAAABBAQnwkCAAJ
fNAEB/wECAAE=<qs>|
```


4.1.39 G036 – Credit Card PIN Data

PIN credit card transactions require this. Use it for standard magnetic stripe swiped transactions and for EMVonline PIN verification transactions; however, you cannot use it for manually-entered transactions.

TABLE 4-47 G036 - Credit Card PIN Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	DUKPT Key Serial Number	an	1 – 20	20	Refer to field 117 DUKPT Serial Number.
02	DUKPT PIN Block	an	21 – 36	16	Refer to field 52 Personal Identification Number (PIN) Data.
03	PIN Pad Digit Capability	n	37 – 38	2	Number of PIN digits the PIN Pad can handle 01 – Unknown 04 thru 12 – actual capability

Example

The following is an example of group field G036:

```
|G0365312340123456789ABCD0123456789ABCDEF<gs>|
```

4.1.40 G037 – Card Network Tokenization Data

This sends additional Card Network Tokenization data from the POS to the front end in an authorization request message.

TABLE 4-48 G037 - Card Network Tokenization Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Number of Entries	an	1	1	1 – 4 The number of entries to follow, where an entry is the trio of fields (type/length/value).
02	Field Type	n	2	2	01 – token requestor id 02 – token assurance level 03 – The 2 byte ECI and Base 64 encoded 40 byte 3DS crypto data 04 - PAN Last 4 Request (Y or N). Set this to Y if the terminal should receive the PAN Last 4 returned in R017 field type 13. Only Amex card network tokenization uses this. The field type's maximum length is 79 to 100 bytes, depending on Base 64 encoded length and whether any type 1 and/or type 2 fields are present.
03	Field Length	n	4-5	2	02 – 41 Length of the following value field
04	Field Value	an	6	2 - 100	Field value for item defined by Field Type, and for length defined by Field Length 01 – token requestor id (11 bytes) 02 – token assurance level (2 bytes) 03 – 3DS data (max 79 to 100 bytes) ECI – 2 bytes Base 64 encoded 3DS crypto data – 40 bytes 04 – Return PAN Last 4 Request (1 byte, Y or N)

Example

The following is an example of group field G037:

```
|G0371035720MTIzNDU2Nzg5MDIyMjIyMjIyMjAxMjM0NTY3ODkwMTExMTExMTExMA==<gs>
```

Number of entries = 1

Field type 03, len 57, eci 20, 3DS crypto data
 MTIzNDU2Nzg5MDIyMjIyMjIyMjAxBjMONTY3ODkwMTExMTExMTExMA==

The following is an example of group field G037:

|G0372020299011112345678901<gs>
 Number of entries = 2
 Field type 02, len 02, value 99
 Field type 01, len 11, value 12345678901

The following is an example of group field G037:

|G0373020299011112345678901035720MTIzNDU2Nzg5MDIyMjIyMjIyMjAxBjMONTY3ODkwMTExMTExMTExMA==<gs>
 Number of entries = 3
 Field type 02, len 02, value 99
 Field type 01, len 11, value 12345678901
 Field type 03, len 57, eci 20, 3DS crypto data
 MTIzNDU2Nzg5MDIyMjIyMjIyMjAxBjMONTY3ODkwMTExMTExMTExMA==

The following is an example of group field G037:

|G03740202990111123456789010401Y035720MTIzNDU2Nzg5MDIyMjIyMjIyMjAxBjMONTY3ODkwMTExMTExMTExMA==<gs>
 Number of entries = 4
 Field type 02, len 02, value 99
 Field type 01, len 11, value 12345678901
 Field type 04, len 1, value Y
 Field type 03, len 57, eci 20, 3DS crypto data
 MTIzNDU2Nzg5MDIyMjIyMjIyMjAxBjMONTY3ODkwMTExMTExMTExMA==

4.1.41 G038 – Customer Discretionary Data

This sends up to three user-defined data fields from the POS to the front end in an authorization request message. [R028 – Customer Discretionary Data](#) echoes back these values. If you use this group, it requires all 75 bytes of user data and blank fill any remaining data.

TABLE 4-49 G038 - Customer Discretionary Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	User Defined Field 01	an	1-35	35	Any alphanumeric and/or special character.
02	User Defined Field 02	an	36-55	20	Any alphanumeric and/or special character.
03	User Defined Field 03	an	56-75	20	Any alphanumeric and/or special character.

Example

The following is an example of group field G038:

```
|G038*****1234567890*****1234512345*****12345*****1234567890*****<gs>|
```

Where:

Field 01 = *****1234567890*****12345

Field 02 = 12345*****12345

Field 03 = *****1234567890*****

4.1.42 G039 – MasterCard Wallet Identifier

This sends the MasterCard Wallet Identifier from the POS to the front end in an authorization request message.

TABLE 4-50 G039 - MasterCard Wallet Identifier

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Wallet Identifier	an	1 – 3	3	Three byte alphanumeric value that cannot contain all zeros and does not contain spaces or special characters

4.1.43 G040 – Encrypted CVV2 / Expiration Date

This allows the POS to also send an encrypted version of the CVV2 for manually entered transactions that include a Voltage encrypted PAN. The length of Field 01 is 10 to 25 bytes in length and you can pad it with spaces. Voltage encryption does not use Field 02.

For manually entered transactions that include an OnGuard encrypted PAN, this group allows the POS to send an encrypted version of the CVV2 (3 or 4 bytes and padded with spaces), and an optional encrypted expiration date.

For Voltage, only include this group for manually entered PAN transactions with encrypted CVV2. For OnGuard, you should only include this group if the CVV2, the expiration date, or both are encrypted.

TABLE 4-51 G040 - Encrypted CVV2/Expiration Date

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Encrypted CVV2	an	1	25	Encrypted CVV2 (Left justify and space fill.)
02	Encrypted Expiration Date	an	26	4	Encrypted expiration date

Examples

The following is an example of group field G040 for Voltage with encrypted CVV2:

```
|G0401234567890123456*****<gs>|
```

The following is an example of group field G040 for OnGuard with encrypted CVV2:

```
|G040123*****<gs>|
```

The following is an example of group field G040 for OnGuard with encrypted expiration date:

```
|G040*****1234<gs>|
```

The following is an example of group field G040 for OnGuard with encrypted CVV2 and expiration date:

```
|G040123*****1234<gs>|
```

4.1.44 G041 – Discover D-PAS In-App Cardholder Authentication Data

NOTE: Worldpay recommends you use G037 for all card types and discontinue use of G041.

This contains additional cardholder authentication data that the merchant provides for mobile contactless POS devices that support Discover D-Payment Application Specification (D-PAS) In-App CAVV Cryptogram Authentication, for example, Apple Pay.

Any In-App CAVV Cryptogram Discover credit 0100, 0200, or 0220 authorization request transaction can contain it. Worldpay ignores it for all other authorization transaction requests and does not allow it in conjunction with [G035 – EMV Tag Data](#), [G002 – eCommerce Verified by Visa](#) or [G003 – eCommerce MasterCard SecureCode](#).

The CAVV is a cryptographic value calculated by the Issuer's Access Control Server (ACS) using the Issuer's encryption key and related elements. The CAVV value is unique to the cardholder and to the transaction that was authenticated.

You must set Position 8 (Security Condition) of Field 25 (POS Condition Code) to a value of 7 (see [25 Point-of-Service Condition Code](#) on page 214).

When present, the host includes the data in the authorization request message, Additional Authentication Data field 122, to Discover as is. It does not perform any edits. The response to the POS device includes an Electronic Commerce Indicator field that indicates the result of authentication. See [R001 – e/m Commerce Authentication Result](#) on page 472 for applicable return values and details.

Convert the 20 bytes provided in the OnlinePaymentCryptogram field of the PKPaymentToken object to the following fields listed in [Table 4-52](#):

TABLE 4-52 G041 - Discover D-PAS In-App Cardholder Authentication Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	ProtectBuy Authentication Results Code	an	1 - 2	2	00 – Authentication successful 05 – Authentication could not be performed 07 – Acquirer attempt; proof of authentication attempt generated for non-participating Issuer or Cardholder. 08 – Acquirer attempt, Issuer ACS (Access Control Server) not available; proof of authentication attempt generated for participating Issuer but server unavailable.
02	Second Factor Authentication Code	an	3 - 4	2	00 – Not present 11 – Chip Card authentication: Cryptogram failed 12 – Chip Card authentication: Cryptogram passed

TABLE 4-52 G041 - Discover D-PAS In-App Cardholder Authentication Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
03	CAVV Key Indicator	an	5 - 6	2	01 – CAVV key set 1 (Prod) 02 – CAVV key set 2 (Certification / Test) 03 through 09 – Reserved 10 – Discover attempt server key #1 (Prod) 11 – Discover attempt server key #2 (Certification / Test) 12 through 99 – Reserved
04	CAVV Value	an	7 – 10	4	This is a 3-digit code generated by the Issuer's Access Control Server (ACS) or mobile payment applet that the Issuer can use to validate the authentication response during Authorization. It requires a leading zero in Position 7 to pad the first unused byte of the CAVV.
05	Unpredictable Number	an	11 – 14	4	This is a 4-digit code that contains the four least significant digits for the authentication tracking number. The ACS or mobile payment applet derives the value from the authentication tracking number.
06	Authentication Tracking Number	an	15 - 30	16	This is a 16-digit number generated by the ACS or mobile payment applet to identify the transaction
07	Version Action	an	31 - 31	1	0 – Authentication action and Cardholder IP address not present 1 – Authentication action and Cardholder IP present Zero is the default.
08	Authentication Action	an	32 - 32	1	0 – Standard authentication performed (No Activation During Shopping (ADS) or Forgot Your Password (FYP) performed) 1 – ADS registration / authentication performed 2 – “Forgot your password” (FYP) re-registration / re-authentication performed. Zero is the default.

TABLE 4-52 G041 - Discover D-PAS In-App Cardholder Authentication Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
09	IP Address in Hex Format	an (0-9, A-F)	33 - 40	8	This 8-byte value identifies the client IP address (IPv4 only) submitted in the Authorization Message from ACS or mobile payment applet. You must format the IP address in hexadecimal format to conform to field length limits. Zero is the default.

Example

The following is an example of group field G041:

```
|G0410700010972799300070001301579930000000000<gs>|
```

4.1.45 G042 – Merchant Soft Descriptors

This provides the customer with the ability to dynamically update the merchant information that shows up on a cardholder's statement. The POS device sends Soft Descriptors for the Merchants Name (DBA), City, and State. Part of the authorization sends this information and it follows through to settlement and then it posts as the merchant data on the cardholder's statement. It is only for Worldpay settled merchants. Worldpay ignores it for all other merchants.

You can use it in any credit 0100, 0200, 0220 or 0400 request transaction. All other authorization transaction requests ignore it. You cannot pad any of the fields with all spaces.

TABLE 4-53 G042 - Merchant Soft Descriptors

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Merchant Name	ans	1 – 25	25	Merchant Name
02	Merchant City	ans	26 – 38	13	Merchant City
03	Merchant State	an	39 – 40	2	Merchant State

Example

The following is an example of group field G042:

```
|G042Lereux,*Pitts*and*Assoc**Clearwater***FL<gs>|
```

4.1.46 G043 – Level 3 Descriptors

This provides a customer with the ability to send Level 3 detail for up to 25 transaction items. Optionally, you can use it for HDC merchants who want to qualify for Level 3 interchange rates. It is for Worldpay settled merchants only. Worldpay ignores it for all other merchants.

Credit 0100, 0200, and 0220 transactions use this group. Worldpay ignores it for all other authorization transaction requests.

It should include 106 bytes of information for up to 25 items. All fields are fixed in length and you should space pad to the right unless noted otherwise. If the total length of data received in G043 is not evenly divisible by 106, Worldpay ignores this field and processes the message without it.

TABLE 4-54 G043 - Level 3 Descriptors

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Item Description	ans	1 – 35	35	Item Description
02	Unit of Measure	ans	36 - 47	12	Unit of Measure
03	Unit Price	an	48 - 59	12	Unit Price
04	Unit Price Decimal	an	60	1	Unit Price Decimal (0 – 4)
05	Item Quantity	an	61 - 72	12	Item Quantity (right-justify and zero fill).
06	Item Quantity Decimal	an	73	1	Item Quantity Decimal (1 – 4)
07	Product Code	ans	74 - 88	15	Product Code
08	Item Discount Amount	an	89 - 100	12	Item Discount Amount (right-justify and zero fill)
09	Item Discount Rate	an	101 - 105	5	Item Discount Rate (right-justify and zero fill)
10	Item Discount Rate Decimal	an	106	1 Total Entry Group Bytes: 106	Item Discount Rate Decimal (1 – 4)

4.1.47 G044 – Mastercard Remote Mobile Payment Type

This identifies the type of Mastercard Mobile Remote Payment (for example, bill payment or purchase) transaction initiated by a mobile device to the issuer. To facilitate transactions from their mobile device, cardholders must enroll.

You can use it in any credit 0100, 0120, 0200 or 0220 request transaction. Worldpay ignores it for all other authorization transaction requests.

TABLE 4-55 G044 - MasterCard Remote Mobile Payment Type

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Remote Mobile Payment Type	ans	1	1	<ul style="list-style-type: none"> • 1 - Remote Purchase (Consumer Initiated)—Face-to-Face • 2 - Remote Purchase (Consumer Initiated)—e-Commerce • 3 - Remote Purchase (Consumer Initiated)—MOTO • 4 - Bill Pay (Consumer Initiated) • 5 - Top-up (Consumer Initiated) • 6 - Cash-out (Consumer Initiated) • 7 - Cash-out (ATM/Agent Triggered)—DE 61, SF 10 can differentiate between ATM or non-CAT (Agent) transaction • 8 - Remote Purchase (Merchant Triggered)—Face-to-Face • 9 - Remote Purchase (Merchant Triggered)—e-Commerce <p>Fields cannot be all spaces.</p>

Example

The following is an example of group field G044:

```
|[fs]G0441[gs]|
```

4.1.48 G045 – Synchrony Promo Request

This contains the Base64 request data out to Synchrony, which includes the elements of Field 60 and Field 124 from the Synchrony ISO 8583 specification. The POS device must convert the ASCII Base64 data back to binary tag data for TLV decoding, because the 610 message formats do not allow the presence of binary data.

TABLE 4-56 G045 - Synchrony Promo Request

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	One BER-TLV data object	ans	1 – 999	999	Variable 999 maximum Base64 encoded ASCII string

Request Tags

TABLE 4-57 Request Tags

Description	Tag	Format	Length
Promo needed/result	70	b	1
ETC Transaction Type	60	an	2
ETC Descriptor Code	61	an	8
ETC Ticket Terms/Promotional Codes/Invoice Number	62	an	4
ETC MOTO/EComm indicator	63	an	2
Cash Over Partial Auth/Partial Cash Acceptance ID	64	an	1

Example

The following is an example of group field G045:

```
|G045cAEC<gs>|
```

Base64 Data:

```
cAEC
```

Decoded, Hexadecimal Tag Data:

```
070102
```

Field	Tag	Ln	Value
Promo needed/result	: 70	01	02

4.1.49 G046 – Reversal/Advice Reason Code

This provides the customer a way to communicate to the host while the host passes the advice.

[Table 4-59](#) lists the applicable values. This group is optional, though if you omit it, the reversal reason is the default generic reason.

TABLE 4-58 G046 - Reversal/Advice Reason Code

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Advice Reason Code	ans	1 – 3	3	000-999 (See Table 4-59 .) This field cannot include spaces.

Example

```
|G046002<gs>|
```

Valid Value/Notes

[Table 4-59](#) lists the valid values. Worldpay ignores invalid values.

TABLE 4-59 G046 Valid Value/Notes

Field Value	Description
000	Generic
002	Time Out
003	Syntax Error
005	Clerk Cancel
006	Customer Cancel
010	Previously Authorized
NOTE: Values 040 through 045 apply only to subsequent transactions (that is, non-initial transactions).	
040	Incremental
041	Resubmission
042	Delayed charge
043	Reauthorization
044	No show
045	Deferred

4.1.50 G047 – Transaction Qualifier

This group provides the customer a way to send additional information for a transaction type.

TABLE 4-60 G047 - Transaction Qualifier

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Transaction Qualifier	ans	1 – 3	3	000-999 (See Table 4-61.)

Example

The following is an example of group field G047:

```
|G047001<gs>|
```

Valid Value/Notes

[Table 4-61](#) lists the valid values. Any invalid value is ignored.

TABLE 4-61 G047 Valid Value/Notes

Field Value	Description	Processing Code	Product
001	FastPIN	61000x	InComm
002	SaleActive	61000x	InComm
003	SaleInActive	61000x	InComm
004	Unlock/Lock	61000x	InComm
005	Recharge	64000x	InComm
006	Credit Inquiry	67000x	InComm

4.1.51 G048 – Additional Request Data

This can contain multiple tags in any order with different information. In the case where the conditional tag 9F6E exists ([G035 – EMV Tag Data](#) on page 412), it is the definitive source for the value of G048. [R030 - Additional Response Data](#) can include additional response data.

TABLE 4-62 G048 - Additional Request Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Tag Type	an	01	2	See Table 4-63
02	Tag Value Length	n	03	3	000-999
03	Tag Value	an	06	Variable	

Valid Value/Notes

TABLE 4-63 G048 Valid Value/Notes (Field 01)

Tag	Description	Response	Product
AI	POS Application ID The application ID associated with the installed POS software Format: ans 1..6	NA	NA
AM	Alternate Merchant ID This lets a merchant send in a product-specific merchant ID to pass on to an authorizing entity. Format: PPXXXXXXXXXXXXXXXXXXXX where: <ul style="list-style-type: none"> PP - The product associated with the merchant ID (CP is Chase Pay.) xxx... xxxx - The merchant ID, which can contain up to 20 digits 	NA	NA
AN	POS Application Name The application name associated with the installed POS software Format: ans 1..50	NA	NA
AS	POS Application Version The application version associated with the installed POS software. Format: ans 1..50	NA	NA

TABLE 4-63 G048 Valid Value/Notes (Field 01)

Tag	Description	Response	Product
AV	<p>Address Verification Data</p> <p>20 bytes of address data and 9 bytes of zip code</p> <p>Format:</p> <p>AAAAAAAAAAAAAAAAAAAAZZZZZZZZ</p> <p>where:</p> <ul style="list-style-type: none"> • AAA...A - The address • ZZZ...Z - Zip code 	NA	CNP
DS	<p>3D Secure Directory Server Transaction ID</p> <p>This value is generated by the 3D secure server during the authentication transaction and passed back to the merchant along with the authentication results.</p>	NA	3D Secure
DT	Device Type	NA	NA
GU	<p>Native RAFT API Transaction ID</p> <p>This is a fixed length, 16 byte value assigned and utilized in API environments to uniquely identify the transaction being performed. This lets both 610 customers and APIs intermingle transactions as needed and also is a way to associate non-original transactions to their initial authorization.</p>	NA	NA
PP	<p>3D Secure Program Protocol</p> <p>This value contains the current version of 3D secure software being used. Refer to the Mastercard processing specifications for a full list of valid values.</p> <p>Common Values are:</p> <ul style="list-style-type: none"> • 1 – 3D Secure Version 1.0 (3DS 1.0) • 2 – EMV 3D Secure (3DS 2.0) 	NA	3D Secure
RN	<p>Customer Reference Number</p> <p>Customer specific reference/ticket number used for tracking transactions</p> <p>Format: ans 1..20</p>	NA	NA

TABLE 4-63 G048 Valid Value/Notes (Field 01)

Tag	Description	Response	Product
SF	<p>Terminal Classification Code</p> <p>This applies to transactions that originate with a mobile device.</p> <p>Format: ans 1..2</p> <p>Values are:</p> <ul style="list-style-type: none"> AC - mPOS Accessory/dongle with contact and contactless interfaces, with or without PIN pad AS - mPOS Accessory/dongle with contact and contactless interfaces and PIN on Glass support (SCRIP, Software-based PIN on COTS CC - Contactless payment of COTS (CPoc) - Mobile device based contactless only mPOS without PIN support CS - Contactless payment of COTS (CPoc) - Mobile device based contactless only mPOS with PIN on Glass support 	NA	NA
TC	Terms and Conditions Version	R030 – TC tag	InComm
TI	<p>Gateway Transaction ID</p> <p>Gateway specific transaction ID used for tracking transactions</p> <p>Format: ans 1..20</p>	NA	NA
TR	<p>Transit Data</p> <p>This is a 4-byte field that comprises the following 2-byte subfields:</p> <ul style="list-style-type: none"> Transit Type Indicator Transportation Mode Indicator <p>See Table 4-65 for valid values.</p>	NA	NA
UR	<p>URL Data</p> <p>This is the merchant URL and is 23 characters.</p> <p>Format: 23</p>	NA	CNP
VS	<p>Visa Secure Token Request</p> <p>This is the request for the presence of the Visa Secure Token. It is 1 character long, 'R'.</p>		

TABLE 4-64 G048 Tag DT (Device Type) Values

Tag Device Type Value	Description
00	Card
01	Mobile Network Operator (MNO) controlled removable secure element (SIM or UICC) personalized for use with a mobile phone or smartphone
02	Key fob
03	Watch using a contactless chip or a fixed (non-removable) secure element not controlled by the MNO
04	Mobile tag
05	Wristband
06	Mobile Phone Case or Sleeve
07	Mobile phone or smartphone with a fixed (non-removable) secure element controlled by the MNO, for example, code division multiple access (CDMA)
08	Removable secure element not controlled by the MNO, for example, memory card personalized for use with a mobile phone or smartphone
09	Mobile Phone or smartphone with a fixed (non-removable) secure element not controlled by the MNO
10	MNO controlled removable secure element (SIM or UICC) personalized for use with a tablet or ebook
11	Tablet or e-book with a fixed (non-removable) secure element controlled by the MNO
12	Removable secure element not controlled by the MNO, for example, memory card personalized for use with a tablet or e-book
13	Tablet or e-book with fixed (non-removable) secure element not controlled by the MNO
14	Mobile phone or smartphone with a payment application running in a host processor
15	Tablet or e-book with a payment application running in a host processor
16	Mobile phone or smartphone with a payment application running in the Trusted Execution Environment (TEE) of a host processor
17	Tablet or e-book with a payment application running in the TEE of a host processor
18	Watch with a payment application running in the TEE of a host processor
19	Watch with a payment application running in a host processor
20-99	Reserved for future device types. Any value in this range may occur within devices and transaction data without prior notice.

TABLE 4-65 G048 Tag TR (Transit Program Data) Values

Subfield	Valid Values
1 (Transit Type Indicator)	<ul style="list-style-type: none"> • 01 - Prefunded • 02 - Real-time Authorized • 03 - Post-Authorized Aggregated • 04 - Authorized Aggregated Split Clearing • 05 - Other • 06 - Post-authorized Aggregated Maestro • 07 - Debt Recovery • 08-99 - Reserved for Future Use
2 (Transportation Mode Indicator)	00 - Unknown 01 - Urban Bus 02 - Interurban Bus 03 - Light Train Mass Transit (Underground Metro, LTR) 04 - Train 05 - Commuter Train 06 - Water Borne Vehicle 07 - Toll 08 - Parking 09 - Taxi 10 - High Speed Train 11 - Rural Bus 12 - Express Commuter Train 13 - Para Transit 14 - Self Drive Vehicle 15 - Coach 16 - Locomotive 17 - Powered Motor Vehicle 18 - Trailer 19 - Regional Train 20 - Inter City 21 - Funicular Train 22 - Cable Car 23-99 - Reserved for Future Use

Example

The following is an example of group field G048, where the data is TC (Terms and Conditions Version) and 002 characters with a value of 01:

```
|G048TC00201<gs>|
```

The following is an example of group field G048, where the data is DT (Device Type) and 002 characters with a value of 98:

```
|G048DT00298<gs>|
```

4.1.52 G049 – Ecommerce Discover Fraud Enhancement Data

This is only for Discover e-commerce transactions.

TABLE 4-66 G049 – Ecommerce Discover Fraud Enhancement Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Registered User Indicator	an	1	1	Y - Registered User Indicates the customer is a registered user with the merchant N - Unregistered User Indicates the customer is not a registered user
02	Last Registered User Profile Date Change	an	2-9	8	DDMMCCYY This is the date when the cardholder last changed his/her registered/stored profile voluntarily and not due to a Merchant change policy. This is not required if field 01 is N.

Example

The following is an example of group field G049 that contains G049 (group name), 01 (Field 01), Y (Registered user), 02 (Field 02), and 08182016, which is the date the registered user's stored profile last changed in the DDMMCCYY format:

```
|G04901Y0208182016<gs>|
```

The following is an example of group field G049 that contains G049 (group name), 01 (Field 01), and N (not a registered user):

```
|G04901N<gs>|
```

4.1.53 G050 – Multi-Clearing Information

This allows for multiple shipments within 7 calendar days of the initial authorization to clear in settlement.

TABLE 4-67 G050 - Multi-Clearing Information

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Multiple Clearing Sequence Number indicating which shipment is being sent	N	01-02	2	00-99
02	Multiple Clearing Sequence Count indicating the total number of shipments	N	03-04	2	01-99
03	Final shipment?	AN	05	1	Y/N

Example

The following shows examples of group field G050:

|G0002N<gs>| (Initial authorization with 2 items to ship)

|G0102N<gs>| (Shipment 01 of 02, not final shipment)

|G0202Y<gs>| (Shipment 02 of 02, final shipment)

4.1.54 G051 – Cardholder Funds Transfer Data

Use this group to support of Cardholder Funds Transfer transactions. It contains data about the originating institution, sender, or recipient, as required by various networks in support of their P2P/OCT/AFT/Moneysend type transactions. This can contain multiple tags in any order with different information.

TABLE 4-68 G051 - Cardholder Funds Transfer Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Tag Type	an	01	2	See Table 4-69 .
02	Tag Value Length	n	03	3	000-999
03	Tag Value	an	06	Variable	See Table 4-69 .

TABLE 4-69 Sender Data

Tag	Use	Attributes	Description
01	Sender Name/User ID	Max Length: 30 an	Name of the entity funding the transaction
02	Sender Address	Max Length: 50 an	Street address of the entity funding the transaction
03	Sender City	Max Length: 25 an	City of the entity funding the transaction
04	Sender State/Providence	Max Length: 3 an	State/providence of the entity funding the transaction
05	Sender Country	Max Length: 3 an	Country code of the entity funding the transaction
06	Sender ZIP Code	Max Length: 10 an	ZIP Code of the entity funding the transaction
07	Transaction Type	Max Length: 3 an	Type of funds transfer transaction to take place Accepted values depend on the network. See Table 4-70 for a list of possible values.
08	Sender Reference Number	Max Length: 16 an	Transaction reference number that is provided by the originator to uniquely identify the transaction
09	Sender Date of Birth	Max Length: 8 an	Date of Birth of the entity funding the transaction in YYYYMMDD format

TABLE 4-69 Sender Data

Tag	Use	Attributes	Description
10	Sender Phone Number	Max Length: 20 an	Phone number of the entity funding the transaction
11	Sender Account Number	Max Length: 34 an	Account number of the entity funding the transaction
12	Sender Funding Type	Max Length: 3 an	Type of account associated with the entity funding the transaction See Table 4-71 for a list of possible values.
13	Sender Account Number Type	Max Length: 2an	Account type of the account number sent in tag 11 The default is 00 if nothing is sent or an invalid value is sent. Valid values are: <ul style="list-style-type: none"> • 00 - Other (default) • 01 - RTN + Bank Account • 02 - IBAN • 03 - Card Account • 04 - Email • 05 - Phone Number • 06 - Bank account number (BAN) + Bank Identification Code (BIC) • 07 - Wallet ID • 08 - Social Network ID

TABLE 4-70 Transaction Types

Tag Value	Description
VAA	Account to Account
VBB	Business to Business
VBI	Money transfer - bank-initiated
VBP	Non-card bill payment
VCC	Cash claim
VCI	Cash in
VCO	Cash out
VCP	Card bill payment
VFD	Funds disbursement

TABLE 4-70 Transaction Types

Tag Value	Description
VGD	Government disbursement
VGP	Gambling payout
VLO	Loyalty and offers
VMA	Mobile air time payment
VMD	Merchant disbursement
VMI	Money transfer - merchant-initiated
VMP	Face-to-face merchant payment 4
VOG	Online gambling payout
VPD	Payroll/pension disbursement
VPG	Payment to government
VPP	Person to person
VPS	Payment for goods and services
VTU	Top-up for enhanced prepaid loads
VWT	Wallet transfer

TABLE 4-71 Sender Funding Type

Tag Value	Description
V01	Credit Card Account
V02	Debit Card Account
V03	Prepaid Card Account
V04	Cash
V05	Deposit Access Account (Checking/Savings)

Example: Group Field G051

|G05101008JOHN DOE02017GOVERNORS HILL DR03010SYMMES
 TWP04002OH05003USA07003VGP08016171029000000003512003V05<gs>|

4.1.55 G052 – eCommerce Discretionary Data

Use this in Worldpay cnpAPI authorization request messages to send cnpAPI from the POS to the front end. The group requires all 211 bytes of user data. Blank fill any remaining data. For more information about the request optional group data descriptions (affiliate, authorizationID, and so on), refer to the *Worldpay cnpAPI Reference Guide*.

4.1.56 G054 – MAC Encryption Key Data Request

TABLE 4-72 G052 - eCommerce Discretionary Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	affiliate	ans	1-25	25	Any alphanumeric and/or special character
02	authorizationID	ans	26-61	36	Any alphanumeric and/or special character
03	customerID	ans	62-111	50	Any alphanumeric and/or special character
04	reportGroup	ans	112-136	25	Any alphanumeric and/or special character
05	campaign	ans	137-161	25	Any alphanumeric and/or special character
06	merchantGroupingID	ans	162-186	25	Any alphanumeric and/or special character
07	merchantOrderID	ans	187-211	25	Any alphanumeric and/or special character

Use this to request MAC encryption key data for Canadian processing.

NOTE: On a key change, you must include all four subfields. On a normal request, only subfields 01 - 03 are necessary with subfield 03 set to 000.

TABLE 4-73 G054 – MAC Encryption Key Data Request

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Terminal ID	an	1	8	Supported terminal values are: <ul style="list-style-type: none"> • VERMX915 (VeriFone Mx915) • VERMX925 (VeriFone Mx925) • VERVX520 (VeriFone Vx520)
02	Terminal Serial Number	an	9	32	Left justify and blank fill.
03	Key Length	n	41	3	Zero fill if no key is sent.

TABLE 4-73 G054 – MAC Encryption Key Data Request

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
04	Working Key	an	43	Variable (total of 38)	Only send the working key in case of a key change. The check value will be included with this as a six character value. For a triple DES key change, make the length 38 with 32 for the working key and 6 for the check value.

Example: Group Data 54

|G054|VERMX915|123-456-789

|038|*****|

4.1.57 G055 – Message Authentication Data

Use this group to pass message authentication data to the terminal. This group also authenticates message requests for Canadian transactions only.

NOTE: If you are not sending KSN, set the length of KSN (G055, subfield 01) to zero followed directly by the encrypted MAC. If G054 is received, the Master/Session will be assumed and Worldpay ignores any KSN in G055.

TABLE 4-74 G055 - Message Authentication Data Field

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Message Authentication Data	ans	1-38	variable	

TABLE 4-75 G055 - Message Authentication Subfields

Subfield Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Key Serial Number Length	n	1	2	This subfield must reflect the length of the Key Serial Number data that follows. You must use a valid numeric value representing the length of the KSN sent in subfield 02.
02	Key Serial Number	an	3	variable	This subfield contains the number that encrypts the MAC data. You must use an alphanumeric value that represents the key serial number used to encrypt the MAC sent in subfield 03.

TABLE 4-75 G055 - Message Authentication Subfields

Subfield Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
03	Encrypted Message Authentication Code	an	variable	8	<p>This subfield contains encrypted MAC data.</p> <p>You must make it an encrypted representation of message data defined as data encrypted from fields in the request:</p> <ul style="list-style-type: none"> • PAN - All data (If it is masked PAN, use the last four.) • Processing Code - All six digits • Transaction Amount - All nine digits and no decimals • System Trace Number - All six digits • Retrieval Reference Number - Last eight characters • Replacement Amount - All nine digits
04	Filler	n	variable	8	Zero fill

MAC Value Verification/Generation Rules

The following rules apply when generating a MAC or validating one:

- Make all characters in the data ASCII.
- Separate each field in DATA from the next field with a space.
- All lowercase letters become uppercase.
- Any character other than alpha, numeric, spaces, commas, and periods are deleted.
- All leading spaces are deleted.
- All occurrences of two or more consecutive spaces are replaced by a single space.

Example: G055 Group Data

G05520FFFF9876543210E00001D64CB74A00000000<gs>

4.1.58 G056 - Enhanced Check Authorization Request Data

Worldpay uses the enhanced data field for processing both paper and electronic check authorization transactions and Worldpay requires it for performing enhanced check services. Each subfield is built in TLV (tag, length, value) format and you can send it in any order.

TABLE 4-76 Subfield TLV Format

Format	Data Type	Length
Tag	an	2 bytes
Length	n	3 bytes
Value	ans	Variable

TABLE 4-77 G056 - Enhanced Check Authorization Request Data

Subfield Tag	Subfield Description	Data Type	Length	Valid Values/Notes
01	Check Authorization Provider	an	1-4	Certegy = EFX2
02	Service Type ID	an	1-10	<ul style="list-style-type: none"> FM1 - 30 FM2 - 40 ECC Sale - 80CG ECC Auth Only - 81CG ECC ACK - 82CG ECC Void - 83CG
03	MICR Reader Status	an	1-10	<ul style="list-style-type: none"> TAC MICR Format - 1002 TOAD MICR Format - TOAD
04	MICR Data (full or keyed)	an	1-95	
05	State/Province Code or ID Type	an	2	
06	Driver's License/ID Number	an	1-50	
07	Customer Name	an	1-50	
08	Customer Social Security Number	n	9	
09	Customer Date of Birth	n	8	CCYYMMDD
10	Customer Postal Address	an	1-50	
11	Customer Postal/Zip Code	an	1-10	
12	Customer Phone Number	n	10	

TABLE 4-77 G056 - Enhanced Check Authorization Request Data

Subfield Tag	Subfield Description	Data Type	Length	Valid Values/Notes
13	Merchant Invoice/Reference Number	an	1-30	
14	Product/Class Code	an	1-40	
15	Network/ACH Reference Number	an	1-30	<p>This subfield is used for check conversion, which the entity that authorized the transaction returns in the transaction response.</p> <p>The Certegy Layout is as follows:</p> <ul style="list-style-type: none"> Bytes 01-15: ACH Reference Number Bytes 16-30: Certegy Unique ID
16	Check Type	an	2	<p>Valid values are:</p> <ul style="list-style-type: none"> 01 - Personal Check 02 - Company Check 03 - Government Check 04 - Travelers Check 05 - Money Order 06 - Cashiers Check 07 - Counter Check 08 - Two Party Check 09 - Business Check 10 - Payroll Check

4.1.59 G057 - Customer Bill-To Address

Use this field to transmit the customer bill-to information related to an online transaction.

Left justify and blank fill each subfield to the right. If a subfield is not available, blank fill it.

TABLE 4-78 G057 - Customer Bill-To Address

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Bill-To Address Line 1	ans	1-40	40	Any alphanumeric and/or special character
02	Bill-To Address Line 2	ans	41-80	40	Any alphanumeric and/or special character
03	Bill-To City	an	81-98	18	Any alphanumeric character
04	Bill-To Zip Code	an	99-107	9	Any alphanumeric character
05	Bill-To State	an	108-109	2	Any alphanumeric character
06	Bill-To Country	an	110-112	3	Any alphanumeric character

4.1.60 G058 – Customer Ship-To Address

Use this field to transmit the customer Ship-To information related to an online transaction.

Left justify and blank fill each subfield to the right. If a subfield is not available, blank fill it.

TABLE 4-79 G058 – Customer Ship-To Address

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Ship-To Address Line 1	ans	1-40	40	Any alphanumeric and/or special character
02	Ship-To Address Line 2	ans	41-80	40	Any alphanumeric and/or special character
03	Ship-To City	an	81-98	18	Any alphanumeric character
04	Ship-To Zip Code	an	99-107	9	Any alphanumeric character
05	Ship-To State	an	108-109	2	Any alphanumeric character
06	Ship-To Country	an	110-112	3	Any alphanumeric character

4.1.61 G059 – Customer Order Information

Use this field to transmit the customer order information related to an online transaction.

Left justify and blank fill each subfield to the right. If a subfield is not available, blank fill it.

TABLE 4-80 G059 – Customer Order Information

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Customer ID	ans	1-50	50	Any alphanumeric and/or special character
02	Customer Order ID	ans	51-82	32	Any alphanumeric and/or special character
03	Customer Email	ans	83-146	64	Any alphanumeric character
04	Customer Phone	n	147-156	10	Any numeric character

4.1.62 G060 – Customer Internet Connection Information

Use this field to transmit the customer Internet connection information related to an online transaction.

Left justify and blank fill each subfield to the right. If a subfield is not available, blank fill it.

TABLE 4-81 G060 – Customer Internet Connection Information

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Customer IP Address	ans	1-15	15	Any alphanumeric and/or special character Use a dotted decimal format. Pad each dotted decimal position with zeros on the left. For example: 128.000.000.001
02	Customer Web Session (Browser) ID	ans	16-143	128	Any alphanumeric and/or special character

TABLE 4-82 G060 – Customer Internet Connection Information

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Customer IP Address	ans	1-15	15	Any alphanumeric and/or special character Use a dotted decimal format. Pad each dotted decimal position with zeros on the left. For example: 128.000.000.001
02	Customer Web Session (Browser) ID	ans	16-143	128	Any alphanumeric and/or special character

4.1.63 G061 – FIS Loyalty Data

TABLE 4-83 G061 – FIS Loyalty Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	FIS Loyalty Indicator	an	1	1	Valid values are: <ul style="list-style-type: none"> Y – FIS loyalty process allowed N – FIS loyalty process not allowed
02	FIS Loyalty Opt In/Out Flag (omitted on first pass)	an	2	1	Valid values are: <ul style="list-style-type: none"> Y – FIS loyalty accepted by customer and discount should be applied N – FIS loyalty not accepted by customer and transaction will be attempted with full amount
03	Discount amount (omitted on first pass)	an	3-14	12	\$\$\$\$\$\$\$\$\$CC where \$\$\$\$\$\$\$\$ is the dollar amount and CC is the cents amount
04	FIS Loyalty Transaction ID (omitted on first pass)	an	15-29	15	Left justify and blank fill.
05	Loyalty Reward ID (omitted on first pass)	an	30-41	12	Loyalty reward ID assigned from issuer on first pass, which is copied from first pass response
06	Loyalty Promotion ID (omitted on first pass)	an	42-52	11	Loyalty Promo ID assigned from issuer on first pass, which is copied from first pass response

Usage

Use this field for FIS Loyalty requests.

- Field 01 determines merchant (and POS) eligibility and ability to handle the response information in field R061. When set to **Y**, it indicates that a message could be sent to the FIS loyalty program for the customer for transaction discounts. Set it to **N** when the merchant (and POS) are not eligible or capable to handle the FIS processing.
- Field 02 is only provided on the follow up messages after getting FIS loyalty discounts. When set to **Y**, we will receive the transaction with the discounted amount. When set to **N**, the discount is not applied and transaction will be attempted with full amount.

- Field 03, 04, 05, and 06 are only provided on follow up messages after getting FIS loyalty discount information from the first pass request. It must match information sent back in the R061 response data group.

Edits

Field 01 must be a Y or N and can be present on any FIS loyalty request. Fields 02, 03, 04, 05 and 06 must be present on the follow up (second pass transaction) of an FIS transaction to release any holds placed on the first pass.

Example

Provided are two examples of group field G061, where * = space, <fs>= field separator, <gs>= group separator):

Example: Merchant/POS Allows FIS Loyalty Processing

```
|G061Y<gs>|
```

In this example:

- G061 - Group name
- Y - Indicates the merchant/POS allows FIS loyalty processing.

Example: Merchant/POS Allows FIS Loyalty Processing and the FIS Loyalty Discount Applies

```
|G061YY0000000005001234567890ABCDERD0000016891RD000001689<gs>|
```

In this example:

- G061 – Group name
- Y – Indicates merchant/POS allows FIS loyalty processing
- Y – Indicates the FIS loyalty discount applies
- 000000000500 – Discount amount of \$5.00
- 1234567890ABCDE – Transaction ID to be used to match FIS loyalty lookup to follow up authorization out to network/issuer
- RD000001689 – Loyalty Reward ID returned by issuer
- RD0000016891 – Loyalty promotion ID returned by issuer

4.1.64 G062 – Amex Seller ID

Use this field to transmit the customer Internet connection information related to an online transaction.

Left justify and blank fill each subfield to the right. If a subfield is not available, blank fill it.

TABLE 4-84 G062 – Amex Seller ID

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Amex Seller ID	n	1-20	20	Any numeric character

4.1.65 G063 – Merchant Fraud Customer Name

Use this field to transmit the Merchant Fraud Customer/Cardholder name to FraudSight

Left justify and blank fill to the right.

TABLE 4-85 G063 – Merchant Fraud Customer Name

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Customer Name	ans	1-20	20	Any alphanumeric and/or special character

4.1.66 G064 – Valutec Data

Use this group to support of Valutec transactions. It contains data about the program type, card data, or auth number.

TABLE 4-86 G064 – Valutec Fields

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Tag Type	an	01	2	See Table 4-87 .
02	Tag Value Length	n	03	2	000-999
03	Tag Value	an	06	Variable	See Table 4-87 .

TABLE 4-87 G064- Valutec Tags

Tag	Description	Attributes	Description
01	Program Type	Length: 7 an	Valid values are: <ul style="list-style-type: none"> • Gift • Loyalty
02	Card Program	Length: 2 an	Valid values are: <ul style="list-style-type: none"> • 01 - Original Gift Card Program • 02 - Promotional Card (Test) • 03 - Original Combo Card Program • 04 - Auto Rewards (Loyalty Only) • 05 - Original Loyalty Card Program
03	Replaced Card	Maximum Length: 20 an	The card number of the card being replaced
04	Cardless Value	Length: 16 an	The 10-digit phone number of the cardholder and 6 digit corporate MID value used in place of a PAN

4.1.67 G065 – Mastercard DSRP Cryptogram

TABLE 4-88 G065 – Mastercard DSRP Cryptogram

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Mastercard DSRP Cryptogram	an	1-28	28	BASE 64 encoded

4.1.68 G066 – Remote Commerce Acceptor Identifier

TABLE 4-89 G066 – Remote Commerce Acceptor Identifier

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Remote Commerce Acceptor Identifier	an	1-150	150	A merchant identifier such as the merchant business website URL or reverse domain name as presented to the consumer during checkout – BASE 64 encoded.

4.1.69 G070 – AliPay Request Data

This data group can contain multiple tags to help facilitate the processing of AliPay transactions. Each subfield is built in TLV format with tags allowed in any order. The inclusion of any of the AliPay request data will force route the transaction to AliPay regardless of any other message factors.

TABLE 4-90 G070 - TLV Layout

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Tag Type	an	01	2	See Table 4-91 for valid values
02	Tag Value Length	n	03	3	
03	Tag Value	an	06	Variable	

TABLE 4-91 G070 Valid Values/Notes (Field 01)

Tag	Description	Notes	Attributes
BI	Buyer Identity Code	This is a dynamic code with 16 - 24 digits used to identify Alipay users. This code must be read from the Alipay wallet of the user in real time.	Type = an; Length = 1-32
IC	Identity Code Type	This is the Identity Code Type with a value of QRcode or barcode. This is an extension of the normal entry mode.	Type = an; Length = 1-16
MM	Memo	Transaction Notes, Refund Reason, and so on	Type = an; Length = 1-255
OP	Original Partner Transaction ID	This is the transaction ID generated by Worldpay, which is used for locating transaction information on the AliPay site. Any follow up messages (reversals, queries, and so on) will utilize this field to find the original.	Type = an; Length = 1-64
QG	Quantity of goods	Quantity of goods	Type = n; Length = 12
TN	Transaction Name	The name of the transaction shown in the transaction record list	Type = an; Length = 1-255

4.1.70 G087 - Transaction Identifier

NOTE: G087 is for use by Worldpay IP only.

This group provides a way to send a unique Transaction Identifier. Worldpay requires it for all incremental authorizations through the Express platform. You should use it with all full and partial reversals. Use a value of **Y** in position 26 of [G009 – Optional Processing Indicators](#) to request that the host return a transaction's Transaction identifier in R087.

TABLE 4-92 G087 – Transaction Identifier

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
01	TransactionID	n	1-19		Pad left with zeros.	

Example

The following is an example of group field G087:

G0879223372036854775807<gs>

G08700000000000000000000000001<gs>

4.1.71 G088 - Worldpay IP PreFrontEnd Only Special Processing Data

This is an optional Group Data field. Send this only for special processing for loan payment services under a "quasi cash" Merchant Category Code. It requires special device coding and you must discuss valid values with a Worldpay IP representative to use this processing.

TABLE 4-93 G088 – Worldpay IP PreFrontEnd Only Special Processing Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
01		n	1-4	4	0000 - 9999 (defaults to zeros)	N

Example

The following is an example of group field G088:

G0880000<gs>

4.1.72 G089 – mToken Request

Use this group with a base request message to request the return of a token on an approved transaction response or to request that the host use token data to process transaction request rather than the card account number or track data.

Tokens are generated for OneTime or Recurring. You cannot use a token generated for OneTime use for Recurring. You cannot use a token generated for Recurring for OneTime.

You request a token by including group data G089 and setting Field 04 - RecordNo equal to RecordNumberRequested. You can include this group data in the following requests:

- Credit Card Auth Only
- Credit Card Sale
- Credit Card Refund

You can use a token in place of card data by including group data G089 and setting Field 04 to RecordNo equal to the token value from [R089 - mToken Response](#) in the response to a previous successful request as described above. You can include group data in the following requests:

- Reversal/void
- Prior authorization
- Authorization full/partial reversal
- Recurring payment authorization
- 610 prior authorization adjustment

Errors due to connectivity, invalid merchant table token setup, invalid or missing fields, or a corrupt RecordNo will result in an appropriately formatted error response with Response Code (Bit Nbr. 123.2) 407 and Error Text (Bit Nbr. 123.1) TOKEN ERROR - CALL.

The optional response group R998 returns detailed error responses unless suppressed.

mToken Technology

mToken is a security technology that replaces sensitive cardholder data with a token for POS system storage and subsequent use. When requested by the POS, Worldpay generates a token and returns it with the transaction authorization approval response. You can then use the token in place of the original card account number to perform subsequent transactions if required, you can safely store it for card-on-file recurring billing programs.

Initial Token Request: RecordNo and Frequency

Tokenization is, from beginning to end, a proprietary and closed process. There is no key loaded or injected into any external device. Worldpay is the sole holder, generator, and custodian of the process that generates and then unlocks a token. The POS must always request a token first or the request will fail. Per transaction, Worldpay uniquely generates a token, goes through several algorithmic/cipher processes, and then returns the token to the POS in a standard Base64 format. Later, the POS simply supplies the token in place of card data.

Tokens are unique, dynamically created card data reference numbers. Referred to as RecordNo, tokens are only generated by request. Systems enabled to support Worldpays' tokenization will first request a token with the relevant frequency. This is done with a standard transaction request using group data G089 with RecordNo set to RecordNumberRequested and Frequency set to O (OneTime) or R (Recurring). Optional response group R998 returns detailed error responses unless the Error Response Requested field in G089 is set to N.

Worldpay processes the transaction with the token request normally, but then routes an approved response to tokenization servers that generate a token based on the request criteria. This token is then passed back to the local POS with the authorization response using group data R089. The mToken response contains the frequency, last 4 digits of the account number for printing on the receipt, tokenize/de-tokenize result, and token/RecordNo. (See R089 - mToken Response and mToken Error Responses.)

The POS, per business need, may store the token as is for future use, be that retouching a transaction for voids or tip modification or building recurring databases for weekly, monthly, or annual billing programs.

Merchant accounts are set up to reflect POS system tokenization capability. If the merchant is set up for tokenization and both RecordNo and Frequency tags are in the request, then Worldpay will build and return the token record on all credit responses.

Token Frequencies

A token has one of the following frequencies:

- **OneTime** - The token expires six months from the date Worldpay generates it. With each subsequent use, Worldpay generates and returns a new token, adding an additional 6 months. Worldpay recommends the OneTime token for all daily use transactions, for card-on-file supported systems, and for non-recurring, card-on-file transactions.
- **Recurring** - The token expires 24 months from the date Worldpay generates it. With each subsequent use, Worldpay generates and returns a new token, adding an additional 24 months. Use this for recurring environments that implement weekly, monthly or annual subscription billing. Worldpay does not recommend recurring tokens for daily transaction activity. "Recurring payment" may appear on the cardholder's bank statement and may impact additional charges.

TABLE 4-94 G089 – mToken Request

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
01	Frequency	a	1	1	<p>O - Worldpay dynamically generates the OneTime token, which you should use for day of business VoidSale/Reversals, Adjusts and tip modifications, or in subsequent card on file transactions.</p> <p>R = Worldpay dynamically generates the Recurring token, which you should use for recurring billing.</p> <p>Frequency values must stay consistent in all subsequent requests using the token.</p> <p>Inconsistent use of Frequency will cause the subsequent transaction request to fail.</p> <p>(See mToken Error Responses on page 549 for specific error responses)</p>	Y
02	Error Response Required	a	2	1	<p>Y - Indicates Response group data R998 should return detailed error description(s).</p> <p>N - Indicates detailed error description(s) should not be returned</p>	Y
03	RecordNo Field Length	n	3-5	3	Length of the following value field	Y
04	RecordNo	ans	6	LLLVar	<p>RecordNumberRequested or actual token (maximum 100 characters)</p> <p>The initial RecordNo element will always contain RecordNumberRequested.</p> <p>Use the actual token returned in subsequent requests.</p>	Y

Example

The following is an example of group field G089 where the request includes Frequency, Error Response Requested, and RecordNo for the initial request:

G0890Y021RecordNumberRequested<gs>

The following is an example of group field G089 where the request includes Frequency, Error Response Requested, and the token:

G0890Y0560I/v1/B5hIu99VmyAiLiF6LTBDgqYOBZ5WHOAgAPIImoyEgUQABI0AqAO<gs>

4.1.73 G090 – Amazon Pay Request Data

This data group can contain multiple tags to facilitate the processing of Amazon Pay transactions. Each subfield is built in TLV format with tags allowed in any order. The inclusion of Amazon Pay data will force a call to Amazon Pay for a PAN lookup regardless of any other message factors. It generates tokens for OneTime or Recurring. You cannot use a token generated for OneTime use for Recurring. You cannot use a token generated for Recurring for OneTime.

On an Amazon Pay transaction, field 45 may contain space, because there will be no track/PAN.

TABLE 4-95 G090 – Amazon Pay Request

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
01	Tag type	an	01	2		
02	Tag value length	n	03	3		
03	Tag value	an	06	Variable		

TABLE 4-96 G90 - Amazon Pay Request Group Values

Tag	Use	Type	Length	Description
TK	Amazon Pay token	an	1-16	This should contain the token provided by Amazon to detokenize on a purchase.
CI	Amazon Pay Charge ID	an	1 - 27	This field will contain the unique charge ID provided by Amazon on the decryption call, which is used as a reference number for a transaction. It must be provided on all reversals and refunds.
ON	Order number	an	1 - 256	This field contains the Amazon Pay merchant order number. It is required for all Amazon pay purchases and is a unique ID for the Amazon Pay transaction.
MI	Amazon Merchant ID	an	1 - 256	This is a mandatory field containing whatever identification was registered with Amazon to link the transaction to the merchant.

4.1.74 G091 – Benefit Card Services UPC/PLU Pass-Thru Data #4

This is a variable length field that contains UPC/PLU information to be sent out to the networks for Benefit Card Services processing. This is a continuation field used to submit more product data. See [Appendix C, "Benefit Card Services Processing"](#) for more information.

TABLE 4-97 G091 Response Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Benefit Card Services UPC/PLU Pass Thru Data Field #4	ans	1-999	1-999	Variable 999 maximum

4.2 Response Groups

This section defines the following groups available to use in response messages:

- R001 – e/m Commerce Authentication Result
- R002 - Gift Card Mass Transaction (Greater than 25 Cards)
- R003 – Gift Card Mass Transaction
- R004 – Gift Card Inquiry Mini-Statement
- R005 – Gift Card Mass Tracking Number
- R006 – Card-Level Results
- R007 – Additional Amounts
- R008 – Original Authorization Retrieval Reference Number
- R009 – AMEX Transaction Identifier/Discover Network Reference ID
- R010 – Text Message
- R011 – Signature Capture Data
- R012 – Market Specific Data
- R013 – Gift Card Converted Account Number
- R014 – Check Service Vendor
- R015 – Discover Network Specific Response Codes
- R016 – AMEX Telephone Number/E-mail Address Verification Response
- R017 – End-To-End Encryption (E2EE) Response
- R018 – Payment Type Totals
- R019 – EBT WIC Pass-thru Data Field #1
- R019 - Benefit Card Services UPC/PLU Pass-Thru Data (Usage 2)
- R020 – EBT WIC Pass-thru Data Field #2
- R020 - Benefit Card Services UPC/PLU Pass-Thru Data #2 (Usage 2)
- R021 – EBT WIC Pass-thru Data Field #3
- R021 - Benefit Card Services UPC/PLU Pass-Thru Data #3 (Usage 2)
- R022 – DCC Response Data
- R023 – EMV Response Data
- R024 – MasterCard PAN Mapping File Information
- R025 – Mastercard Additional Processing Information for Chip Transactions
- R026 – Visa Spend Qualified Indicator
- R027 – Pinless Debit Indicator^{fuse}
- R028 – Customer Discretionary Data
- R029 – Synchrony Promo Code
- R030 – Additional Response Data
- R031 – Payment Account Data Response

- R032 - Returned Token Data
- R033 - Transaction Integrity Class (Mastercard)
- R034 - Debit Optimization Result
- R035 - WEX Additional Host-Based Prompts Requested
- R036 - WEX Available Products Block
- R038 – Valutec Data
- R054 – MAC Encryption Key Data Response
- R055 – Message Authentication Data
- R056 - Enhanced Check Authorization Response Data
- R057 - Real Time Account Updater Response Data
- R061 - FIS Loyalty Response Data
- R070 – AliPay Response Data
- R072 – Additional Response Data
- R075 - Raw Network Response Data
- R087 - Transaction Identifier
- R089 – mToken Response
- R090 – Amazon Pay Response Data
- R091 – Benefit Card Services UPC/PLU Pass-Thru Data #4
- R997 – System Health Status Information
- R998 – Detail Extended Host Error Description
- R999 – Error Group Data Response

4.2.1 R001 – e/m Commerce Authentication Result

This indicates the result of an eCommerce VISA transaction that requested authentication or to indicate the result of an mCommerce Discover transaction that requested authentication. Visa and Discover return the value, which the POS device does not alter. This response only applies to transactions when the request message contains [G002 - eCommerce Verified by Visa](#) or [G041 - Discover D-PAS In-App Cardholder Authentication Data](#).

Non-U.S. acquired transactions that occur on cards issued in the U.S. region can receive CAVV result code values of 7, 8, 9, or A.

V.I.P. will reject a transaction with Reject Reason Code 0193 (invalid value) when an issuer returns the response message with the value C or D.

TABLE 4-98 R001 - e/m Commerce Authentication Result

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	
01	e/m Commerce CA VV Result Code	an	1-1	3	Blank or not present – CAVV not present 0 – CAVV authentication results invalid 1 – CAVV failed validation – authentication 2 – CAVV passed validation – authentication 3 – CAVV passed validation – attempt. A Verified by VISA authentication value of 7 from the issuer's ACS indicates that authentication was attempted. Determine that the issuer ACS generated this value from the use of the issuer's CAVV key(s). 4 – CAVV failed validation – attempt. A Verified by VISA authentication value of 7 from the issuer's	9 - CAVV failed validation – attempt (US – issued cards only). A Verified by VISA authentication value of 8 from Visa's ACS indicates that an authentication attempt was performed when the issuer's ACS was not available. (Determine that Visa generated this value from the use of Visa CAVV key[s]). A – CAVV passed validation – attempt (U.S. – issued cards only). A Verified by VISA authentication value of 8 from Visa's ACS indicates that an authentication attempt was performed when the issuer's ACS was not available. Determine that Visa generated this value from the use of Visa CAVV key(s).

TABLE 4-98 R001 - e/m Commerce Authentication Result

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	
					<p>ACS indicates authentication was attempted. Determine that the issuer ACS generated this value from the use of the issuer's CAVV key(s).</p> <p>5 – Not used. Reserved for future use.</p> <p>6 – CAVV not validated, issuer not participating in CAVV validation (for VISA use only).</p> <p>7 – CAVV failed validation – attempt (US – issued cards only). A Verified by VISA authentication value of 7 from Visa's ACS indicates that an authentication attempt was performed.</p>	<p>B – CAVV passed validation, information only, no liability shift. When the ECI does not equal 5 or 6 and the CAVV is present, Worldpay validates the CAVV; however, a liability shift will occur. Visa will generate this value for card or transaction types that are not eligible for the Verified by Visa Service.</p> <p>C – CAVV was not validated – attempted (for Visa use only). If the issuer did not return a CAVV results code in the authorization response, V.I.P. will set the value to C.</p>

TABLE 4-98 R001 - e/m Commerce Authentication Result

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	
					<p>Determine that VISA generated this value from the use of Visa CAVV key(s).</p> <p>8 – CAVV passed validation – attempt (US – issued cards only). A Verified by VISA authentication value of 7 from Visa’s ACS indicates that authentication attempt was performed.</p> <p>(Determine that Visa generated this value from the use of Visa CAVV key(s).</p>	<p>D – CAVV was not validated – authentication (for Visa use only). If the issuer did not return a CAVV results code in the authorization response, V.I.P. will set the value to D.</p>

Example

The following is an example of group field R001:

```
|R0010<gs>|
```

4.2.2 R002 - Gift Card Mass Transaction (Greater than 25 Cards)

This group is for Premier Issue Gift Card Mass Transaction Response Data when the requested range is greater than 25. The data values returned from the authorization agency to the POS device are unaltered.

TABLE 4-99 R002 - Gift Card Mass Transaction

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Local Transaction Date	n	1 - 6	6	MMDDYY
02	Local Transaction Time	n	7 - 12	6	hhmmss
03	Completion Date and Time	n	13 - 22	10	MMDDhhmmss
04	Gift Card Mass Transaction greater than 25 cards	ans	23 - 1022	1 - 999	Variable up to 999 maximum

Table 4-100 lists the format of the response data beginning after the group response indicator (R002). Field separators delimit fixed and variable data.

TABLE 4-100 R002 Response Data

Field 04 Data Description Detail	Data Type	Length	Valid Value/Notes
Beginning Card Number	n	1 – 19	Variable 1 thru 19
Ending Card Number	n	1 – 19	Variable 1 thru 19
Total Cards	n	1 – 4	Variable 1 thru 4 This value indicates the total number of cards for a Mass transaction.
Card Amount	n	1 – 9	Variable 1 thru 9 This is in US dollars and cents with no decimal.
Total Amount	n	1 – 9	Variable 1 thru 9

Example

The following is an example of group field R002:

```
|R00205030614222305032100005896290000000016<fs>5896290000000059<fs>250<fs>1000<fs>250000<gs>|
```

4.2.3 R003 – Gift Card Mass Transaction

This is for Premier Issue Gift Card Mass Transaction Response Data when the requested range is 25 or fewer. It is also present in Gift Card Mass Response Decline (message 210, bit map 62). The data values returned from the authorization agency to the POS device are unaltered.

TABLE 4-101 R003 - Gift Card Mass Transaction

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Local Transaction Date	n	1-6	6	MMDDYY
02	Field Separator	s	7 - 7	1	
03	Local Transaction Time	n	8- 13	6	hhmmss
04	Field Separator	s	14-14	1	
05	Gift Card Mass Transaction 25 or fewer cards	ans	15-1014	1-999	Variable up to 999 maximum

Table 4-102 lists the format of the response data beginning after the group response indicator (R003).

Field separators delimit fixed and variable data. For Activation transactions, the card amount and card balance amount are the same. For Reloads, the card amount is the same and the card balance amount could be different.

TABLE 4-102 R003 Response Data Format

Field 03 Data Description Detail	Data Type	Length	Valid Value/Notes	Comments
Beginning Card Number	n	1 - 19	Variable 1 thru 19	
Field Separator	s	1		
Ending Card Number	n	1 - 19	Variable 1 thru 19	
Field Separator	s	1		
Approved Cards	n	1 - 4	Variable 1 thru 4	This value indicates how many times the Last four digits of card number, Card Status and Card Balance repeat.
Field Separator	s	1		

TABLE 4-102 R003 Response Data Format

Field 03 Data Description Detail	Data Type	Length	Valid Value/Notes	Comments
Card Amount	n	1 - 9	Variable 1 thru 9	This is a fixed value for an Activation or Reload. Format the value as US dollars and cents with no decimal.
Field Separator	s	1		
Last four digits of card number	n	4		This repeats up to 25 times maximum depending on the value in the Approved Cards.
Field Separator	s	1		
Card Status	an	2		This repeats up to 25 times maximum depending on the value in Approved Cards.
Field Separator	s	1		
Card Balance Sign	an	1		This repeats up to 25 times maximum depending on the value in Approved Cards. 0 - Indicates a zero amount in the card balance field. C - Indicates a positive amount in the card balance field. D - Indicates a negative amount in the card balance field.
Field Separator	s	1		
Card Balance	n	1 - 9	Variable 1 thru 9	This repeats up to 25 times maximum depending on the value in Approved Cards.
Field Separator	s	1		This separator is present if additional Gift Cards follow.

Example

The following is an example of group field R003:

```
|R003050306<fs>142223<fs>5896290000000016<fs>5896290000000059<fs>5<fs>2500<fs>0016<fs>A
A<fs>C<fs>2500<fs>0023<fs>AA<fs>C<fs>2500<fs>0035<fs>AA<fs>C<fs>2500<fs>0048<fs>AA<fs>C
<fs>2500<fs>0051<fs>AA<fs>C<fs>2500<gs>|
```

4.2.4 R004 – Gift Card Inquiry Mini-Statement

This obtains a balance inquiry Mini-Statement for a particular Premier Issue gift card account. The Mini-Statement provides information on up to the last 10 financial transactions processed on the gift card account. A financial transaction is one that alters the balance of the card and would include most transactions other than Balance Inquires and Mini-Statement requests.

TABLE 4-103 R004 - Gift Card Inquiry Mini-Statement

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Gift Card Mini-Statement Data	ans	1 - 999	1 - 999	Variable up to 999 maximum

Table 4-104 lists the format of the response data beginning after the group response indicator (R004). The description detail represents one detail line. It supports up to a maximum of 10 detail lines maximum. It uses field separators to delimit fixed and variable data.

TABLE 4-104 R004 Response Data Format

Field Data Description Detail	Data Type	Length	Valid Value/Notes	Comments
Transaction Date	n	6		MMDDYY format
Field Separator	s	1		
Transaction Time	n	4		HHMM format
Field Separator	s	1		
Function Code	ans	3	Variable 2 thru 3	
Field Separator	s	1		
Response Code	ans	2		
Field Separator	s	1		
Transaction Amount	n	1 - 9	Variable 1 thru 9	Format the value as US dollars and cents with no decimal.
Field Separator	s	1		
Merchant Name	ans	24	Variable 1 thru 24	
Field Separator	s	1		This separator is present if additional Inquiry Mini Statements follow.

Example

The following is an example of group field R004:

```
|R004011603<fs>1232<fs>GA<fs>AA<fs>3500<fs>Merchant  
#26<fs>031703<fs>1713<fs>GP<fs>AA<fs>1500<fs>Merchant  
#21<fs>041103<fs>0835<fs>GP<fs>AA<fs>1000<fs>Merchant #1<gs>|
```


4.2.5 R005 – Gift Card Mass Tracking Number

This responds with a unique value that the Premier issue gift card host assigns for each transaction approval. This group response value returns for all supported and approved gift card mass transaction types.

TABLE 4-105 R005 - Gift Card Mass Tracking Number

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Gift Card Mass Tracking Number	n	1 - 12	12	Variable up to 999 maximum

Example

The following is an example of group field R005:

```
|R005123456789012<gs>|
```

4.2.6 R006 – Card-Level Results

This contains a two-character code created by Visa during the authorization process. [Table 4-107](#) lists the valid value for this group.

TABLE 4-106 R006 - Card-Level Results

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Card-level Results	ans	1 - 2	2	Variable up to 999 maximum

TABLE 4-107 Field 01 Codes

Value (* = space)	Description
**	The request for authorization was not processed by VIP.
A*	Visa Traditional
B*	Visa Traditional Rewards
C*	Visa Signature
D*	Visa Signature Preferred
DI	Discover
DN	Diners
E*	Proprietary ATM
F*	Visa Classic
G*	Visa Business
G1	Visa Signature Business
G2	Reserved
G3	Visa Business Enhanced (U.S. only)
H*	Reserved
I*	Visa Infinite
J*	Reserved
J1	Reserved
J2	Reserved
J3	Visa Healthcare
J4	Reserved

TABLE 4-107 Field 01 Codes

Value (* = space)	Description
K*	Visa Corporate T&E
K1	Visa GSA Corporate T&E
L*	Electron
M*	MasterCard
N*	Visa Platinum
N1	TBA
P*	Visa Gold
Q*	Private Label
Q1	Reserved
R*	Proprietary
S*	Visa Purchasing
S1	Visa Purchasing with Fleet
S2	Visa GSA Purchasing
S3	Visa GSA Purchasing with Fleet
S4	Government Services Loan
S5	Commercial Transport EBT
S6	Business Loan
S7	Visa Distribution
T*	Reserved
U*	Visa Travel Money
W* - Z*	reserved

Example

The following is an example of group field R006:

```
|R006A*<gs>|
```

4.2.7 R007 – Additional Amounts

This returns for a partially approved transaction and on balance inquiries (see [G009 – Optional Processing Indicators](#)). It contains up to four amount sets of 20 bytes each.

NOTE: For Benefit Card Services transactions, R007 can contain up to 12 amount types and be 240 bytes long. For more information, see [Appendix C, "Benefit Card Services Processing"](#).

TABLE 4-108 R007 - Additional Amounts Request

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	
01	Account Type	an	1 - 2	2	00 – Not specified 10 – Savings account 20 – Checking account	30 – Credit Card 40 – Universal Account 64 – Spending Power

TABLE 4-108 R007 - Additional Amounts Request

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
02	Amount Type	an	3 - 4	2	01 - Ledger balance 02 – Available balance 03 – Authorized Amount 04 – Amount Due (MasterCard Only) 05 – Authorized Cash Amount 10 – Healthcare Eligibility Amount (MasterCard Only) 11 – Prescription Eligibility Amount (MasterCard Only) 16 – Specialty Use 18 – Beginning balance 21 – Open to Buy 22 – Credit Limit 5A - Benefit Card Services OTC Requested Amount 5B - Benefit Card Services OTC Approved Amount 5C - Benefit Card Services OTC Balance Amount (for future use) 5D - Benefit Card Services Food Requested Amount 5E - Benefit Card Services Food Approved Amount 5F - Benefit Card Services Food Balance Amount (for future use) 5G - Benefit Card Services Program Discount Amount (for future use) 5I - Benefit Card Services Other Amount 57 – Original amount for partial approvals 58 – Original cash-over amount for partial approvals 80 – Co-pay amount SC - Calculated Surcharge Amount
03	Currency code	an	5 – 7	3	840 = US
04	Amount (s+n 12)	n	8 – 20	13	C – for positive amount D – for negative amount

Example

The following is an example of group field R007 that shows a \$10.00 beginning balance and \$20 open to buy:

```
|R0073002840C0000000010003021840C000000002000<gs>|
```

4.2.8 R008 – Original Authorization Retrieval Reference Number

This responds with the retrieval reference number of the authorization transaction. Set the sixth byte of [G009 – Optional Processing Indicators](#) to **Y** if you want Worldpay to return this group on authorization.

TABLE 4-109 R008 - Original Authorization Retrieval Reference Number

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Original Authorization Retrieval Reference Number	n	1 - 9	9	

Example

The following is an example of group field R008:

```
|R008123456789<gs>|
```

4.2.9 R009 – AMEX Transaction Identifier/Discover Network Reference ID

This passes the AMEX Transaction Identifier/Discover Network Reference ID. It returns on approvals or declines when you set G009 position 4 to Y and Worldpay sends the American Express transaction to American Express for authorization. It also returns when you set G009 position 9 in the request to Y and Worldpay sends the Discover transaction to Discover for authorization. For more information about G009, see [G009 – Optional Processing Indicators](#) on page 355.

TABLE 4-110 R009 - AMEX Transaction Identifier/Discover Network Reference ID

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Transaction Identifier	n	1 - 15	15	

Example

The following is an example of group field R009:

```
|R009123456789012345<gs>|
```

4.2.10 R010 – Text Message

This sends text to the front-end device to display or print on the receipt.

To receive this group in the response, set subfield 7 of the [G009 - Optional Processing Indicators](#) request message to Y.

Only decline transactions return ECHO check response data. The maximum length for message type CG text message is 192 characters. The host does not alter the content of the text message.

TABLE 4-111 R010 - Text Message

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Message Type	an	1 – 2	2	M1 = MasterCard Rewards CG = Check Generic Text
02	Text Message Length	n	3 – 5	3	Variable up to 850 maximum
03	Text Message	an	6 - 855	1 - 850	

Example

The following is an example of group field R010:

```
|R010CG020Receipt Text Message<gs>|
```


4.2.11 R011 – Signature Capture Data

This sends a unique signature capture data value generated by the host processor to the front-end device to capture, display, or print on the receipt.

To receive this group in the response, set subfield 8 in the [G009 - Optional Processing Indicators](#) request message to **Y**. The host processor returns the Signature Capture data on any approved 610 message set transaction.

TABLE 4-112 R011 - Signature Capture Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Signature Capture Data	n	1 - 11	11	

Example

The following is an example of group field R011:

```
|R01101234567890<gs>|
```

4.2.12 R012 – Market Specific Data

This passes market specific data to the front-end for VISA transactions only. To receive this group in the response, set subfield 10 in [G009 – Optional Processing Indicators](#) to **Y** in the request message.

TABLE 4-113 R012 - Market Specific Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Market Specific Data * (See Application Notes.)	an	1 – 1	1	A = Auto Rental B = Bill pay H = Hotel M = Qualified IIAS VISA transaction N = Non-qualified IISA VISA transaction E = Aggregate VISA transaction T = Transit

Example

The following is an example of group field R012:

```
|R012M<gs>|
```

4.2.13 R013 – Gift Card Converted Account Number

When position 11 in the [G009 - Optional Processing Indicators](#) request message is Y, this returns for swiped PIDN GC transactions. The PIDN converted account number defines the account number held in the Worldpay database and prints on the face of the gift card.

TABLE 4-114 R013 - Gift Card Converted Account Number

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Gift Card PIDN (Premier Issue Dual Number Cards) Converted Account Number	ans	1 - 19	19	For account number less than 19 digits, left justify and space fill this field.

Example

The following is an example of group field R013:

```
|R0135858123456789012***<gs>|
```

4.2.14 R014 – Check Service Vendor

This advises which check service vendor was used to authorize the check transaction. It returns to the POS on all generic check request approval and decline transactions.

TABLE 4-115 R014 - Check Service Vendor

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Check Service Vendor	an	1 – 4	4	ECHO - Electronic Clearing House Incorporated

Example

The following is an example of group field R014:

```
|R014ECHO<gs>|
```

4.2.15 R015 – Discover Network Specific Response Codes

This is in the authorization reply message that goes to the terminal and can receive the Network Specific Response Code due to the presence of group [G009 - Optional Processing Indicators](#) position 14 in the authorization request.

TABLE 4-116 R015 - Discover Network Specific Response Code

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	
01	Authorization Response Code	an	1 - 2	2		
02	Track 1 data condition code	n	3 - 3	1	0 – No Track 1 Data Present 1 – Track 1 data present with CVV not provided 2 – Track 1 data present with non-zero and non-blank CVV 3 – Track 1 data present with CVV set to all zeros	4 – Track 1 data present with CVV containing some or all blanks 5 – Track 1 data present but CVV location not disclosed by Issuer
03	Track 2 data condition code	n	4 - 4	1	0 – No Track 2 Data Present. 1 – Track 2 data present with CVV not provided 2 – Track 2 data present with non-zero and non-blank CVV 3 – Track 2 data present with CVV set to all zeros	4 – Track 2 data present with CVV containing some or all blanks 5 – Track 2 data present but CVV location not disclosed by Issuer
04	Discover Processing Code	n	5-10	6		

Example

The following is an example of group field R015:

```
|R0150002000000<gs>|
```

4.2.16 R016 – AMEX Telephone Number/E-mail Address Verification Response

This contains the result of a telephone number/e-mail address verification. When an authorization request message contains [R024 – MasterCard PAN Mapping File Information](#), the response returns [R016 – AMEX Telephone Number/E-mail Address Verification Response](#).

TABLE 4-117 R016 - AMEX Telephone Number/E-mail Address Verification Response

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Phone # verification	an	1 - 1	1	<space> – Data not sent Y – Yes, data matches N – No, data not matches U – Data unchecked R – Retry S – Service not allowed
02	E-mail verification	n	2 - 2	1	<space> – Data not sent Y – Yes, data matches N – No, data not matches U – Data unchecked R – Retry S – Service not allowed

Example

The following is an example of group field R016:

```
|R016YY<gs>|
```

4.2.17 R017 – End-To-End Encryption (E2EE) Response

This is in authorization reply message to the terminal that requested account number information using E2EE [G026 – POS Encrypted Data](#) in the authorization request. Fields 02, 03 and 04 repeat depending on the value in Field 01, Number of Entries.

This group returns the values for field numbers 02, 03, and 04 in any order. For example:

|R0173304160351660113904207616036060C4000<gs>

|R0173516601139820646160330416036060C4000<gs>

The host only returns Token/De-token result field 2 (field type value of 4) when there is an unsuccessful host attempt to tokenize or de-tokenize. This response group returns a one byte value. If you set G009 field 16 to Y in the request message, group response data [R998 – Detail Extended Host Error Description](#) contains additional data.

For more information about special processing, see [End-To-End Encryption \(E2EE\)](#) on page 602.

TABLE 4-118 R017 - End-To-End Encryption (E2EE) Response

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Number of Entries	an	1	1	1 – 5 The number of entries to follow, where an entry includes the trio of fields (type/length/value).
02	Field Type	n	2	1	E2EE 1 – Clear account number E2EE and Tokenization/De-tokenization 2 – Masked account number Tokenization/De-tokenization 3 – Truncated, last 4 digits of account number 4 – Token/de-token result 5 – Token 6 – Token ID 7 - Clear last 4 digits of the account number 8 - Expiration Date 9 - Low Value Token (Reg-ID)
03	Field Length	n	3-4	2	4 – 19 Length of the following value field
04	Field Value	an	LLVar	4 - 19	Field value for item defined by Field Type and for length defined by Field Length

Field 02 (Field Type 3)

The host returns the last four digits of the clear cardholder account number to the POS for receipt printing and identifying transactions in other Worldpay environment. Depending on which tokenization format option you use to generate the token (Worldpay MDS setup and host controlled), the last four digits of the token may be the same as the last four digits of the clear cardholder account number. For example, the default host tokenization format preserves the last 4 digits of the clear cardholder account number when generating the token value.

Field 02 (Field Type 4)

If host tokenization fails (F value) when processing Legacy or Omni tokens, the token will contain spaces and the Token ID will contain ZZZZZZ. The host will attempt to process transaction requests without token data (using clear PAN or Track) when applicable. The transaction may result in an approval or decline using E2EE, clear PAN/track data, or both.

If host tokenization fails when processing Registration-ID, R017 does not return the token field and token-id field. The presence of this Field Type 4 Value F indicates this error. The transaction will result in a decline if Worldpay cannot create a token using the Registration-ID.

For De-tokenization conversions, this field indicates the host was unsuccessful in converting the token/token ID or date and/or time to a clear PAN.

Field 02 (Field Type 7)

The host returns the last four digits of the clear PAN to the POS for receipt printing and identifying transactions from the networks. The terminal needs to request this.

Field 02 – Field Type 8

The host returns four digits of the clear expiration date to the POS for receipt printing and identifying transactions from the networks. The terminal needs to request this.

Example

The following is an example of group field R017, where the response includes last 4 digits of account number:

```
|R01713041234<gs>|
```

The following is an example of group field R017, where E2E and Legacy Tokenization are successful and the response includes the token, Token ID, and the last 4 digits of clear account number in the response:

```
|R0174116123456789012345630412345161234567890123456606123456<gs>|
```

The following is an example of group field R017 when host E2E is successful but host Legacy Tokenization is unsuccessful and the response includes last 4 digits of the account number, the token creation failed, the token value is spaces, and token id value is ZZZZZZ:

```
|R01743041234401F519*****606ZZZZZZ<gs>|
```

The following is an example of group field R017 when non-E2E and Legacy Tokenization successful and the response includes the token, the Token ID, and the last 4 digits of clear account number:

```
|R01733041234515123456789012345606123456<gs>|
```

The following is an example of group field R017 when E2E and Omni Tokenization is successful and the response includes the last 4 digits of the clear account number and the token:

```
|R0174116123456789012345630412345161234567890123456<gs>|
```

The following example of group field R017 when the host E2E is successful but the host Omni Tokenization is unsuccessful and the response includes the last 4 digits of account number, the token creation failed, the token value is spaces, and the token id value is ZZZZZZ:

```
|R01743041234401F519*****606ZZZZZZ<gs>|
```

The following is an example of group field R017 when non-E2E and Omni Tokenization is successful and the response includes the token and the last 4 digits of the clear account number:

```
|R01733041234515123456789012345<gs>|
```

The following is an example of group field R017 when E2E and no Token are successful and the response includes the last 4 digits of the clear account number:

```
|R017230412345161234567890123456<gs>|
```

The following is an example of group field R017 when the host non-E2E transaction and the are token unsuccessful and the response includes the last 4 digits of the account number and the token creation failed in the response:

```
|R01743041234401F519*****606ZZZZZZ<gs>|
```

The following is an example of group field R017 when Legacy or Omni Token De-tokenization conversion is unsuccessful:

```
|R0171401F <gs>|
```

The following is an example of group field R017 when Registration-ID Tokenization conversion is unsuccessful:

```
|R0171401F <gs>|
```

4.2.18 R018 – Payment Type Totals

This is an alternative to the 7 payment type totals in the base message by handling the full 16 payment types possible; rows 1 through 5 repeat as a group for as many payment types as necessary, up to 16. Additionally, it accommodates much larger totals than the base message with counts up to 999,999 and amounts up to \$9,999,999,999.99.

TABLE 4-119 R018 - Payment Type Totals

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Payment Type	an	1-2	2	Any valid payment type present in the batch
02	Sales Count	n	3-8	6	Number of sale transactions for this payment type in the batch
03	Sales Amount	n	9-20	12	Dollar amount of sale transactions for this payment type in the batch, in which it implies the decimal point
04	Returns Count	n	21-26	6	Number of return transactions for this payment type in the batch
05	Returns Amount	n	27-38	12	Dollar amount of return transactions for this payment type in the batch, in which it implies the decimal point

NOTE: Any totals in the base message are ignored when R018 is present.

Example

The following is an example of group field R018:

```
|R018VI0000020000000032500000000000000000VY000004000000132843000001000000000945<gs>|
```

TABLE 4-120 Example Data

Pay Type	Sales Count	Sales Amount	Returns Count	Returns Amount
VI	2	\$32.50	0	\$0.00
VY	4	\$1,328.43	1	\$9.45

4.2.19 R019 – EBT WIC Pass-thru Data Field #1

This contains WIC processor information (see ANS X9.93 Financial Transaction Messages) that passes through to the POS. It can contain as many complete WIC composite data elements as will fit within the total 999 positions of the bit. Where indicated by the WIC specification, if the message requires more composite data elements than will fit into it, Worldpay places these additional composite elements in [R020 - EBT WIC Pass-thru Data Field #2](#), [R021 - EBT WIC Pass-thru Data Field #3](#), or both as indicated. Any 0110, 0210 WIC inquiry or authorization response transaction can include R019.

For more information about special processing, see [WIC: The Special Supplemental Nutrition Program for Women, Infants and Children](#) on page 616.

TABLE 4-121 R019 - EBT WIC Pass-thru Data Field #1

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	EBT WIC Pass-thru Data Field #1	ans	1 - 999	1-999	Variable 999 maximum

Example

The following is an example of group field R019:

```
|R019<... ANS X9.93 Financial Transaction Message(s)...><gs>|
```

4.2.20 R019 - Benefit Card Services UPC/PLU Pass-Thru Data (Usage 2)

Group Field R019 usage 2 is used to pass back Benefit Card Services UPC/PLU product data from the network. Additional data elements are placed in R020, R021, and R091 when the data exceeds the max length of R019. See [Appendix C, "Benefit Card Services Processing"](#) for more information.

TABLE 4-122 R019 Usage 2 Data Format

Field Number	Request Optional Group Description	Data Type	Position	Length	Valid Value/Notes
01	Benefit Card Services UPC/PLU Pass Thru Data Field #1	ans	1-999	1-999	Variable 999 maximum

TABLE 4-123 Fields

Field Description	Field Length	Notes
UPC/PLU Tag	AN 5	*PS\ Designates field 106 as UPC/PLU pass-thru data
Purchase Item Data Length	N 4	
UPC/PLU Indicator	N 1	0 = UPC, 1 = PLU
UPC/PLU Value	N 15	UPC/PLU value. Right-justified, padded with 0s
UPC/PLU Check Digit	N 1	Calculated using UPC-A check digit algorithm from GS1
Category Code	AN 2	Identifies the product/produce item at a macro level, e.g. "milk"
Sub-category Code	AN 3	Identifies the product/produce item at a micro level, e.g. "skim"
Benefit Purse Type	AN 2	Benefit purse type value as defined for requested amount type values (Blank on requests)
Units	N 5	Quantity of package measure
Package Measure	A 10	Ounces, Gallon, and so on
Original Item Price	N 6	
Purchase Quantity	N 5	
Discount Amount	N 6	
Coupon Amount	N 6	For future use
Coupon Quantity	N 5	For future use

TABLE 4-123 Fields

Field Description	Field Length	Notes
Final Price	N 6	Final Price = Original Item Price x Purchase Quantity less (Discount Amount + Coupon Amount), Right-justified, zero-filled
UPC/PLU Data Length	N 2	Right justify and zero fill.
Item Action Code	N 2	00 = Approved / on APL. 04 = Not Approved/Not on APL. 07 = Exceeds Available/on APL. Use 00 on requests.

4.2.21 R020 – EBT WIC Pass-thru Data Field #2

This contains WIC processor information (see ANS X9.93 Financial Transaction Messages) that passes through to the POS. It can contain as many complete WIC composite data elements as will fit within the total 999 positions of the bit. Where indicated by the WIC specification, if the message requires more composite data elements than will fit into R020, Worldpay places these additional composite elements in [R021 - EBT WIC Pass-thru Data Field #3](#). Any 0110, 0210 WIC inquiry or authorization response transaction, which already contains a [R019 - EBT WIC Pass-thru Data Field #1](#) group data item, can include R020.

For more information about special processing, see [WIC: The Special Supplemental Nutrition Program for Women, Infants and Children](#) on page 616.

TABLE 4-124 R020 - EBT WIC Pass-thru Data Field #2

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	EBT WIC Pass-thru Data Field #2	ans	1 - 999	1-999	Variable 999 maximum

Example

The following is an example of group field R020:

```
|R020<... continuation of ANS X9.93 Financial Transaction Message(s)...><gs>|
```

4.2.22 R020 - Benefit Card Services UPC/PLU Pass-Thru Data #2 (Usage 2)

Group Field R020 usage 2 is used to pass back Benefit Card Services UPC/PLU product data from the network. Additional data elements are placed in R021 and R091 when the data exceeds the max length of R020. See [Appendix C, "Benefit Card Services Processing"](#) for more information.

TABLE 4-125 R020 Usage 2 Data Format

Field Number	Request Optional Group Description	Data Type	Position	Length	Valid Value/Notes
01	Benefit Card Services UPC/PLU Pass Thru Data Field #1	ans	1-999	1-999	Variable 999 maximum

4.2.23 R021 – EBT WIC Pass-thru Data Field #3

This contains WIC processor information (see ANS X9.93 Financial Transaction Messages) that passes through to the POS. It can contain as many complete WIC composite data elements as will fit within the total 999 positions of the bit. Any 0110, 0220 WIC inquiry or authorization response transaction, which already contains [R019 - EBT WIC Pass-thru Data Field #1](#) and [R020 - EBT WIC Pass-thru Data Field #2](#) group data items, can include R021.

For more information about special processing, see [WIC: The Special Supplemental Nutrition Program for Women, Infants and Children](#) on page 616.

TABLE 4-126 R021 - EBT WIC Pass-thru Data Field #3

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	EBT WIC Pass-thru Data Field #3	ans	1 - 999	1-999	Variable 999 maximum

Example

The following is an example of group field R021, where * is a space, <fs> is a field separator, and <gs> is a group separator:

```
|R021<... continuation ANS X9.93 Financial Transaction Message(s)...><gs>|
```

4.2.24 R021 - Benefit Card Services UPC/PLU Pass-Thru Data #3 (Usage 2)

Group Field R020 usage 2 is used to pass back Benefit Card Services UPC/PLU product data from the network. Additional data elements are placed in R091 when the data exceeds the max length of R021. See [Appendix C, "Benefit Card Services Processing"](#) for more information.

TABLE 4-127 R021 Usage 2 Data Format

Field Number	Request Optional Group Description	Data Type	Position	Length	Valid Value/Notes
01	Benefit Card Services UPC/PLU Pass Thru Data Field #3	ans	1-999	1-999	Variable 999 maximum

4.2.25 R022 – DCC Response Data

When the authorization request requests DCC, this contains DCC data returned to the POS device.

For more information about special processing, see [Dynamic Currency Conversion \(DCC\)](#) on page 621 in [Appendix B, "Special Transaction Processing"](#).

TABLE 4-128 R022 - DCC Response Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	DCC Requested Transaction Amount	n	1 – 12	12	This is the requested amount in the cardholder's currency code, as converted by the conversion rate.
02	DCC Authorized Transaction Amount	n	13 – 24	12	This is the authorized amount in the cardholder's currency code, as converted by the conversion rate. For partial approvals, this amount is less than the requested amount. This field is zeros in the first pass response.
03	DCC Conversion Rate	n	25 - 32	8	This is the currency rate to be approved by the cardholder. The left-most digit indicates the number of positions that the decimal point will move from the right. For example, 69123456 is equivalent to 9.123456.
04	DCC Currency Code	n	33 - 35	3	This is the cardholder's currency code. See Table 4-129 .

Supported Currency Codes

TABLE 4-129 R022 Supported Currency Codes

Currency Type	Currency Code
Australian dollar (AUD)	036
Bahamian dollar (BSD)	044
Bermuda dollar (BMD)	060
Brazilian real (BRL)	986
Canadian dollar (CAD)	124
Danish krone (DKK)	208
Euro (EUR)	978

TABLE 4-129 R022 Supported Currency Codes

Currency Type	Currency Code
Hong Kong dollar (HKD)	344
Israeli shekel (ILS)	376
Japanese yen (JPY)	392
Mexican peso (MXN)	484
New Zealand dollar (NZD)	554
Norwegian krone (NOK)	578
Pound sterling (GBP)	826
Singapore dollar (SGD)	702
South African rand (ZAR)	710
South Korean Won (KRW)	410
Swedish krona (SEK)	752
Swiss franc (CHF)	756
(New) Taiwan dollar (TWD)	901
US dollar (USD)	840

Example

The following is an example of group field R022:

```
|R02212345678901212345678901212345678123<gs>|
```

4.2.26 R023 – EMV Response Data

For EMV chip card transactions, this contains the Base64 response data that the issuer or networks return. You must prepare the POS device to receive this group even on declines. The EMV tag data format is BER-TLV as defined in ISO/IEC 8825.

TABLE 4-130 R023 - EMV Response Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	One or more EMV primitive BER-TLV data objects	ans	1 – 999	999	Variable 999 maximum Base64 encoded ASCII string.

Because the 610 message formats do not allow for the presence of binary data, the POS device must convert the ASCII Base64 data back to binary tag data for TLV decoding. [Table 4-131](#) list the response tags, all of which are optional.

TABLE 4-131 R023 Response Tags (Optional)

Description	Tag	Format	Length
Authorization Response Code	8A	an 2	2
Issuer Authentication Data	91	b	1 – 17
Issuer Script Template 1	71	b	var
Issuer Script Template 2	72	b	var
Issuer Script Command	86	b	1 - 261
Issuer Script Identifier	9F18	b	4
Issuer Script Results	9F5B	b	1 - 21

Example

The following is an example of group field R023:

```
|R023kQpQtLwykRhN8AAS<gs>|
```

Base64 Data:

kQpQtLwykRhN8AAS

Decoded, Hexadecimal Tag Data:

```
910A50B4BC3291184DF00012
```

Field	Tag	Ln	Value
Issuer Authentication Data	: 91	0A	50B4BC3291184DF00012

4.2.27 R024 – MasterCard PAN Mapping File Information

This supports the mapping between the virtual account data and actual account data. Terminal applications may receive R024 in magnetic stripe, Contact M/Chip, or PayPass M/Chip transactions when the issuer is participating in the PayPass Mapping Service.

Terminal applications request this group by setting G009 position 17 to **Y** in the transaction request.

Refer to "DE 48 - Additional Data - Private Use, Subelement 33 - PAN Mapping File Information" in the *MasterCard Customer Interface Specification* for complete details and the current list of valid values.

TABLE 4-132 R024 - MasterCard PAN Mapping File Information

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Account Number Indicator	an	1 – 1	1	MasterCard DE 48, subelement 33, subfield 1 (Account Number Indicator) indicates the type of PAN mapping account. Space fill if not present.
01	Account Number	an	2 – 20	19	MasterCard DE 48, subelement 33, subfield 2 (Account Number) indicates the PAN mapping account number. The field can contain up to 19 bytes of alphanumeric, left justified, space filled content. Space fill if not present.
01	Expiration Date	an	21 – 24	4	MasterCard DE 48, subelement 33, subfield 3 (Expiration Date) indicates the expiration date of the PAN mapping accounts. The format is YYMM. Space fill if not present.
01	Product Code	an	25 – 27	3	MasterCard DE 48, subelement 33, subfield 4 (Product Code) may indicate the product code for subfield 2 account number. Space fill if not present.

Example

The following is an example of group field R024:

```
|R024E5555555555554444***4912001<gs>|
```

4.2.28 R025 – Mastercard Additional Processing Information for Chip Transactions

This provides additional information about chip transaction processing and results. Terminal applications may receive R025 if issuers performing chip cryptogram validation return their validation results.

Terminal applications request this group by setting G009 position 18 to **Y** in the transaction request.

Refer to "DE 48 - Additional Data - Private Use, Subelement 74 - Additional Processing Information" in the *MasterCard Customer Interface Specification* for complete details and the current list of valid values.

TABLE 4-133 R025 - MasterCard Additional Processing Information for Chip Transactions

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Processing Indicator	an	1 – 2	2	MasterCard DE 48, subelement 74, subfield 1 (Processing indicator) indicates the transaction processing type.
02	Processing Information	an	3 – 3	1	MasterCard DE 48, subelement 74, subfield 2 contains additional information about the issuer incurred during the cryptogram validation.

Example

The following is an example of group field R025:

```
|R02502G<gs>|
```


4.2.29 R026 – Visa Spend Qualified Indicator

This indicates if the account has met its spend qualification threshold. Terminal applications request this group by setting position 19 to **Y** in the [G009 - Optional Processing Indicators](#) transaction request.

Refer to "Field 62.25 – Spend Qualified Indicator" in the *Visa Base I Technical Specifications* (Volume 1) for complete details and the current list of valid values.

TABLE 4-134 R026 - Visa Spend Qualified Indicator

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Spend Qualified Indicator	an	1 – 1	1	Visa field 62.25 (Spend Qualified Indicator) indicates if the account has met its spend qualification threshold.

Example

The following is an example of group field R026:

```
|R026Q<gs>|
```

4.2.30 R027 – Pinless Debit Indicator

This indicates that Worldpay processed the transaction as a pinless debit transaction. The terminal does not need to send any information in the request to receive this response field. You must process the transaction as pinless debit rather than credit and the merchant record must have the MERC PINLESS Eligible flag set to **Y**. If this response field returns, it will always contain a Y. If the response field is not present, it indicates Worldpay processed the transaction as originally sent and did not flip it to debit.

TABLE 4-135 R027 - Pinless Debit Indicator

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Pinless Debit Indicator	an	1 – 1	1	Y – This transaction processed as a pinless debit transaction.

Example

The following is an example of group field R027:

```
|R027Y<gs>|
```

4.2.31 R028 – Customer Discretionary Data

This returns the values that the [G038 - Customer Discretionary Data](#) request message provides. The R028 response returns all 75 bytes of user data.

TABLE 4-136 R028 - Customer Discretionary Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	User Defined Field 01	an	1-35	35	Any alphanumeric, special character or both
02	User Defined Field 02	an	36-55	20	Any alphanumeric, special character or both
03	User Defined Field 03	an	56-75	20	Any alphanumeric, special character or both

Example

The following is an example of group field R028:

```
|R028*****1234567890*****1234512345*****12345*****1234567890*****<gs>|
```

Where:

Field 01 = *****1234567890*****12345

Field 02 = 12345*****12345

Field 03 = *****1234567890*****

4.2.32 R029 – Synchrony Promo Code

This contains the Base64 response data that Synchrony for Promo code transactions returns, which it sends in response to a [G045 - Synchrony Promo Request](#) request.

TABLE 4-137 R029 - Synchrony Promo Code

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	One BER-TLV data object	ans	1 – 999	999	Variable 999 maximum Base64 encoded ASCII string.

Because the 610 message formats do not allow the presence of binary data, the POS device must convert the ASCII Base64 data back to binary tag data for TLV decoding. [Table 4-138](#) list the response tags associated with special processing.

TABLE 4-138 R029 - Response Tags

Description	Tag	format	Length
Promo needed/result	70	b	1
Promo APR flag	72	b	1
After Promo Flag	73	b	1
During Promo APR	7F02	b	3
After Promo APR	7F03	b	3
Promo Duration	7F51	an	40
Promo Description	7F52	an	40

Example

The following is an example of group field R029:

```
|R029ByAQB/ AwMZkA<gs>|
```

Base64 Data:

cgEAfwMDGZAA

Decoded, Hexadecimal Tag Data:

7201007F0303199000

Field	Tag	Ln	Value
Promo APR Flag	: 72	01	00
After Promo APR	: 7F03 03		199000

4.2.33 R030 – Additional Response Data

This can contain multiple tags in any order with different information. See [Table 4-140](#) for response tags that contain special processing.

TABLE 4-139 R030 - Additional Response Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
AA	Contains the UCAF/AAV Data provided to Mastercard in the authorization.	ans	Variable	32	
AC	Merchant Advice Code (returned from network)	an	Variable	2	<ul style="list-style-type: none"> • 01 - Updated/additional information needed • 02 - Cannot approve at this time, try later • 03 - Do not try again • 04 - Token request not fulfilled • 21 - Payment Cancellation • 22 - Not qualified for product
DD	Digital Delivery Data	an	Variable	1 – 510	Any character data that can return for the product
EI	E-Commerce Indicator (returned from network)	an	Variable	2	Alphanumeric
FP	FastPIN Account Number	an	Variable	1 – 20	Alphanumeric
NC	Contains the network terminal capability sent to the network if available.	an	Variable	1	
NG	Network Cryptogram	ans	Variable	1-40	Value returned if G009, Position 49 is Y and data is available.
NR	Network Authorization Retrieval Reference Number	ans	Variable	1 - 35	Any numeric, character or special characters
NT	Network Token	n	Variable	1-20	Value returned if G009, Position 49 is Y and data is available.

TABLE 4-139 R030 - Additional Response Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
SC	Contains the first position of the track's service code if available.	an	Variable	1	
SL	Contains the electronic commerce security level provided to Mastercard in the authorization. This field contains both the security protocol and cardholder authentication values for settlement purposes.	an	Variable	2	
TC	Terms and Conditions	an	Variable	1 – 510	Any character data that can print onto a receipt
UC	UCAF Indicator (returned from network)	an	Variable	1	Alphanumeric and Worldpay only returns it for Mastercard transactions.
VS	Visa Secure Token Indicator Request	an	Variable	1	Possible values: <ul style="list-style-type: none"> • N- Visa Secure Token not present • Y -Visa Secure Token present

Table 4-140 provides additional information about the tags when associated with special processing.

TABLE 4-140 R030 - Special Processing Tags

Tag	Description	Request	Product
AA	UCAF/AAV Data	G009, Position 42 value of Y	Mastercard 3-D Secure
DD	Digital Delivery Data	None	InComm
EI	E-commerce/UCAF Indicator	G009, position 23 value of Y or U	3DS
FP	FastPIN Account Number	G047 of 001	InComm

TABLE 4-140 R030 - Special Processing Tags

Tag	Description	Request	Product
NC	Network Terminal Capability	G009, Position 45, value of Y	None
SC	Track Service Code, Position 1	G009, Position 46, value of Y	
SL	Service Level Indicator	G009, Position 42 value of Y	Mastercard 3-D Secure
TC	Terms and Conditions	G048 – TC tag	InComm
UC	UCAF Indicator	G009, Position 23 value of U	Mastercard 3-D Secure

Example

The following is an example of group field R030:

```
|R030TC018TermsAndConditionsDD011DigitalData<gs>|
```

Data in example:

TC – Terms and Conditions	– 018 characters	– “TermsAndConditions”
DD – Digital Delivery Data	– 011 characters	– “Digital Data”

4.2.34 R031 – Payment Account Data Response

This may contain multiple TLV entries in any order with different information. To request this data, set flag 21 in the [G009 - Optional Processing Indicators](#) request.

TABLE 4-141 R031 - Payment Account Data Response

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	One or more TLV data objects	ans	1-255	256	Variable 256 maximum

TABLE 4-142 TLV Data Object Format

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Field Tag	n	1	3	001 - Payment Account Reference 002 - PAN Reference Number
02	Field Length	n	4-6	3	Length of the value field
03	Field Value	an	7	Var 1 - 250	Field value for item defined by Field Type, and for length defined by Field Length

Table 4-143 provides additional information about the tags when associated with special processing.

TABLE 4-143 Field 03 TLV Value Details

Tag	Description	Length	Product
01	Payment Account Reference	Max 32 Max 3	Visa, MC, Discover
02	PAN Reference Number	Max 35	Discover

Example

The following is an example of group field R031:

```
|R0310010160123456789012345<gs>|
```

Example data

Tag 001

Len 016

Value 0123456789012345

The following is an example of group field R031

```
|R0310010160123456789012345002015012345678901234<gs>|
```

Example data

Tag 001

Len 016

Value 0123456789012345

Tag 002

Len 015

Value 012345678901234

4.2.35 R032 - Returned Token Data

This may contain various sets of token data determined by the merchant request. Currently, Worldpay only returns 1 set (set 1); however, in the future, it could support multiple sets.

If Worldpay does not receive any of the four fields from the network, Worldpay does not send response field 32. It blank fills any missing fields.

TABLE 4-144 R032 - Returned Token Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Data Set ID	an	1-2	2	This is the Data Set ID with a fixed length of 2.
02	Token Requestor ID	an	3-13	11	This contains a value that identifies the pairing of the token requestor with the token domain. This is a variable length field. Blank fill this field if it is shorter than 11.
03	Token Assurance Level	an	14-15	2	This field contains a value that indicates the confidence level of the token to PAN/cardholder relationship. It is a variable length field. Blank fill this field if it is shorter than 2.
04	Token Expiration Date	n	16-19	4	This is the expiration date of the token in the YYMM format with a fixed length of 4.
05	Last 4 of token PAN	n	20-23	4	This is the last 4 digits of the tokenized PAN and has a fixed length of 4.

4.2.36 R033 - Transaction Integrity Class (Mastercard)

The response messages will contain the Transaction Integrity Class value if you request it using G09.30 and the network returned the value.

TABLE 4-145 R033 - Transaction Integrity Class (Mastercard)

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
1	Transaction Integrity Class (Mastercard)	an	1-2	2	This subfield contains the Transaction Integrity Class value if the request message included it and the network returned the value.

Example

The following is an example of group field R033:

```
|R033A1<gs>|
```

4.2.37 R034 - Debit Optimization Result

If Debit Optimization is requested in G009.44 of the transaction request message, this response group indicates whether or not the transaction was processed as signature or PIN Debit. If the response field is not present, it indicates Worldpay processed the transaction as originally sent and did not flip it to credit.

TABLE 4-146 R034 - Debit Optimization Result

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Debit Optimization Result Flag	an	1 - 1	1	<ul style="list-style-type: none">• Y – This transaction processed as a signature (credit) transaction.• N – The transaction was processed as PIN Debit (conversion did not occur).

Example

The following is an example of group field R034:

|R034Y<gs>|

Example

R03201AAAAAAAAAABBCCCCDDDD

where:

- R032 is the response ID.
- 01 is the set ID.
- AAAAAAAAAA is the Token Requestor ID.
- BB is the Token Assurance Level
- CCCC = Token Expiration Date
- DDDD = Last 4 of PAN

4.2.38 R035 - WEX Additional Host-Based Prompts Requested

TABLE 4-147 R035 - WEX Additional Host-Based Prompts Requested

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Message Set (600 or 610)
01	Number of Prompts Included	n	1	1	1-9	610
02	Prompt Value #1	an	2-3	2	See Table 3-36 . Blank if unused	610
03	Prompt Value #2	an	4-5	2	See Table 3-36 . Blank if unused	610
04	Prompt Value #3	an	6-7	2	See Table 3-36 . Blank if unused	610
05	Prompt Value #4	an	8-9	2	See Table 3-36 . Blank if unused	610
06	Prompt Value #5	an	10-11	2	See Table 3-36 . Blank if unused	610
07	Prompt Value #6	an	12-13	2	See Table 3-36 . Blank if unused	610
08	Prompt Value #7	an	14-15	2	See Table 3-36 . Blank if unused	610
09	Prompt Value #8	an	16-17	2	See Table 3-36 . Blank if unused	610
10	Prompt Value #9	an	18-19	2	See Table 3-36 . Blank if unused	610
Total Group Bytes				19		

Usage

When field G009.39 includes a B or H, this field passes the additional Host Based Prompts requested from Wright Express. When a second preauthorization message is sent, it includes both the prompts from the original request and the new prompts in the field above.

Edits

See specifics for Optional Request Group Data.

Special Processing

None

Example

The following is an example of group field R035, where * is space, <fs>= is field separator, and <gs> is group separator:

```
|R03540102030F          <gs>|
```

4.2.39 R036 - WEX Available Products Block

TABLE 4-148 R036 - WEX Available Products Block

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Message Set (600 or 610)
01	Product Restriction Code	n	1-2	2	Numeric	610
02	Restriction Code Amount	n	3-7	5	This is a whole dollar amount with no decimal place. Pad the value to the left with zeros.	610
03	Restriction Code Quantity	n	8-12	5	This is a whole number with no decimal place. Pad it to the left with zeros.	610
04	Restriction Code Unit of Measure	an	13	1		610
05	Cash Limit	n	14-17	4	This is a whole dollar amount with no decimal place. Pad the value to the left with zeros.	610
06	Invoice Total Limit	n	18-22	5	This is a whole dollar amount with no decimal place. Pad the value to the left with zeros.	610
07	Miscellaneous Amount Limit	n	23-26	4	This is a whole dollar amount with no decimal place. Pad the value the left with zeros. If all zeros, this field can be ignored.	610

TABLE 4-148 R036 - WEX Available Products Block

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Message Set (600 or 610)
08	Additive Amount Limit	n	27-30	4	This is a whole dollar amount with no decimal place. Pad the value the left with zeros. If all zeros, this field can be ignored.	610
09	Repair Amount Limit	n	31-34	4	This is a whole dollar amount with no decimal place. Pad the value the left with zeros. If all zeros, this field can be ignored.	610
10	Customer Name	an	35-39	25	This is blank if not returned by WEX.	610
11	Customer City	as	60-74	15	This is blank if not returned by WEX.	610
12	Customer State	an	75-79	5	This is blank if not returned by WEX.	610
Total Group Bytes				79		

Usage

When field G009.39 includes a B or an A, this field passes on additional available product and limits from Wright Express in the preauthorization response message.

Example

The following is an example of group field R036, where * is space, <fs>= is field separator, and <gs> is group separator:

```
|R036080010000050G000000975000000250000ABC Trucking      Dale TX
<gs>|
```

4.2.40 R037 – EMD Completion Checkpoint Information

You should send this field in the EMD record for each shipment associated with credit card e-Commerce transactions that was converted to a debit pre-authorization. For more information, refer to the *Electronic Merchant Deposit File Reference Guide*. Utilizing internal processes, Worldpay includes the EMD records and sends them out to the debit networks as pre-authorization completions for each shipment.

TABLE 4-149 R037 - EMD Completion Checkpoint Information

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Checkpoint Key	an	1-46	46	

4.2.41 R038 – Valutec Data

Use this group to support of Valutec transactions. It contains data about the program type, card data, or authorization number.

TABLE 4-150 R038 – Valutec Fields

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Tag Type	an	01	2	See Table 4-151 .
02	Tag Value Length	n	03	2	000-999
03	Tag Value	an	06	Variable	See Table 4-151 .

TABLE 4-151 R038- Valutec Tags

Tag	Description	Attributes	Description
01	Point Balance	Length: 9 an	Value of points associated with the card
02	Reward Level	Length: 1 an	Value of the level of reward associated with the card
03	Extended Auth Number	Length: 9 an	This is the value generated by Valutec to match authorizations, returned on approvals of non-inquiry transactions.

4.2.42 R054 – MAC Encryption Key Data Response

This response only passes back on key change responses or on normal responses that process a MAC. After the batch opens and 100 transactions are processed, the host will initiate a key change by passing back the new encrypted working key in subfield 04. The MAC in the transaction response will be encrypted with this new working key.

TABLE 4-152 R054 – MAC Encryption Key Data Response

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Terminal ID	an	1	8	Supported terminal values are: <ul style="list-style-type: none"> • VERMX915 (VeriFone Mx915) • VERMX925 (VeriFone Mx925) • VERVX520 (VeriFone Vx520)
02	Terminal Serial Number	an	9	32	Left justify and blank fill.
03	Key Length	n	41	3	Zero fill if no key is sent. If no key change is done on the transaction, this is set to 000.
04	Working Key	an	43	Variable (total of 38)	Only send the working key in case of a key change. The check value will be included with this as a six character value. For a triple DES key change, make the length 38 with 32 for the working key and 6 for the check value.

Example: Group Data R054

|R054|VERMX915|123-456-789

|038|*****|

4.2.43 R055 – Message Authentication Data

Use this group to pass message authentication data to the terminal. This group also authenticates message requests for Canadian transactions only.

TABLE 4-153 R055 - Message Authentication Data Field

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Message Authentication Data	ans	1-38	variable	

TABLE 4-154 R055 - Message Authentication Subfields

Subfield Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Key Serial Number Length	n	1	2	This subfield must reflect the length of the Key Serial Number data that follows. You must use a valid numeric value representing the length of the KSN sent in subfield 02.
02	Key Serial Number	an	3	variable	This subfield contains the key serial number that encrypts the MAC data. You must use an alphanumeric value that represents the key serial number used to encrypt the MAC sent in subfield 03.

TABLE 4-154 R055 - Message Authentication Subfields

Subfield Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
03	Encrypted Message Authentication Code	an	variable	8	<p>This subfield contains encrypted MAC data.</p> <p>You must make it an encrypted representation of message data defined as data encrypted from fields in the request:</p> <ul style="list-style-type: none"> • Processing Code - All six digits • Transaction Amount - All nine digits, no decimals • System Trace Number - All six digits • Retrieval Reference Number - last eight characters • Auth ID Code - All six characters
04	Filler	n	variable	8	Zero fill

MAC Value Verification/Generation Rules

The following rules apply when generating a MAC or validating one:

- Make all characters in the data ASCII.
- Separate each field in DATA from the next field with a space.
- All lowercase letters become uppercase.
- Any character other than alpha, numeric, spaces, commas, and periods are deleted.
- All leading spaces are deleted.
- All occurrences of two or more consecutive spaces are replaced by a single space.

Example: R055 Group Data

R05520FFFF9876543210E00001D64CB74A00000000<gs>

4.2.44 R056 - Enhanced Check Authorization Response Data

Worldpay uses the enhanced data field for processing both paper and electronic check authorization transactions and Worldpay requires it for performing enhanced check services. Each subfield is built in TLV (tag, length, value) format and you can send it in any order.

TABLE 4-155 Subfield TLV Format

Format	Data Type	Length
Tag	an	2 bytes
Length	n	3 bytes
Value	ans	Variable

TABLE 4-156 R056 - Enhanced Check Authorization Response Data

Subfield Tag	Subfield Description	Data Type	Length	Valid Values/Notes
01	Network/ACH Reference Number	an	1-30	<p>This subfield is used for check conversion, which is returned by the entity that authorized the transaction in the transaction response.</p> <p>The Certegy Layout is as follows:</p> <ul style="list-style-type: none"> Bytes 01-15: ACH Reference Number Bytes 16-30: Certegy Unique ID
02	Check Fee Amount	n	9	
03	Network Response Code	an	5	Contains the network's response code should any additional action be required

4.2.45 R057 - Real Time Account Updater Response Data

If requested through G009.30 for a Card on File transaction, Worldpay will attempt to get updated PAN and Expiration Date from the network associated with the card on file. Worldpay will provide the response from the network in this field. Each subfield is built in TLV (tag, length, value) format and you can send it in any order.

TABLE 4-157 Subfield TLV Format

Format	Data Type	Length
Tag	an	2 bytes
Length	n	3 bytes
Value	ans	Variable

TABLE 4-158 R057 - Real Time Account Updater Response Data

Subfield Tag	Subfield Description	Data Type	Length	Valid Values/Notes
01	Replacement PAN	N	16 - 19	This field contains the updated PAN, if available, from the network.
02	Replacement Expiration Date	YYMM	4	This field contains the updated Expiration Date, if available, from the network.
03	Account Status	ans	1	Valid values from the network are: <ul style="list-style-type: none"> A - Account Number change (the account number or account number and expiration date are being updated) C - Closed Account E - Expiration Date updated Q - Contact Cardholder

TABLE 4-158 R057 - Real Time Account Updater Response Data

Subfield Tag	Subfield Description	Data Type	Length	Valid Values/Notes
04	Error Code	ans	6	<p>Valid values for error codes from the network are:</p> <ul style="list-style-type: none"> • VAU001 - Transaction did not qualify because the transaction contains token • VAU002 - Real Time AU is supported only for branded PAN • VAU003 - Real Time AU is not supported for this network • VAU004 - Transaction is not original purchase or bill payment • VAU005 - Transaction contains CVV2 • VAU006 - Transaction is not a qualifying transaction type • VAU007 - Real Time AU is not supported for this Merchant Category Code (MCC) • VAU008 - Acquirer of processor is not activated for Real Time VAU • VAU009 - Issuer does not support Real Time AU • VAU010 - Issuer or Visa blocked the merchant • VAU011 - Pre-authorized Payment Cancellation Service (PPCS) stop payment order for this transaction • VAU012 - Credentials in the authorization request is the latest AU data
05	Replacement PAN Token	N	16 - 19	If G009.33 requests this information, this field contains the token of the replacement PAN.

TABLE 4-158 R057 - Real Time Account Updater Response Data

Subfield Tag	Subfield Description	Data Type	Length	Valid Values/Notes
06	Replacement PAN Usage Indicator	an	1	When Worldpay sends a card to Mastercard for an authorization attempt and Mastercard declines it, Worldpay retries the authorization attempt to Mastercard with the replacement PAN. If Mastercard approves the second attempt, then Worldpay sends a Y in the response message, indicating that the replacement PAN was used to obtain the authorization and not the PAN originally sent in the request message.

4.2.46 R061 - FIS Loyalty Response Data

TABLE 4-159 R061 – FIS Loyalty Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Discounted Amount	n	1-12	12	This is the amount of the discount to be applied to transaction if customer should choose to opt in.
02	FIS Loyalty Transaction ID	an	13-27	15	Left justify and blank fill.
03	Loyalty Reward ID	an	28-39	12	Loyalty reward ID assigned from issuer on first pass
04	Loyalty Promotion ID	an	40-50	11	Loyalty promotion ID assigned from issuer on first pass.
05	Prompt/Receipt Text	an	51-251	1-200	Variable up to 200 maximum Line breaks indicated by '//'; The first line will indicate the loyalty program description.

Usage

This field is used for FIS Loyalty responses.

- Field 01 is used to send back the actual discount amount to the merchant (and POS) so the customer can opt in/out of the discount.
- Field 02 is provided back to the merchant and required on the follow up messages in the G061.03 field for further processing.
- Field 03 is the Loyalty reward ID that is passed back from the loyalty system.
- Field 04 is the Loyalty promotion ID that is passed back from the loyalty system.
- Field 05 for the follow-up request where the loyalty discount is accepted will have the receipt data to be printed.

Edits

Field 01 must be numeric. Field 02 must be present on the follow up of a FIS transaction request message. Field 03 can contain any alpha-numerics.

Example

Provided is an example of group field R061, where * = space, <fs>= field separator, <gs>= group separator):

Example: FIS Loyalty Discount Applied

```
|R0610000000005001234567890ABCDERD0000016891RD000001689LOYALTY REWARDS//You saved $5.00<gs>|
```

In this example:

- R061 – Group name
- 000000000500 – Indicates a \$5.00 discount amount
- 1234567890ABCDE – Transaction ID to be used to match FIS loyalty lookup to follow up authorization out to network/issuer
- RD0000016891 – Loyalty reward ID
- RD000001689 – Loyalty promotion ID
- LOYALTY REWARDS //You Saved \$5.00 – rompt data (first pass) or receipt data (second pass)

4.2.47 R070 – AliPay Response Data

This data group can contain multiple tags to help facilitate the processing of AliPay transactions. Each subfield is built in TLV format with tags allowed in any order.

TABLE 4-160 R070 - TLV Layout

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Tag Type	an	01	2	See Table 4-161 for valid values.
02	Tag Value Length	n	03	3	
03	Tag Value	an	06	Variable	

TABLE 4-161 R070 Valid Values/Notes (Field 01)

Tag	Description	Notes	Attributes
AC	The transaction amount in the provided currency.	This tag is the transaction amount in the provided currency. It is the exact amount that the buyer has paid.	Type = n; Length = 12
DA	Discount Amount	This is the discount amount redeemed in the settlement currency if coupons are used.	Type = n; Length = 12
EC	Error information	This is the reason for a failed request.	Type = an; Length = 1-48
LI	Login ID	This is the Alipay login ID of the buyer. It can be an email address or mobile number. The ID is partially masked for privacy.	Type = an; Length = 1-64
PT	Partner Transaction ID	This is the transaction ID generated by Worldpay, which is used for locating transaction information on the AliPay site. Any follow up messages (reversals, queries, and so on) will utilize this field to find the original.	Type = an; Length = 1-64
UI	Buyer User ID	Alipay account number	Type = an; Length = 1-16
XR	Exchange Rate	This is the conversion rate of the provided currency. The conversion happens at the time when the Alipay trade order is created.	Type = an; Length = 17

4.2.48 R071 – Merchant Fraud Response Data

If G009.34 requests this for a transaction that processes through Worldpay's merchant fraud (FraudSight) product, Worldpay will send back detailed fraud scoring system information.

TABLE 4-162 R071 - Merchant Fraud Response Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Risk Status	n	1	1	Valid values are: <ul style="list-style-type: none"> • 0 - Pass • 1 - Review • 2 - Fail • 3 - Unknown • 4 - Fail (but, do not deny – informational)
02	Transaction Score	ans	2-7	6	FraudSight score

4.2.49 R072 – Additional Response Data

If G009.37 requests this for a transaction that was rejected with a special reason, Worldpay will send back additional response data.

TABLE 4-163 R072 - Additional Response Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Additional Response Data	an	1-2	2	Valid values are: <ul style="list-style-type: none">• 01 - Invalid Fleet ID• 02 - Invalid Driver ID• 03 - Invalid Vehicle Number

4.2.50 R075 - Raw Network Response Data

This data group can contain multiple tags to provide the acquirer with raw information directly from the network without any translations having taken place. Each subfield is built in TLV format with tags allowed in any order. Any tags that the acquirer does not recognize should be ignored as new tags can be added at any time to provide additional functionality.

TABLE 4-164 R075 - TLV Layout

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Tag Type	an	01	2	See Table 4-165 for valid values.
02	Tag Value Length	n	03	3	
03	Tag Value	an	06		

TABLE 4-165 R075 - Valid Values/Notes (Field 01)

Tag	Description	Notes	Attributes
AM	Additional Amounts	Up to 6, 20-byte additional amount fields returned by the network	Type = an; Length = 20-120
AV	AVS Result	The actual AVS result returned by the network	Type = an; Length = 1
CA	3D Secure Result	The actual 3D secure result returned by the network	Type = an; Length = 1
CR	CVV/CVC/CID Result	The actual verification value result returned by the network	Type = an; Length = 1
NI	Chosen Network ID	The network that Worldpay chose to route the transaction to	Type = an; Length = 1-4
RC	Response Code	The actual response code returned by the network	Type = an; Length = 1-5
RP	Recurring Payment Result	The actual recurring payment result returned by the network	Type = an; Length = 1

4.2.51 R087 - Transaction Identifier

NOTE: R087 is for use by Worldpay IP only.

G087 - Transaction Identifier provides a way to send a unique Transaction Identifier. Set position 26 of G009 – Optional Processing Indicators to Y to request that the host return a transaction's Transaction identifier in R087.

TABLE 4-166 R087 - Transaction Identifier

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
01	Transaction ID	n	1-19		Pad left with zeros.	

Example

The following is an example of group field G087:

R0879223372036854775807<gs>

R087000000000000000000001<gs>

4.2.52 R089 – mToken Response

When the terminal requests a token in the authorization request, this occurs in authorization reply messages. Tokens are dynamically refreshed per use. A new token always returns with each subsequent transaction. If storing token data, store only the most recent token returned.

TABLE 4-167 R089 - mToken Response

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
01	Frequency	a	1	1	O - OneTime R - Recurring	Y
02	Truncated Account Number	n	2	4	Last four digits of account number The host returns last four digits of the clear cardholder account number to the POS for receipt printing and identifying transactions in other Worldpay environments.	N
03	Tokenize/De-tokenize Result	a	6	1	S - Host tokenization succeeded F - Host tokenization failed In this case, the token will contain spaces for the token based on original card length. Unless G089 field 02 was set to N in the request message, the group response data R998 contains additional error detail. For tokenization, this field indicates if the host successfully created a token from the input card data. For de-tokenization, this field indicates if the host successfully converted the token to a clear PAN.	N

TABLE 4-167 R089 - mToken Response

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes	Required
04	RecordNo Field Length	n	7	3	Length of the following value field Not present if the Field 05 is empty	N
05	RecordNo	Ans	10	LLVar	Token value; maximum of 100 characters Typical tokens are 48-56 characters but should allow for a maximum of 100 characters.	N

Examples

The following is an example of group field R089 that includes frequency, the last 4 digits of clear account number, the token/de-token result, and the token:

```
R089R1234S0560I/v1/B5hIu99VmyAiLiF6LTBDgqYOBZ5WHOAgAPImoyEgUQABI0AqAO<gs>
```

The following is an example of group field R089 that includes frequency, the last 4 digits of clear account number, the token/de-token result, and spaces for the token based on the original card number length:

```
R089R1234F019*****<gs>
```

The following is an example of group field R089 that includes frequency, spaces for last 4 of card, and the token/de-token result:

```
R089R****F<gs>
```

mToken Error Responses

Table 4-168 lists the mToken error responses.

TABLE 4-168 mToken Error Responses

EXTENDED ERROR CODE	SHORT ERROR DESCRIPTION	DETAIL ERROR DESCRIPTION	REQUIRED ACTION
116	Merchant Setup Error	Merchant Setting Requires RecordNo and Frequency	Check Merchant Tokenization Configuration and Request Message
117	Merchant Setup Error	Merchant Setting Does Not Accept RecordNo	Check Host Tokenization Configuration Setting and Request Message
119	Default Token Error	Error Generating Token	Check Token Service and Request Message

TABLE 4-168 mToken Error Responses

EXTENDED ERROR CODE	SHORT ERROR DESCRIPTION	DETAIL ERROR DESCRIPTION	REQUIRED ACTION
119	Connection Error	Socket Error Trying To Connect	Check Token Service Availability
119	Corrupted Data Error	Parse Token Failure	Check Request Message
120	Invalid Data Error	RecordNo must only be supplied on supported Token Transactions	Check Request Message
121	Invalid Data Error	Token transactions must have a valid RecordNo and Frequency	Check Request Message

Examples

The following is an example of group field R998 Detail Extended Host Error Description:

```
R998119DEFAULT TOKEN ERROR<fs>ERROR GENERATING TOKEN<fs>CHECK TOKEN SERVICE AND REQUEST MESSAGE<gs>
```

4.2.53 R090 – Amazon Pay Response Data

If G090 is present R090 will be present in the response back to the merchant. R090 is comprised of fixed length fields.

TABLE 4-169 R090 - Amazon Pay Response Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Reason Code	an90	1-2	2	<p>This field contains a reason code if an Amazon Pay transaction declines during detokenization.</p> <p>It provides one of the follow reason codes:</p> <ul style="list-style-type: none"> • 00 – Successful Amazon Pay Tran • 01 – Merchant Missing Amazon Pay Merchant ID • 02 – Merchant did not pass STAN (Field 11) • 03 – Error contacting Amazon service (timeout) • 04 – Invalid Amazon pay token • 05 – Duplicate Charge ID detected • 06 – Charge ID/PAN mapping not found on reversal/refund • 07 – Merchant not enrolled in Amazon Pay with FIS • 08 – Amazon Declined • 09 – Merchant Missing Merchant order Number • 99 – Internal error
02	Charge ID	an	3-29	27	<p>This returns on a successful Amazon Pay transaction. It must be returned on reversal/refund to restore PAN for routing.</p>
03	Open/Closed loop indicator	an	30	1	<p>Amazon provides this.</p> <p>It has one of the of the following values:</p> <ul style="list-style-type: none"> • O – Open Loop • C – Closed Loop
04	First 6 Last 4 of PAN	an	31-40	10	<p>This will contain the first 6 and last 4 digits of the PAN detokenized from Amazon.</p>

TABLE 4-169 R090 - Amazon Pay Response Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
05	Card Type	an	41-44	4	Four-digit card type
06	PAN EXP Date (YY/MM)	an	45-48	4	YYMM Date

4.2.54 R091 – Benefit Card Services UPC/PLU Pass-Thru Data #4

Group Field R091 is used to pass back Benefit Card Services UPC/PLU product data from the network. See [Appendix C, "Benefit Card Services Processing"](#) for more information.

TABLE 4-170 R091 Response Data

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Benefit Card Services UPC/PLU Pass Thru Data Field #4	ans	1-999	1-999	Variable 999 maximum

4.2.55 R997 – System Health Status Information

This field contains a TLV (tag, length, value) representation of each portion of the information returned to the user regarding the system health status requested. This field can be utilized to make decisions at the host as to whether the current connection is stable and should be continued to be used. Additional tags and text can be added so the user should be able to handle any variations of data returned.

TABLE 4-171 Subfield TLV Format

Format	Data Type	Length
Tag	an	2 bytes
Length	n	2 bytes
Value	ans	Variable

TABLE 4-172 R997 - System Health Status Information

Subfield Tag	Subfield Description	Data Type	Length	Valid Values/Notes
01	System Connected To	ans	1 - 8	RAFT=028
02	Current System Health HEALTHY (YES) – Current system is up and running as expected UNHEALTHY (NO) – Current system has at least one resource that has been flagged for follow-up. MAINTENANCE (MNT) – Current system is in maintenance	ans	1 - 15	RAFTHEALTHY=YES RAFTHEALTHY=NO RAFTHEALTHY=MNT

4.2.56 R998 – Detail Extended Host Error Description

This provides the POS additional details regarding a host transaction processing error. When field 15 of [G009 – Optional Processing Indicators](#) is set to Y, the host response message may return this response group. [R999 – Error Group Data Response](#) does not include this group response data.

TABLE 4-173 R998 - Detail Extended Host Error Description

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Extended error code	n	1 – 3	3	001 thru 999
02	Short error description	ans	4 – 23	20	Variable 1 thru 20
03	Field Separator	s	24 – 24	1	
04	Detail error description	ans	25 – 94	70	Variable 1 thru 70
05	Field Separator	s	95 – 95	1	
06	Required action	ans	96 – 165	70	Variable 1 thru 70

Example

The following is an example of group field R998:

```
|R998008TRAN NOT ALLOWED<fs>TRANSACTION REQUEST USING TOKEN IS NOT ALLOWED<fs>CHECK  
HOST TOKENIZATION CONFIGURATION SETTINGS AND REQUEST MESSAGE<gs>
```

4.2.57 R999 – Error Group Data Response

This is applicable to any transaction that sends group data in a request message and the host determines that it is invalid. See [Request Groups](#) on page 339.

NOTE: A value of 00 in the group field indicates a group level error no specific field.

TABLE 4-174 R999 - Error Group Data Response

Field Number	Request Optional Group Data Description	Data Type	Position	Length	Valid Value/Notes
01	Group Data ID	an	1 - 4	4	The first position always begins with the literal G followed by three digits. This group data ID will match one of the group data fields sent in the request message.
02	Group Data Field Number	n	5 - 6	2	Numeric range 00 – 99
03	Group Response Error Msg	an	7 - 26	20	Specific error information regarding the group data ID

Example

The following is an example of group field R999:

```
|R999G00401INVALID NOT NUMERIC <gs>|
```

TPS Response Codes

This appendix defines all Worldpay Online Systems TPS response codes and provides descriptions of response code passed between Worldpay and the terminal, the POS device, or both.

Note the following about the column headings in the tables:

- The TPS column contains what Worldpay returns to the terminal to indicate the disposition of a denied transaction.
- The Response Message column contains the verbiage that returns to the terminal to better assist in analyzing the results of the transaction. You can obtain extended host error information in group response data R998 when the POS request message contains group request data with G009 position 15 set to Y.
- The Description column provides additional detail in regards to the meaning of the TPS code.

A.1 AMEX

When a transaction successfully switches to American Express for authorization, Worldpay returns the TPS codes listed in [Table A-1](#). Any other declines populate the TPS code from one of the common TPS code tables like [Table A-8](#) or [Table A-9](#).

TABLE A-1 AMEX

TPS	Response Message	Description
701	HONOR W/ID	Honor with identification
702	DECLINED	Declined by issuer
703	CARD EXPIRED	Expiration date check failed
704	CALL SERVICE CENTER	Please call card issuer
705	FORMAT - MERCHANT	Format error - invalid merchant ID
706	FORMAT - AMOUNT	Format error - invalid amount
707	FORMAT - ACCOUNT	Format error - invalid account number
708	TRAN NOT ALLOWED	Service not valid
709	FORMAT - BAD CARD	Invalid card security code (CID)
710	DECLINED	Invalid effective date on card
711	FORMAT ERROR	Format error
712	NETWK NOT AVAILABLE	Network unavailable - please wait
713	FORMAT - CURRENCY	Invalid currency code
714	PICK UP CARD	Decline - pick up card
715	INVALID TRAN	Invalid transaction for network
716	FORMAT ERROR	Format error
717	NETWK NOT AVAILABLE	Host/card issuer not available

A.2 Discover

When a transaction successfully switches to Discover for authorization, Worldpay returns the TPS codes in [Table A-2](#). Any other declines populate the TPS code from one of the common TPS code tables like [Table A-8](#) or [Table A-9](#).

TABLE A-2 Discover

TPS	Response Message	Description
701	CALL VOICE OPERATOR	Call for Authorization
702	CALL VOICE OPERATOR	Call for Authorization
703	INV MERCHANT	Invalid Merchant
704	PICK UP CARD	Pick up card - No Fraud
705	TRANS DENIED	Do Not Honor
707	PICK UP CARD	Pick up card (Special Condition) (Fraud Account)
708	HONOR WITH ID	Honor with ID
712	INVALID TRANS	Invalid Transaction
713	AMOUNT ENTRY ERROR	Invalid Amount
714	INVALID CARD NUMBER	Invalid Card Number
715	INVALID CARD NUMBER	Invalid Card Number Prefix
719	RE-ENTER TRANS	Re-enter Transaction
730	MESSAGE FORMAT ERROR	Message Format Error
731	BANK NOT SUPPORTED	Bank not supported by switch. MID not valid for processing
733	EXP CARD-CALL CENTER	Expired Card - Call Center
734	SUSPECTED FRAUD	Suspected Fraud - Call Center
735	ACCEPTOR CONTACT REQD	Card Acceptor Contact Required
736	RESTRICTED CARD	Restricted Card - Call Center
737	CALL ACQUIRER SECURTY	Call Center
738	AUTH DECLINED	Declined PIN attempts
739	NO CREDIT ACCOUNT	No Credit Account
740	CALL VOICE OPERATOR	Call for authorization function not available
741	HOLD - CALL	Pick up - lost card
743	HOLD - CALL	Pick up - stolen card
751	AUTH DECLINED	Declined - over limit account

TABLE A-2 Discover

TPS	Response Message	Description
753	INVALID ACCOUNT #	Declined - No Savings Account
754	EXPIRED CARD	Expired card
755	INVALID PIN	Invalid PIN
756	NO CARD RECORD	No card record
757	AUTH DECLINED	Transaction not permitted to issuer/cardholder
758	INVALID TERMINAL ID	Merchant closed or merchant not authorized for authorization type
759	DO NOT HONOR	Do not honor - Suspected Fraud
760	CONTACT ACQUIRER	Card acceptor contact acquirer
761	AUTH DECLINED	Exceeds withdrawal limit
762	RESTRICTED CARD	Declined - Authorization prohibited
763	SECURITY VIOLATION	Security violation
764	ORIG. AMT INCORRECT	Original amount incorrect
765	AUTH DECLINED	Exceeds withdrawal limit Count limit
766	CALL ACQUIRER SECUR.	Card acceptor contact acquirer's security
767	HARD CAPTURE	Hard capture (Requires ATM pickup)
768	RESP. REC. TOO LATE	Response received too late
775	AUTH DECLINED	Allowable number of PIN tries exceeded
776	INVALID "TO" ACCT	Invalid/Nonexistent "to" Account
777	INVALID "FROM" ACCT	Invalid/Nonexistent "From" Account
778	INVALID ACCT	Invalid/Nonexistent Account Specified
783	AUTH DECLINED	Domain Restriction Controls Fail
787	NETWORK UNAVAILABLE	Network Unavailable
791	CALL VOICE OPERATOR	Call for authorization - network problems
792	UNABLE TO ROUTE	Unable to route transaction
793	AUTH DECLINED	Declined - transaction in violation of law
794	CALL VOICE OPERATOR	Call for authorization - duplicate authorization request
796	CALL VOICE OPERATOR	Call for authorization - system malfunction

A.3 MasterCard

When a transaction successfully switches to MasterCard for authorization, Worldpay returns the TPS codes in [Table A-3](#). Any other declines populate the TPS code from one of the common TPS code tables like [Table A-8](#) or [Table A-9](#).

TABLE A-3 MasterCard

TPS	Response Message	Description
601	CALL OPER	Refer to card issuer
603	NV MERCHANT	Invalid merchant
604	PICK UP CARD	Pick up card
605	TRANS DENIED	Do not honor
608	HONOR WITH ID	Honor with identification
612	INV TRANS	Invalid transaction
613	INV DOLLAR AMT	Invalid dollar amount
614	TRANS DENIED	Invalid cardholder account
615	INV ISSUER	No such issuer
625	TRANS DENIED	Unable to locate record
627	FILE UPDATE ERR	File update field edit error
630	FORMAT ERROR	Format error
640	FUNCTION NOT AVAIL	Requested function not supported
641	PICK UP CARD	Lost card - pick up
643	PICK UP CARD	Stolen card - pick up
651	TRANS DENIED	Insufficient funds
654	CARD EXPIRED	Expired card
655	INVALID PIN	Incorrect PIN
657	TRANS NOT ALLOW	Transactions not allowed to cardholder
658	TRANS NOT ALLOW	Transactions not allowed to terminal
661	EXCEEDS MAX AMT	Exceeds purchase limits
662	TRANS DENIED	Restricted card
663	TRANS DENIED	Security violation
665	TRANS DENIED	Account activity limit exceeded
668	RESPONSE LATE	Response received late

TABLE A-3 MasterCard

TPS	Response Message	Description
670	CONTACT CARD ISSUER	Contact the card issuer
675	TRANS DENIED	Exceeded PIN tries - no capture
676	BAD "TO" ACCT	Invalid/non-existent "to" account specified
677	BAD "FROM" ACCT	Invalid/non-existent "from" account specified
678	BAD GENERAL ACCT	Invalid non-existent account specified (general)
679	KEY EXCHG FAILED	Key exchange validation failed
680	DUPLICATE ADD	Duplicate add - action not performed
684	BAD LIFE CYCLE	Invalid authorization life cycle
685	NOT DECLINED	No reason to decline
691	AUTH DOWN	Issuer/switch inoperative
692	AUTH DOWN	Unable to route transaction
694	DUPLICATE TRANS	Duplicate transmission detected
696	AUTH DOWN	System malfunction
697	CVV2 DATA MISSING	Transaction did not contain CVV2 data - retry
698	STOP PAYMENT	Stop payment order
699	RECUR REVOCATION	Recurring payment revocation of authorization order
809	NEW ACCT INFO AVAIL	Recurring payment - Obtain new account information before the next billing cycle.
810	TRY AGAIN LATER	Recurring payment - Recycle the transaction 72 hours later.
811	DO NOT TRY AGAIN	Recurring payment - Obtain another type of payment from customer.

A.4 Visa

When a transaction successfully switches to Visa for authorization, Worldpay returns the TPS codes in [Table A-4](#). Any other declines populate the TPS code from one of the common TPS code tables like [Table A-8](#) or [Table A-9](#).

TABLE A-4 Visa

TPS	Response Message	Description
601	CALL OPER	Refer to card issuer
602	CALL OPER	Refer to card issuer, special condition
603	INV MERCHANT	Invalid merchant
604	PICK UP CARD	Pick up card
605	TRANS DENIED	Do not honor
606	TRANS DENIED	One or more errors in message
607	PICK UP CARD	Pick up card (special condition)
611	APP FOR VIP	VIP approval
612	INV TRANS	Invalid transaction
613	INV DOLLAR AMT	Invalid amount
614	TRANS DENIED	Invalid cardholder account
615	INV ISSUER	No such issuer
619	RE-ENTER TRANSACTION	Re-enter transaction
621	NO ACTION TAKEN	No action taken, unable to back out prior transaction
625	TRANS DENIED	Unable to locate record in file
628	TRANS DENIED	File is unavailable
630	FORMAT ERROR	Format error
639	TRANS DENIED	No credit account
640	FUNCTION NOT AVAIL	Requested function not supported
641	PICK UP CARD	Lost card - pick up
643	PICK UP CARD	Stolen card - pick up
651	TRANS DENIED	Insufficient funds
652	TRANS DENIED	No checking account
653	TRANS DENIED	No savings account
654	CARD EXPIRED	Expired card

TABLE A-4 Visa

TPS	Response Message	Description
655	INVALID PIN	Incorrect PIN
657	TRANS NOT ALLOW	Transactions not allowed to cardholder
658	TRANS NOT ALLOW	Transactions not allowed to terminal
661	EXCEEDS MAX AMT	Exceeds withdrawal/approval amount limits
662	TRANS DENIED	Restricted card
663	TRANS DENIED	Security violation
665	TRANS DENIED	Activity count limit exceeded
675	TRANS DENIED	Allowable number of PIN entry tries exceeded
676	INV REF NUMBER	Unable to locate previous message
677	DATA INCONSISTENT	Previous message located for repeat/reversal, but data inconsistent
679	TRANS DENIED	Already reversed by switch
680	INVALID DATE	Invalid date
681	TRANS DENIED	Cryptographic error found in PIN or CVV
682	TRANS DENIED	Incorrect CVV
683	INCORRECT PIN	Unable to verify PIN
684	TRANS DENIED	Time limit for a pre-authorization is too long
685	NOT DECLINED	No reason to decline AVS request
686	TRANS DENIED	Cannot verify PIN
687	RECON TOTAL STOPPED	Reconciliation totaling has stopped for current settlement day
688	NO TOTALS TRY LATER	Switch cannot provide totals now, try again in 30 minutes
689	GIV TRANS DENIED	Ineligible to receive financial position information (GIV)
691	AUTH DOWN	Issuer/switch inoperative
692	AUTH DOWN	Financial Inst facility cannot be found for routing
693	TRANS NOT ALLOW	Illegal transaction - violation of law
696	AUTH DOWN	System Malfunction
697	CVV2 DATA MISSING	Transaction did not contain CVV2 data - retry
698	STOP PAYMENT ORDER	Recurring payment - cardholder requested specific payment stopped
699	REVOKE AUTH ORDER	Recurring payment - cardholder requested all payment stopped

TABLE A-4 Visa

TPS	Response Message	Description
800	AVS MATCH	Exact Match of address and 9 digit zip code
801	AVS MATCH	Match of address and 5 digit zip code
802	AVS MATCH - ZIP	Match of 5 digit code only address does not match
803	AVS MATCH - ADDRESS	Match of address only zip code does not match
804	AVS MATCH - ZIP ONLY	Match of 9 digit zip only address does not match
805	NO MATCH	Neither address or zip code matched
806	RETRY	System is unavailable or has timed out
807	SERVICE UNSUPPORTED	AVS service is unsupported by issuer
808	DATA UNAVAILABLE	Address info is unavailable
809	AVS NOT SUPPORTED	Issuer does not support AVS
810	ADDRESS MATCH ONLY	International address matches, but postal code format incompatible
811	NOT VERIFIED	International address and postal code are in incompatible format.
812	AVS MATCH	International address and postal code both match.
813	NOT VERIFIED	International address not verified.
814	AVS MATCH	International addresses and postal codes match
815	AVS MATCH - ZIP	Match of international postal code only. Address format incompatible.
616	NEW ACCT INFO	Recurring payment - new account info available
617	CANNOT APPROVE	Recurring payment - cannot approve
618	DO NOT TRY AGAIN	Recurring payment - do not try again
819	TRANS DENIED5	Token requirements not fulfilled for this token type
637	DO NOT TRY AGAIN	Recurring payment - obtain another type of payment from customer

A.5 Private Label Positive/Negative Authorizer

TABLE A-5 Private Label Positive/Negative Authorizer

TPS	Response Message	Description
901	NOT ON POSITIVE FILE	The Private Label card is not found on positive file.
902	ON NEGATIVE FILE	The Private Label card is found on negative file.
903	SYSTEM ERROR	A file I-O error occurred reading the Private Label Positive/Negative File.
904	INVALID MESSAGE TYPE	You must make the Message Type 0100, 0200, 0220, or 0400.

A.6 TCS Uploads

TABLE A-6 TCS Uploads

TPS	Response Message	Description
302	SYS ERROR-CALL	Unable to write TRANFILE record
304	SYS ERROR-CALL	Trailer record received - detail record expected
305	ACCT NO ERR-CALL	Primary account number not found in BIN table
306	CARD NOT ALLOW	Capture flag for pay type on BMAN not set to C
307	DATA ERR-CALL	Settlement number for pay type on BMAN set to zero
308	DATA ERR-CALL	Payment type not found on BMAN
309	INV ACCT NUMBER	Account number failed mod check
310	INV ACCT NUMBER	Invalid account no length
311	INV ACCT NUMBER	Account number length greater than 19
312	INV AMEX FRMT CODE	Amex format code from terminal does not match merchant record
313	INV ARRIV DATE	Invalid Amex arrival date
314	INV DEPART DATE	Invalid Amex departure date
315	INV ACCT NUMBER	Non-numeric account number
316	INV ARRIV DATE	Invalid arrival date
317	INV DEPART DATE	Invalid departure date
318	SYS ERROR-CALL	Invalid VISA charge description code
319	INV DATE ENTRY	VISA depart date less than arrival date
320	MERC ID ERROR	Header record did not have F prefix
321	SYS ERROR-CALL	Header record did not have record type 10
322	INV CLEARING SEQ NBR	Clearing sequence number > than clearing sequence
323	INV CLEARING SEQ NBR	Clearing sequence number cannot be zero
323	INV CLEARING SEQ CNT	Clearing sequence count cannot be zero (23 and 24 share same TPS response code)
330	SYS ERROR-CALL	Transaction amt has more than one minus sign
331	SYS ERROR-CALL	Transaction amt missing decimal point
332	AMT ENTRY ERROR	Transaction amt has non-numeric date
333	SYS ERROR-CALL	Transactions date has non-numeric data

TABLE A-6 TCS Uploads

TPS	Response Message	Description
334	SYS ERROR-CALL	Transactions date has non-numeric data
335	SYS ERROR-CALL	Amex tip amount has more than one minus sign
336	SYS ERROR-CALL	Amex tip amount has no decimal point
337	SYS ERROR-CALL	Amex tip amount has non-numeric data
338	SYS ERROR-CALL	Amex arrival date has non-numeric data
339	SYS ERROR-CALL	Amex depart date has non-numeric data
340	INV DATE ENTRY	Amex arrival date greater than depart date341
341	SYS ERROR-CALL	TCS action code has non-numeric data
342	SYS ERROR-CALL	Invalid TCS action code value
345	INV DATE ENTRY	Amex rental/return date greater than today plus one day
346	INV DATE ENTRY	Amex arrival/depart date greater than today plus one day
347	INV DATE ENTRY	VISA arrival/depart date greater than today plus one day
350	EXCEEDS MAX SALE	Transaction exceeds max sale amount
351	EXCEEDS MAX RETN	Transaction exceeds max return amount
356	EXCEEDS MAX DAYS	Transactions date older than number days allowed
357	NO MANUAL ENTRY	Manual entry not allowed for terminal or pay type
360	SYS ERROR-CALL	Trailer total record count does not match computed totals
361	SYS ERROR-CALL	Trailer total sales does not match computed totals
362	SYS ERROR-CALL	Trailer total returns does not match computed total
363	SYS ERROR-CALL	Trailer total net amt does not match computed total
366	SYS ERROR-CALL	Sequence numbers sent by the terminal contained gaps within batch
370	SYS ERROR-CALL	Header record count contains non-numeric data
371	SYS ERROR-CALL	Header record total sale amt invalid length
372	SYS ERROR-CALL	Header record total sale s amt has more than one minus sign
373	SYS ERROR-CALL	Header record total sales amount missing decimal point
374	SYS ERROR-CALL	Header record total sales amt has non-numeric data
375	SYS ERROR-CALL	Header record total returns amount invalid length
376	SYS ERROR-CALL	Header record total returns has more than one minus sign
377	SYS ERROR-CALL	Header record total returns amount has no decimal point

TABLE A-6 TCS Uploads

TPS	Response Message	Description
378	SYS ERROR-CALL	Header record total returns has non-numeric data
379	SYS ERROR-CALL	Header record total net amount is invalid length
380	SYS ERROR-CALL	Header record total net amount contains multiple header
381	SYS ERROR-CALL	Header record total net amount has non-numeric date
382	SYS ERROR-CALL	Trailer record count contains multiple minus signs
383	SYS ERROR-CALL	Trailer record total sales amount has multiple minus signs
384	SYS ERROR-CALL	Trailer record total sales amount missing decimal point
385	SYS ERROR-CALL	Trailer record total sales amount has non-numeric data
386	SYS ERROR-CALL	Trailer record total returns amount contains multiple minus signs
387	SYS ERROR-CALL	Trailer record total returns amount has no decimal point
388	SYS ERROR-CALL	Trailer record total returns amount has non-numeric data
389	SYS ERROR-CALL	Trailer record net amount has multiple minus signs
390	SYS ERROR-CALL	Trailer record total net amount missing decimal point
391	SYS ERROR-CALL	Trailer record total net amount has non-numeric data
392	SYS ERROR-CALL	Header record total net amount missing decimal point
393	SYS ERROR-CALL	Trailer record total sales amount invalid length
394	SYS ERROR-CALL	Trailer record total returns amount invalid length
395	SYS ERROR-CALL	Trailer record total net amount invalid length
396	DATA ERROR-CALL	TCS batch number on header out of sequence
397	DATA ERROR-CALL	TCS batch number is duplicate
398	SETTLEMENT WARNING	Release batch after determining risk
401	SYS ERROR-CALL	Overflow size of DCM is too large
402	MERC ID ERROR	Unable to read MERC record
403	MERC ID ERROR	Unable to read terminal record
404	SYS ERROR-CALL	Unable to update terminal record
405	SYS ERROR-CALL	Unable to write BMAN record
406	SYS ERROR-CALL	Unable to read record
407	SYS ERROR-CALL	Unable to update BMAN record
408	SYS ERROR-CALL	Unable to write SMAN record
409	SYS ERROR-CALL	No data available on DCM

TABLE A-6 TCS Uploads

TPS	Response Message	Description
410	SYS ERROR-CALL	Reference number server unavailable
411	SYS ERROR-CALL	Unable to valid transaction data
412	SYS ERROR-CALL	More than 16 payment types or settlement institutions in batch
413	SYS ERROR-CALL	Invalid record type on detail record
414	SYS ERROR-CALL	Invalid Amex product code
415	SYS ERROR-CALL	Invalid Amex industry supported code
416	SYS ERROR-CALL	Invalid Amex charge description code
417	SYS ERROR-CALL	Non-numeric PS2000 retrieval reference number
418	SYS ERROR-CALL	Terminal is configured as a test terminal
419	SYS ERROR-CALL	Transaction identifier has invalid dates
420	SYS ERROR-CALL	Total authorization amount has non-numeric data
421	SYS ERROR-CALL	Banknet reference number has invalid data
422	SYS ERROR-CALL	Replacement amount has non-numeric data
423	SYS ERROR-CALL	Unable to call subprogram - not bound-in driver
424	SYS ERROR-CALL	Error driver call subprogram on exception
426	INVALID TRANS CODE	Invalid transaction code was received during upload
427	INVALID BATCH COUNT	Invalid batch count code was received during upload
429	INVALID CLEARING NBR	Non-numeric clearing sequence number
430	INVALID DEPART DATE	Invalid departure date received passenger transport
431	INVALID CHARGE TYPE	Invalid charge type was received must be 1, 2 or 3
432	INVALID CLEARING CNT	Non-numeric clearing sequence count received
433	INVALID TRIP LEG 1	Invalid trip leg 1 received trip leg 1 must have trip info
435	CASHBACK BALANCE ER	Trailer total cash back does not match computed total
436	INVALID CLEARING CNT	Invalid clearing sequence count previous transactions has invalid sequence count
437	INVALID AUTH NBR	Invalid authorization number received from terminal
438	UNKNOWN RECORD TYPE	Invalid record type was received during the upload
439	QUASI CASH NOT ALLOW	Quasi cash is not allowed on manually entered VISA transactions
440	INVALID HASH AMOUNT	Invalid cash amount received during upload
441	INVALID SEC AMOUNT	Invalid sec amount received during upload

TABLE A-6 TCS Uploads

TPS	Response Message	Description
442	INVALID NET AMOUNT	Invalid net amount received during upload
443	SYS ERROR-CALL	DCC amt has more than one minus sign
444	SYS ERROR-CALL	DCC amt missing decimal point
445	SYS ERROR-CALL	DCC amt has non-numeric data
446	SYS ERROR-CALL	DCC Rate has more than one minus sign
447	SYS ERROR-CALL	DCC Rate missing decimal point
448	SYS ERROR-CALL	DCC Rate has non-numeric data
449	GROUP DATA ERROR	An error occurred when processing the Group Data Field(s). Refer to the group data error table.
450	SYS ERROR-CALL	Invalid UCAF Collection Indicator - MasterCard The value is 0, 1 or 2.
451	NO BILL PAY TYPE	Bill pay market indicator sent but the message does not include GRP12.

A.7 Unattended Term Velocity

Table A-7 lists the responses from the Worldpay Authorization Systems process that validate credit card and check authorization velocity usage for selected merchants such as New Jersey Transit.

TABLE A-7 Unattended Term Velocity

TPS	Response Message	Description
001	EXCEEDS COUNT	Maximum count exceeded
002	EXCEEDS AMOUNT	Maximum amount exceeded
005	VELOCITY NEGATIVE	Account on negative file
006	EXCEEDS COUNT/AMOUNT	Maximum count and amount exceeded
007	VELOCITY FRAUD RECRD	Velocity fraud record
008	NO ZIP CODE MATCH	No zip code match
009	VELOCITY NEGATIVE	Velocity negative

A.8 Global Response Codes

The global response codes are some of the most common TPS codes that are not necessarily tied to a specific network or product. Worldpay returns them for any card type depending on the transaction disposition.

TABLE A-8 Global Response Codes

TPS	Response Message	Description
001	AUTH DOWN	This is the TPS response when no external authorizer is available.
307	CONVERSION TRAN ERR	Description: Token/De-token conversion transaction not allowed Action: Check Host tokenization configuration settings and request message
307	PAYMENT TYPE ERROR	Description: Host payment type setup configured to decline token transaction request Action: Check Host tokenization configuration settings and request message
307	ADDITIONAL TRAN ERR	Description: Transaction not allowed to use token Action: Check Host tokenization configuration settings and request message
307	RESTRICT TRAN ERROR	Description: Restricted transactions not allowed to process Action: Check Host tokenization configuration settings and request message
307	INVALID TRACK DATA	Description: Track data is blank, unable to tokenize transaction request Action: Verify values for clear PAN or Track data - retry transaction
307	INV POS COND CODE	Description: POS condition code is invalid for request message Action: Verify values for POS condition code field - retry transaction
307	INV ORIG DATE TIME	Description: Invalid token original date or time values, not numeric or format issue Action: Verify POS values for token original date and time fields - retry transaction
307	TRAN NOT ALLOWED	Description: Transaction requesting or using token is not allowed Action: Verify POS request message - retry transaction
307	POS ENTRY MODE ERROR	Description: Transaction request using token must set manual POS entry mode Action: Verify POS request message - retry transaction
307	PAN OR TRACK ERROR	Description: Transaction using token must initialize track and/or PAN to spaces Action: Verify POS request message - retry transaction
416	REGISTRATION-ID NOT FOUND	Description: The transaction's Registration-ID is not found in the ES data base. It may have expired. Action: Check the Registration-ID and retry the transaction.

TABLE A-8 Global Response Codes

TPS	Response Message	Description
550	FRAUDSIGHT DENIED	Transaction declined by FraudSight
714	INV CARD NUMBER	This is the TPS response code that will most commonly be presented when a transaction fails to locate a viable routing option.
796	AUTH DOWN	There is a system malfunction.

A.9 Default TPS Codes

The default TPS codes are the return codes for any product not explicitly listed and also for any internal processing declines. These products include Debit, Check Authorizations, EBT, Gift Card, Visa POS Check, and POSA Prepaid among others.

TABLE A-9 Default TPS Codes

TPS	Response Message	Description
001	AUTH DOWN	This is the TPS response when no external authorizer is available.
701	CALL OPER	Refer to card issuer
702	CALL OPER	Refer to card issuer - special condition
703	INV MERCHANT	Invalid merchant
704	PICK UP CARD	Pick up card
705	TRANS DENIED	Do not honor
706	TRANS DENIED	One or more errors in message
707	PICK UP CARD	Pick up card (special condition)
708	INVALID ID	Invalid format in identification data
712	INV TRANS	Invalid transaction
713	INV DOLLAR AMT	Invalid amount
714	INV CARD NUMBER	Invalid cardholder account
715	INV ISSUER	No such issuer
716	VOUCHER EXPIRED	Voucher expired
717	PAN RETRIES EXCEDED	Allowable # of PAN tries exceeded
718	INV SECURITY COD	Invalid Security Code NOTE: The actual return code from Telecheck is 88.
719	RE-ENTER TRANSACTION	Re-enter transaction
721	NO ACTION TAKEN	No action taken - unable to back out prior transaction
722	UNMATCHED VOUCHER	Unmatched voucher information
723	UNDEFINED TRANS	Transaction not defined
724	DOB MISMATCH	ID or Date of Birth Mismatch
725	TRANS DENIED	Unable to locate record in file
726	ID RESTRICTIONS	ID Restrictions
728	TRANS DENIED	File is unavailable

TABLE A-9 Default TPS Codes

TPS	Response Message	Description
729	TRANS DENIED	Hard Negative Information on File
730	FORMAT ERROR	Format error
731	OVER LIMITS	Over Daily, Periodic, Maximum Limits
732	INVALID STATION ID	Invalid Station ID
734	TRANS DENIED	Enter DL/Date of Birth
735	CALL OPER	Refer to Call Center
739	TRANS DENIED	No credit account
740	FUNCTION NOT AVAIL	Requested function not supported
741	PICK UP CARD	Lost card - pick up
743	PICK UP CARD	Stolen card - pick up
747	TRAN UNDELIVERABLE	Undeliverable transaction
751	TRANS DENIED	Insufficient funds
752	TRANS DENIED	No checking account
753	TRANS DENIED	No savings account
754	CARD EXPIRED	Expired card
755	INVALID PIN	Incorrect PIN
756	CANNOT PROCESS	Cannot process
757	TRANS NOT ALLOW	Transactions not allowed to cardholder
758	TRANS NOT ALLOW	Transactions not allowed to terminal
761	EXCEEDS MAX AMT	Exceeds withdrawal/approval amount limits
762	TRANS DENIED	Restricted card
763	TRANS DENIED	Security violation
765	TRANS DENIED	Activity count limit exceeded
766	CARD ESCHEATED	Card Escheated (Gift Card)
767	PICK UP CARD	Pick up card
768	MERCHANT DEPLETED	Merchant Depleted (Gift Card)
769	BAD CLOSE	Bad close (Gift Card)
770	CARD ALREADY ACTIVE	Card already active (Gift Card)
771	CARD INACTIVE	Card not active (Gift Card)
772	CARD CLOSED	Card already closed (Gift Card)

TABLE A-9 Default TPS Codes

TPS	Response Message	Description
773	OVER MAX BALANCE	Over maximum balance (Gift Card)
774	INVALID ACTIVATE	Invalid activate (Gift Card)
775	TRANS DENIED	Allowable number of PIN entry tries exceeded
776	INV REF NUMBER	Unable to locate previous message
777	DATA INCONSISTENT	Previous message located for repeat/reversal, but data inconsistent
778	NO 'TO'ACCT	No "to" account specified
779	TRANS DENIED	Already reversed by switch
780	INVALID DATE	Invalid date
781	TRANS DENIED	Cryptographic error found in PIN or CVV
782	TRANS DENIED	Incorrect CVV
783	INCORRECT PIN	Unable to verify PIN
784	TRANS DENIED	Time limit for a pre-authorization is too long
786	TRANS DENIED	Cannot verify PIN
787	RECON TOTAL STOPPED	Reconciliation totaling has stopped for current settlement day
788	NO TOTALS TRY LATER	Switch cannot provide totals now; try again in 30 minutes
789	GIV TRANS DENIED	Ineligible to receive financial position information (GIV)
790	EXCEEDS LIMIT	Exceeds approval/daily limit. ECHO Override optional.
791	AUTH DOWN	Issuer/switch inoperative
792	AUTH DOWN	Financial Inst facility cannot be found for routing
793	TRANS NOT ALLOW	Illegal transaction - violation of law
794	DUPL TRAN	Duplicate transaction
795	AUTH DOWN	Issuer/switch inoperative POSA Prepaid Network SAF
796	AUTH DOWN	System malfunction
798	DUPLICATE TRANSACTION	Duplicate Transaction

A.10 Edit Errors

TABLE A-10 Edit Errors

TPS	Response Message	Description
101	MERC ID ERROR	Merchant ID block has invalid length
102	MERC ID ERROR	Non-numeric data in merchant ID block
103	INV TRAN CD LEN	Transaction code has invalid length
104	DATA ERR-CALL OP	Mad stripe has more than one SOH
105	INV CARD LENGTH	Invalid card length
106	MAN'L EXP DAY ERR	Manual keyed exp date is not 4 characters
107	INVALID EXP DAY	Invalid exp date
108	CARD EXPIRED	Card expiry date less than current date
109	DATA ERROR CALL	Invalid length - action code
110	DATA ERROR CALL	Invalid length in amount field
111	DECIM'L PONT ERR	Invalid amount - decimal point
112	INV PIN BLK LEN	Invalid length - pin block
113	AMT ENTRY ERROR	Non-numeric amount data
114	DATA ERROR CALL	Invalid length - merchant control card account number
115	INV MERC CARD	Invalid merchant control card
116	SYS ERROR-CALL	Invalid action code value
117	AUTH TRN NO AL'W	Auth transaction not allowed for this payment type
118	TRANS NOT ALLOW	Capture transactions not allowed for this payment type
122	ACCT NO ERR-CALL	Account number is non-numeric
123	ACCT NO ERR-CALL	Account number failed mod test
124	MERCHANT ID ERR-CALL	Unable to read terminal record
125	INV ACCT NO LEN	Invalid length - account number
126	TAG DATA - NOT EMV	Tag data present for a non-EMV transaction
128	INV CARD NUMBER	Account number not found in BIN table
129	SYS ERROR-CALL	Invalid transaction ID in WCC byte
130	DATA ERROR-CALL	Invalid terminal type
131	DATA ERROR-CALL	Invalid capture flag value

TABLE A-10 Edit Errors

TPS	Response Message	Description
132	NO AUTH #-RETRY	Auth number missing from prior authorization transaction
133	SYS ERROR-CALL	Invalid PIN block format
138	CARD NOT ALLOW	Payment type not found in table
139	SYS ERROR-CALL	Invalid position - decimal point in wrong position
140	MERC ID ERROR	Unable to read merchant record
142	NO CASH ADV AL'W	Cash advance not allowed
143	VOID NOT ALLOWED	Void transaction not allowed
144	TRAN NOT AVAIL	Unable to void last EFT transaction
145	BATCH FULL	Batch is full - EFT capture number exceeded
146	DEBIT NOT ALLOW	Debit transaction not allowed
148	SYS ERROR-CALL	Error locking terminal record
149	TRANS NOT ALLOW	Capture transaction on authorization only terminal
150	TRANS NOT ALLOW	Private label transaction not allowed for terminal
151	INACTIVE TERM	Inactive terminal
152	NO MANUAL ENTRY	Manual entry not allowed for this terminal
153	EXCEEDS MAX SALE	Maximum sale amount exceeded
154	EXCEEDS MAX RET	Maximum return amount exceeded
155	TRANS NOT ALLOW	Store reporting transactions not allowed
156	SYS ERROR-CALL	Unable to perform start on TRANFILE for void request
157	TRANS NOT FOUND	Unable to find transaction record for void request
158	TRANS NOT FOUND	Unable to void - batch already released - transaction not in current batch
159	DATA ERROR-CALL	No settlement number for capture transaction
160	MERC ID ERROR	Invalid routing prefix for HCS terminal
161	MERC ID ERROR	Invalid routing prefix for TCS terminal
162	INV STATE CD LEN	Invalid length - state code
163	INV STATE CODE	Invalid state code value
164	INV BIRTH DATE	Invalid length - date of birth
165	INV BIRTH DATE	Non-numeric date of birth
166	INV BIRTH DATE	Invalid date of birth

TABLE A-10 Edit Errors

TPS	Response Message	Description
167	INV CHECK NO.	Invalid check number
168	AMT. MAX CK AMT	Transaction amt exceeds check guarantee max amt
169	SYS ERROR-CALL	No STX found in request block
170	INV BATCH NO.	Invalid TCS batch number
171	INV CK REQ TYPE	Invalid check request type
172	INV CK ID TYPE	Invalid check ID type value
173	SYS ERROR-CALL	Exceeds TCS Julian day count
174	SYS ERROR-CALL	Cannot get retrieval reference number
175	SYS ERROR-CALL	Unable to read batch management record
176	NO MANUAL ENTRY	Manual entry not allowed for card
177	SYS ERROR-CALL	No authorizers available for card presented
178	SYS ERROR-CALL	Authorizer network not found in authorizer table
179	SYS ERROR-CALL	No authorizers available for card given
180	SYS PIN ERR-CALL	Unable to translate PIN block
181	INV JCB DATA	Invalid JCB installment data
182	INV FOLIO NO.	Invalid invoice/folio number
183	INV ITEM CODE	Invalid AMEX item code
184	SYS ERROR-CALL	Unable to safe store IPB
185	INV TRAN AMOUNT	Invalid transaction amount
186	INV CASHBACK AMT	Invalid cash back amount
187	NO TRAN IN BATCH	No transactions found for batch release
188	TOTALS NOT AVAIL	Batch totals requested are unavailable on BMANFILE
189	MICR NOT ALLOWED	MICR not allowed for ID only requests
190	PERSONAL CK ONLY	Check type must be personal for MOTO/eCommerce
191	CK MUST BE SCAN	Conversion required MICR in TOAD format
192	CK TYPE NOT ALWD	Check type not allowed for this transaction request
193	EMV MISSING TAG DATA	EMV transaction with no tag data present
194	SYS ERROR-CALL	Read timeout on batch management
195	SYS ERROR-CALL	Read timeout on transaction file
196	SYS ERROR-CALL	Unknown transaction typed

TABLE A-10 Edit Errors

TPS	Response Message	Description
197	SYS ERROR-CALL	Invalid capture number
198	MERC ID ERROR	Invalid application for transaction
199	SYS ERROR-CALL	Unable to pathsend void request to void reference server
200	SYS ERROR-CALL	Non-numeric message type from terminal
201	SYS ERROR-CALL	Non-numeric bit map type from terminal
202	SYS ERROR-CALL	Unknown bit map type from terminal
203	SYS ERROR-CALL	Invalid data source byte
204	SYS ERROR-CALL	Invalid transaction code received during upload
205	SYS ERROR-CALL	Conflict offset/batch number request by terminal
206	SYS ERROR-CALL	Unable to perform start on BMANFILE
207	SYS ERROR-CALL	Unable to lock terminal record
208	MUST BE PAYROLL	Payroll check must be payroll check type
209	INV DLL REQUEST	Invalid download requested by terminal
210	INV VOID DATA	Invalid data for void request
211	INV INDUST CODE	Invalid AMEX industry code
212	INV CHARGE DESC	Invalid AMEX charge description
213	INV TIP AMOUNT	Invalid AMEX tip amount
214	INV EMP NO.	Invalid AMEX employee number
215	INV ARRIV DATE	Invalid AMEX arrival date
216	INV DEPART DATE	Invalid Amex departure date
217	INV DATE ENTRY	AMEX arrival date after depart date
218	SYS ERROR-CALL	Invalid AMEX program code
219	SYS ERROR-CALL	Sequence number server send failed
220	SYS ERROR-CALL	Unable to decode ISO message
221	SYS ERROR-CALL	Invalid network management info code
222	SYS ERROR-CALL	Invalid POS processing code
223	SYS ERROR-CALL	Invalid retrieval reference number
224	SYS ERROR-CALL	Invalid POS entry mode
225	SYS ERROR-CALL	Invalid POS condition code
226	INV BANK ID	Invalid bank ID

TABLE A-10 Edit Errors

TPS	Response Message	Description
227	INV MERCHANT NO.	Invalid merchant number
228	INV TERMINAL NO.	Invalid terminal number
229	INV B-RELSE DATA	Invalid batch release data
230	SYS ERROR-CALL	Arithmetic overflow occurred
231	OVER CASHBCK AMT	Over maximum cash back amount allowed
232	SYS ERROR-CALL	Unknown message code
233	SYS ERROR-CALL	There are no security boxes available
234	SYS ERROR-CALL	Exceeded sanity errors limit
235	SYS ERROR-CALL	Key exchange not allowed
236	DATA ERROR-CALL	Invalid mail order flag
237	SYS ERROR-CALL	Invalid return code from security box routine
238	ALREADY VOIDED	Transaction has already been voided
239	SYSTEM ERROR - CALL	Invalid POS entry capability code
240	SYSTEM ERROR - CALL	Invalid length for AVS cardholder ID data
241	INVLD ACCT TYPE	Invalid account ID type
242	INVALID CK TYPE	Invalid check type field
243	INVALID MANAGER	Invalid manager number
244	INVALID ACCOUNT	Invalid check account data MICR data did not pass validation
245	INV REQ FOR MSG	Invalid request type for message type
246	INVALID DURATION	Invalid duration of stay
247	INVALID TRAN ID	Invalid transaction identifier for partial reversal/incremental authorization
248	INVALID AMOUNT	Invalid replacement amount
249	INVALID TRAN TIME	Invalid original transaction time for partial reversal
250	INVALID REFR NUMBER	Invalid retrieval reference number for partial reversal
251	VEHICLE NUMBER REQUIRED	Wright Express requires vehicle number
252	INVLD DRIV. LIC.	Invalid driver's license
253	SYS ERROR-CALL	Unable to perform drivers license validation
254	INVALID DATE/TIME	Transaction has an invalid date and time
255	TRLR TOT OUT OF BAL	Upload trailer totals out of balance

TABLE A-10 Edit Errors

TPS	Response Message	Description
257	INVLD AMEX ROOM RATE	Invalid AMEX room rate
259	INVALID ACI REQUEST	Authorization characteristics IND not - N, Y, P, I, A, E, C, V
260	INVALID TRAN SEQ NBR	The transaction sequence number is not numeric.
261	HC ADJUST NOT ALLOWD	Fully approved credit cards can only use host capture adjustments.
262	QUASI CASH NOT ALLOW	Manually entered VISA transactions do not allow quasi cash.
263	INVALID REV OR CAN	The terminal did not send any credit reversal or cancel data.
264	INVALID REV OR CAN	The terminal did not send any debit reversal or cancel data.
265	PRODUCT CODES REORD	Voyager and Wright Express require product codes.
266	HC ADJUST NOT ALLOWD	The Host Capture Adjustment indicator was not sent on batch open, or the terminal is not a 610 terminal with void undelivered disabled. No adjustments are allowed.
267	INVALID DEBIT TRAN	You cannot manually enter debit transactions.
268	INVALID UPLOAD HDR	The first record of upload is not a header record.
269	INVALID BLOCKING IND	The blocking indicator is not numeric.
270	NON GAMING TRANS	This terminal only allows gaming transactions.
271	UNKNOWN RECORD TYPE	Invalid record type was received during the upload
272	BMAN BATCH CLOSED ER	A transaction was received for a batch that has been released.
273	TERM TYPE ERROR	Invalid terminal application for transaction
274	TRANS NOT FOUND	Unable to find transaction record for debit return request
275	TRANS NOT FOUND	Transaction already voided for debit return request
276	NO DEBIT GROUP	A debit transaction was received and no debit group exists.
277	UNSUPPORTED FUNCTION	The host does not support the processing of a Gift Card BI.
279	FCS MISSING NUMBER	Food stamp transactions require the FCS number on the Merchant Record.
280	CONCURRENT UPLOAD	Upload received while upload already in progress
287	INVALID FILE NAME	Invalid file name field (BIT 101) In 03200 Message
294	INVALID CHECK DATA	Invalid check data (During check authorization)
296	INVALID CASHIER NBR	Cashier NBR non numeric or variable length non numeric or > 4 Bytes
298	INVALID FILE UPD COD	Invalid file update code for returned check message (0320)
300	INVALID ORIG. MSGTYP	Invalid original message type in 400 message
301	INVALID CR CREDIT CT	Invalid returns count in 0500 message

TABLE A-10 Edit Errors

TPS	Response Message	Description
302	INVALID CCR SALE CT	Invalid sales count in 0500 message
303	INVALID CR CREDIT AM	Invalid returns amount in 0500 message
304	INVALID CR SALES AMT	Invalid sales amount in 0500 message
313	MERCHANT ID ERR-CALL	Tip amount exceeds remaining card balance
314	MERCHANT ID ERR-CALL	Read timeout on Bank record
315	MERCHANT ID ERR-CALL	Unable to read Bank record
316	INVALID STS NET AMT	Invalid net settlement amount in 0500 message
317	INVALID RECON TYPE	Invalid reconciliation type in 0500 message
325	TIMESTAMP ERROR	Invalid transaction date/time in message
327	INVALID EBT DATA	BIT 54 used for cashback amount instead of BIT 61 on an EBT trans
332	INVALID VOUCHER NBR	Invalid voucher number
335	INVALID EBT DATA	Invalid EBT data (cashback amount of voucher ID)
336	MPS STORE IS INVALID	MPS Store field is invalid or missing
337	MPS MERCHANT INVALID	MPS Merchant field is invalid or missing
338	MPS CHAIN IS INVALID	MPS Chain field is invalid or missing
339	FLEET DATA ERROR	Fleet Bit 130 Customer prompt data LLLvar is not numeric
340	FLEET DATA ERROR	Fleet Bit 130 Customer prompt data LLLvar less than 011
341	FLEET DATA ERROR	Fleet Bit 130 Customer prompt data not numeric
342	FLEET DATA ERROR	Fleet Bit 130 Customer prompt data invalid (000-252)
343	FLEET DATA ERROR	Fleet Bit 130 Customer prompt code invalid prompt code value
344	FLEET DATA ERROR	Fleet Bit 130 Customer prompt code LLvar not numeric
345	FLEET DATA ERROR	Fleet Bit 130 Customer prompt code data not numeric
346	FLEET DATA ERROR	Fleet Bit 130 Customer prompt data exceeds LLLvar
347	FLEET DATA ERROR	Fleet Bit 130 Service level value is invalid
348	FLEET DATA ERROR	Fleet Bit 131 Product data LLLvar is not numeric
349	FLEET DATA ERROR	Fleet Bit 131 Product data LLLvar invalid out of range (083-999)
350	FLEET DATA ERROR	Fleet Bit 131 Product data LLvar is not numeric
351	FLEET DATA ERROR	Fleet Bit 131 Product data LLvar is out of range (05-83)
352	FLEET DATA ERROR	Fleet Bit 131 Product data invalid code values (01-07)

TABLE A-10 Edit Errors

TPS	Response Message	Description
353	FLEET DATA ERROR	Fleet Bit 131 Product data code LLvar not numeric
354	FLEET DATA ERROR	Fleet Bit 131 Product data code zero LLvar is invalid
355	FLEET DATA ERROR	Fleet Bit 131 Product data codes 01/02 LLvar is invalid
356	FLEET DATA ERROR	Fleet Bit 131 Product data codes 03 thru 06 LLvar is invalid
357	FLEET DATA ERROR	Fleet Bit 131 Product data code 07 LLvar is invalid
358	FLEET DATA ERROR	Fleet Bit 131 Merchant discount amount not numeric
359	FLEET DATA ERROR	Fleet Bit 131 Participant discount amount not numeric
360	FLEET DATA ERROR	Fleet Bit 131 Sales tax amount not numeric
361	FLEET DATA ERROR	Fleet Bit 131 Gross fuel amount not numeric
362	FLEET DATA ERROR	Fleet Bit 131 Non gross fuel amount not numeric
363	FLEET DATA ERROR	Fleet Bit 131 Net non fuel transaction amount not numeric
364	FLEET DATA ERROR	Fleet Bit 131 Product code set invalid must be '001'
365	FLEET DATA ERROR	Fleet Bit 131 Product data length less than LLLvar provided length
366	FLEET DATA ERROR	Fleet Bit 131 Product code info LLLvar not numeric
367	FLEET DATA ERROR	Fleet Bit 131 Product code info LLLvar invalid
368	FLEET DATA ERROR	Fleet Bit 131 Product code info number of products invalid (001-005)
369	FLEET DATA ERROR	Fleet Bit 131 Product code info number of product mismatch in LLLvar
370	FLEET DATA ERROR	Fleet Bit 131 Product code info product code not numeric
371	FLEET DATA ERROR	Fleet Bit 131 Product code info product code Zero invalid NACS
372	FLEET DATA ERROR	Fleet Bit 131 Product code info product type invalid
373	FLEET DATA ERROR	Fleet Bit 131 Product code info product amount not numeric
374	FLEET DATA ERROR	Fleet Bit 131 Product code info product quantity not numeric
375	FLEET DATA ERROR	Fleet Bit 131 Product code info product unit amount not numeric
376	FLEET DATA ERROR	Fleet Bit 131 Product code info unit of measure invalid
377	RETURN EXCEEDS SALE	Credit return requested amount exceeds original sale transaction amount
378	SALE TRAN NOT FOUND	Original sale transaction not found in open batch
379	ALREADY REFUNDED	Original sale transaction already refunded in open batch
380	CARD NOT ACTIVE	Gift Card Activation not delivered

TABLE A-10 Edit Errors

TPS	Response Message	Description
381	RELOAD UNSUCCESSFUL	Gift Card Reload not delivered
382	INV DCC AMOUNT	Invalid DCC amount
383	INV DCC CONV RATE	Invalid DCC Conversion Rate
384	INV DCC CURRENCY	Invalid DCC Currency
385	Visa Bin Number missing	Canadian Visa Bin cannot be 0
386	MC ICA Number missing	Canadian MC ICA cannot be 0
387	Visa Bin Number missing	US Visa Bin cannot be 0
388	MC ICA Number missing	US MC ICA cannot be 0
389	Group Data Error	An error occurred in processing the Group Data Field(s). Refer to group data error table
390	FLEET DATA ERROR	Fleet Bit 130 Subfield 1 value of code unknown
392	INV POS DATACODE	POS Data Code contains an invalid value
393	FLEET DATA ERROR	Sum of product code amount does not equal overall transaction amount
394	PAYROLL INVALID	Payroll check type invalid for transaction request
395	CK PROVIDER INV	Check if the service vendor is present. Check the service provider id. It cannot be blank.
396	CK VENDOR INV	Check if the service vendor is present. Check the service provider id. It cannot be blank.
397	MERC ID ERROR	Check service vendor for payment type CA or CT is blank
398	INV ECOM FLAG	You must set the Internet flag on term record to Y.
399	INV REQ LENGTH	Invalid request length of base message
400	RS ETX NOT FOUND	A record separator or ETX character was not found in the request message.
401	SUPP RECEIPT REQ	The POS must support the return of host group data response receipt text (R010).
402	TRANS NOT ALLOW	Debit return transactions are not allowed for the terminal.
403	TRANS NOT ALLOW	Only payment types VI and MC support partial authorization reversals.
404	SYS ERROR - CALL	An internal Encryption or Decryption attempt failure occurred.
405	E2EE GROUP REQD	An E2EE request requires Group Data.
406	DATA ERROR CALL	E2EE Invalid data contained in private use field 63 table 78 or G026

TABLE A-10 Edit Errors

TPS	Response Message	Description
407	TOKEN ERROR - CALL	A tokenization or De-tokenization processing error occurred. Detail extended host error description is provided in group response data R998 if requested/supported by the POS by a setting in G009 of the request message.
408	E2EE TIME OUT	Description: A host E2EE time out occurred when attempting encryption. Action: Retry the transaction. If problem persists, contact support.
409	E2EE INVALID REQUEST	Description: The E2EE request for encryption or decryption is invalid. Action: Retry the transaction. If problem persists, contact support.
410	E2EE PATHSEND ERROR	Description: A host error occurred attempting to communicate with the SOE2EE server. Action: Retry the transaction. If problem persists, contact support.
411	E2EE INVALID TOKEN	Description: The E2EE decryption failed due to invalid token value. Action: Retry the transaction. If problem persists, contact support.
412	E2EE INTERNAL ERROR	Description: The E2EE encryption or decryption failed due to internal host error. Action: Retry the transaction. If problem persists, contact support.
413	E2EE DECRYPTION ERR	Description: The E2EE decryption failed unable to determine PAN from token. Action: Retry the transaction. If problem persists, contact support.
414	E2EE INTERNAL FORMAT	Description: An E2EE internal host format error occurred due to no available PAN or token. Action: Retry the transaction. If problem persists, contact support.
415	E2EE LINKS UNAVAIL	Description: The E2EE communications links are unavailable for encryption or decryption. Action: Retry the transaction. If problem persists, contact support.
416	SYSTEM ERROR	An internal hashing failure occurred.
417	INVALID DCC IND	The DCC Indicator must be Y or N.
418	VTP COMMND PROCESSED	The VTP command was processed, which always results in an error to cause a decline.
419	PICK UP CARD	The keyed transaction using an international card is declined.
420	INVALID LINE TYPE	Specified eComm line type not enabled
421	INVALID KSN/PIN BLK	Declines the transaction, because the operator entered an invalid key serial number.

TABLE A-10 Edit Errors

TPS	Response Message	Description
422	INV WIC VENDOR	The transaction contains an invalid or missing WIC vendor id.
797	ENTER MORE PROMPTS	WEX Soft Decline Request additional prompt data and resubmit the pre-authorization request.

A.11 Group Data Errors

When TPS code 389 is returned, indicating an edit error has been identified in one of the Group data fields, one of the response messages is returned in [Table A-11](#).

TABLE A-11 Group Data Errors

RESPONSE MESSAGE	GROUP DATA ERROR DESCRIPTION
4U+ 4V+ 4W+ 4X > 4S	The total of detail amounts (4U, 4V, 4W, 4X) was greater than the 4S total amount.
DUPLICATE AMOUNTS	There was more than one occurrence of amount type in the group data.
DUPLICATE GROUPS	Duplicate groups were found in request. This is not allowed.
E2EE GROUP REQUIRED	E2EE group(s) are required when request is for encryption (POS condition code).
E2EE GROUP INVALID	E2EE group(s) were found when request is not for encryption (POS Condition Code)
FIELD NOT NUMERIC	Non numeric data was found in a numeric defined field.
FSA-4S TYPE MISSING	The amount of type 4S was not found in-group data.
FSA ACCT TYPE NOT 00	The account type is not equal to 00.
G005 REQUIRED FOR GC	Group data 5 is required for any gift card mass transaction.
G012 AND NOT AMEX/DS	Group data 012 exists but it is not an AMEX/DSC transaction.
G027 REQUIRED GROUP	G026 requires G027 for void processing.
GROUPS 2/3 CONFLICT	The group data is incompatible.
INCOMPATIBLE GROUP	Incompatible group(s) exist in request message.
INVALID FIELD LENGTH	The field length exceeds the maximum allowance.
INVALID FIELD VALUE	The field values are invalid. Check their attributes.
INVALID GROUP DATA	The group data is incompatible. It contains invalid information.
INVALID GROUP LENGTH	The group data length exceeds the maximum allowance.
INVALID GROUP NUMBER	The group data number value is unsupported.
PARTIAL APPROVAL REQ	Group data 009 requires partial approval.

TABLE A-11 Group Data Errors

RESPONSE MESSAGE	GROUP DATA ERROR DESCRIPTION
PAN ONLY FOR VOIDS	You should only use the G026 field 03 value P option for Void (0400) requests.
TRAN AMOUNT < 4S	The 4S total amount was greater than the transaction amount.
VOID PAN IS EMPTY	The G026 field 03 value P must provide PAN in the base void request message.
VOID PAN NOT BLANK	When G026 field 03 is T or E, then the PAN must blank in the base void request message.
VOID REQUIRES G005	Group data G005 is required for void.
VOID REQUIRES G006	Group data 006 is required for void.
INV POS COND CODE	There is an invalid POS condition code position 8 with G028.
G028 INV WITH POS CC	Group G028 is invalid with POS condition code position 8.
G028 GROUP REQUIRED	Group G028 is required with the POS condition code position 8 setting.
INV EXPIRATION DATE	Group G028 contains invalid expiration date values.
DUKPT E2EE WO TRACK	When using DUKPT E2EE, you must use the Encrypted Data Format T in G026.
G033 INV WITH POS CC	G033 is allowed only when POS Condition Code position 9 equals 0.
G035 REQUIRES G034	G034 must be present when G035 is present.
MISSING GROUP SEP.	Unable to locate the group separator.
INTERNAL ERROR	A severe error occurred when processing the message. The transaction will decline.

Special Transaction Processing

This chapter describes the transactions where special processing is necessary.

Examples in this appendix may include:

- * - Represents a space
- <fs> - Represents a field separator
- <gs> - Represents a field separator
- <rs> - Represents a record separator
- | - This character represents a separator and is only for illustrative purposes. You should not include it in any messages.

B.1 Partial Approval

A Partial Approval occurs when the issuer approves a transaction for less than the requested amount. When the POS device receives a partial approval, it must perform split tendering to complete the transaction. The terminal indicates partial approval capability by the values of [G009 – Optional Processing Indicators](#). Each of these flags is specific to the referenced card types.

TABLE B-1

Partial Approval Indicator	Valid Values
Visa and MasterCard Credit Card	0 – Does not support partial approval 1 – Supports partial approval
PIN Debit	0 – Does not support partial approval 1 – Supports partial approval
Discover Credit Card Note: Discover authorization check first to fully approve merchandise and then checks the cash back. See the examples below.	0 – Does not support partial approval 1 – Supports partial approval for both merchandise and cash back 2 – Supports partial approval for merchandise only. Cash back requires full approval or zero cash back returns. 3 – Supports partial approval for cash back only. Merchandise requires full approval or Worldpay declines the transaction. 4 – Supports partial approval supported. Merchandise requires full approved or Worldpay declines the transaction. Cash back requires full approval or Worldpay returns zero cash back.
AMEX Credit Card	0 – Supports partial approval 1 – Supports partial approval 2 – There is no partial approval support; however, the response returns the available balance.

The tables below show an example of how Worldpay processes a Discover partially approved card transaction.

In the table, the values in columns represent:

- **Indicator** - The value of Discover Partial Approval Indicator
- **Request Merchandise** - The value of merchandise purchased
- **Request Cash Back** - The amount of cash back requested
- **Respond Merchandise** - The amount the merchandise was approved for
- **Respond Cash Back** - The amount of cash back approved
- **Tran** - If the transaction was approved or declined

TABLE B-2 Example 1: Available balance on the account is \$80

Request			Response		
Indicator	Merchandise	Cash Back	Merchandise	Cash Back	Transaction
0	\$100	\$20	\$0	\$0	Declined
1	\$100	\$20	\$80	\$0	Approved
2	\$100	\$20	\$80	\$0	Approved
3	\$100	\$20	\$0	\$0	Declined
4	\$100	\$20	\$0	\$0	Declined

TABLE B-3 Example 2: Available balance on the account is \$80

Request			Response		
Indicator	Merchandise	Cash Back	Merchandise	Cash Back	Transaction
0	\$100	\$20	\$100	\$0	Approved
1	\$100	\$20	\$100	\$0	Approved
2	\$100	\$20	\$100	\$0	Approved
3	\$100	\$20	\$100	\$0	Approved
4	\$100	\$20	\$100	\$0	Approved

TABLE B-4 Example 3: Available balance on the account is \$110

Request			Response		
Indicator	Merchandise	Cash Back	Merchandise	Cash Back	Tran.
0	\$100	\$20	\$100	\$0	Declined
1	\$100	\$20	\$100	\$10	Approved
2	\$100	\$20	\$100	\$0	Approved
3	\$100	\$20	\$100	\$10	Approved
4	\$100	\$20	\$100	\$0	Approved

B.2 Signature Capture

The host processes Field 08 of [G009 - Optional Processing Indicators](#) when present for all defined request message types. When Field 08 is set to **Y**, the host returns [R011 - Signature Capture Data](#) for any successfully processed transaction. R011 contains the signature capture ID that was assigned to the transaction.

Worldpay clients that are host capture (HCS) must include the returned signature capture IDs within the submitted signature capture file.

Customers that settle using EMD directly to Cincinnati are responsible for providing associated signature capture IDs in both the signature capture file and the EMD file. EMD merchants have the option of assigning their own signature capture IDs.

In either case, it is the responsibility of the POS application to include only the applicable transactions in the POS signature capture file that transmits to Cincinnati.

B.3 Fleetcor and Fleetone Transactions

This section describes the Fleetcor, Fleetone, and FleetOne Back Close transactions.

B.3.1 Fleetcor Transactions

The host does not currently support return transactions, void of returns, and force post transactions.

B.3.2 Fleetone Transactions

The host does not currently support return transactions and void of returns.

Force post transactions can contain data values in [130 Fleet Customer Data \(Fleet Card\)](#) and [131 Fleet Product Data \(Fleet Card\)](#) depending on merchant arrangements with the issuer. The host does not decline the message if there is no data in these bits.

B.3.3 FleetOne Batch Close

Merchants that accept, process, or both with FleetOne issued Fleet cards can send the [FleetOne Batch Close Request](#) on page 182. This request results in a host initiation of a Batch Close to the FleetOne issuer. The initiation and frequency of this message is a merchant business decision (that is, 24/7 shift change). There is no host limitation to the number of FleetOne batch close transactions.

For FleetOne Batch Close request messages, consider populating the correct lane's last retrieval reference number if you enabled host void undelivered logic and you used lane number (greater than zero); otherwise, use 0 for the lane number and 0 for the last retrieval reference number. Either scenario results in a FleetOne Batch Close request.

B.4 Incremental Authorization

Currently, the 610 format only supports Discover, Visa, and Mastercard for incremental authorizations.

To create an incremental authorization:

1. Use masked PAN and [G014 – Original Authorization Retrieval Reference Number](#) containing the RRN of the Original Authorization Response in place of full card data for the subsequent transaction (see [Masked Account Number Usage](#) on page 601) or use a token in the subsequent transactions.
2. Send [G015 - Additional Amounts Request](#) with the total authorization amount with each subsequent new incremental authorization.
 - Set Field 01 to **30** (Credit Card)
 - Set Field 02 to **43** (Incremental Authorization Cumulative Amount).
 - Set Field 03 to **840** (USD).
 - Make Field 04 the cumulative amount.

Incremental authorization has its own specific processing code in the authorization message. If the final amount is less than the last incremental authorization cumulative amount, the merchant must submit a partial reversal transaction to remove the hold on the overage. For more information, see [Credit Card Full/Partial Authorization Reversal Request](#) on page 58.

B.5 VISA Debt Repayment

To participate in this program, the merchant must register with VISA with MCC 6012 or 6051 and obtain the VISA assigned MVV (Merchant Verification Value).

This program is allowed on VISA consumer debit - check cards only. VISA declines all consumer credit cards transactions identified as debt repayment. VISA may return code 57 (Transaction not permitted to cardholder).

The request message must include [G022 – Transaction Specific Indicators](#), where Field 01 is set to **B** and Field [25 Point-of-Service Condition Code](#), where you must set the bill payment indicator position 7 to **1** (recurring payment), **2** (installment payment) or **3** (one-time bill payment).

When Field 01 is set to **B** in G022, you can only use it with 0100 (authorization) 0200 (sale), and 0220 (prior authorization) transactions.

Visa defines consumer debit cards as follows:

- Visa Check Card
- Visa Prepaid Card bearing both the Visa Flag Symbol and Visa TravelMoney Wordmark
- Visa Check Card II Cards
- Visa Buxx
- Visa Payroll
- Visa Gift Card
- Visa Incentive Card
- Visa Employee Benefit Cards (Prepaid Card products for Visa Flexible Savings Account, Visa Health Savings Account, Visa Health Reimbursement Account, and you can combine Visa Transit within a single BIN)
- Other Visa Prepaid Cards

B.6 Host Capture Adjustment Transactions

Host capture adjustment transactions provide an alternative method for handling scenarios where terminal capture POS applications are often used, such as restaurants. The typical scenario is as follows:

3. The POS application sends a sale transaction. The amount is for the base amount without tip.
4. The host captures the sale transaction.
5. The POS application sends an adjustment transaction. The amount is for base amount plus the tip.
6. The host voids the original sale transaction and captures the adjustment transaction for settlement.

Adjustment transaction usage requires group data to request/receive the full nine-digit retrieval reference number for the original authorization, followed by its inclusion with the adjustment transaction.

This scenario is as follows:

1. The terminal sends a 0200 sale request and includes [G009 – Optional Processing Indicators](#) with subfield 6 and subfield 12 both set to Y, thereby requesting return of the full 9-digit retrieval reference number (RRN) and indicating that the terminal does host capture adjustments.
2. The host response message includes [R008 – Original Authorization Retrieval Reference Number](#) with the 9-digit RRN.
3. The terminal saves the 9-digit RRN and the masked account number, replacing all but the last 4 digits with four Xs (xxxx).
4. The terminal sends an adjustment transaction using the masked account number, the adjusted transaction amount, and [G014 – Original Authorization Retrieval Reference Number](#) with the full 9-digit original retrieval reference number.

Limitations

Worldpay allows host capture adjustments under the following conditions:

- Use it with only 610 terminal applications.
- The transaction cannot use void undelivered logic. The terminal must handle its own reversal processing.
- When the batch is opened, set subfield 12 in [G009 – Optional Processing Indicators](#) to Y.
- Only credit card sale transactions allow adjustments.

NOTE: Terminal applications that intend to enable adjustment transactions should always set G009 subfield 12 to Y. If you open a batch without this indication, the host declines all adjustment transactions. The host uses this flag to override the ability to time release the batch; however, there is a system limitation of four days, at which time Worldpay closes the batch and adjustments are no longer possible. The best practice is to do necessary adjustment transactions and close batches on a daily basis.

Tip Amount

For restaurant applications, [G023 – Restaurant Tip Amount](#) provides the tip amount. The tip amount does not impact the transaction amount supplied and is not edited against the transaction amount. It is simply stored and passed through for reporting purposes.

Multiple Adjustments

If you have to adjust a transaction more than once, you must make each successive adjustment to the previous adjustment transaction, not to the original transaction. In the following example, RRN equals retrieval reference number:

\$10.00 sale (RRN 1)

\$12.00 adjustment (RRN 2 - This is an adjustment to RRN 1 which is now shown as voided.)

\$14.00 adjustment (RRN 3 - This is an adjustment to RRN 2 which is now shown as voided.)

Customer Service Inquiry will show the \$10.00 and \$12.00 transactions as voided, creating reversal (0400 message type) transactions to accomplish this. The \$14.00 adjustment transaction survives as the only transaction to settle. Adjustments can use a 0000 expiration date.

B.7 Discover Network Specific Response Codes

To settle using EMD format, Worldpay requires that a Discover Acquired Merchant terminal can receive [R015 – Discover Network Specific Response Codes](#) in the authorization response message. To indicate this, set position 14 (Network Specific Response Code Capability Flag) to **Y** in [G009 – Optional Processing Indicators](#).

This would work as follows:

- The terminal sends an 0100 authorization request and includes subfield 14 set to Y.
- The host response message includes [R015 – Discover Network Specific Response Codes](#).

NOTE: Terminal applications that are Discover acquired and are settling using EMD should always set G009 Subfield 14 to Y. For an authorization transaction without this indication, the host will not provide group data R015 in authorization responses.

B.8 Masked Account Number Usage

For 610 host capture message sets, the POS may not need to store the full account number (PAN) for subsequent follow up transactions such as reversals, gift card completion, and prior authorizations. The POS may store only the last four digits of the PAN and send masked PAN in the follow-up transactions. The Worldpay online host will retrieve the full account number from the original transaction providing the POS used the following transaction flow:

1. The terminal sends a 0100 authorization or a 0200 sale request and includes [G009 – Optional Processing Indicators](#) Subfield 6 set to Y, thereby requesting the return of the full 9-digit retrieval reference number (RRN). The host response message includes [R008 – Original Authorization Retrieval Reference Number](#) with the 9-digit RRN.
2. The terminal saves the 9-digit RRN and saves the masked account number, replacing all but the last 4 digits with four Xs ('xxxx').
3. The terminal sends a follow-up transaction using the masked account number and [G014 – Original Authorization Retrieval Reference Number](#) with the full 9-digit original retrieval reference number.
4. Using the 9-digit original retrieval reference number, the Worldpay host retrieves the full PAN from the original transaction and uses it for processing.

Example: Masked Account Number - Field 02 Primary Account Number

```
xxxxxxxxxxxx9999
```

Example: Masked Account Number - Field 45 Track Data

```
xxxxxxxxxxxx9999=
```

```
xxxxxxxxxxxx9999=0012
```

Masked accounts can have an expiration date of 0000.

The following 610 messages may include masked account numbers:

- 0100 Authorization Request Messages - Credit Card Full/Partial Auth Reversal ([Table 2-10](#))
- 02xx Financial Transaction Request Messages - Credit Card Prior Authorization/Adjustment ([Table 2-39](#)), Credit Card Prior Authorization – Extended ([Table 2-40](#)), Gift Card Completion ([Table 2-52](#)), and Fleet Card Force Post ([Table 2-55](#))
- 0400 Reversal (Void) Request Messages - Debit Card/EBT Reversal (Void) (DUKPT) ([Table 2-69](#)), Credit Card Reversal (Void) ([Table 2-71](#)), Gift Card Reversal (Void) ([Table 2-72](#)), and Fleet Card Reversal (Void) ([Table 2-73](#))

B.9 End-To-End Encryption (E2EE)

E2EE eliminates the clear account number at the point of sale, which achieves PCI compliance. You can submit VeriFone E2EE transactions either by including [G026 – POS Encrypted Data](#) data in the transaction or by using Transparent Mode. Various vendors provide this technology; check with Worldpay for the currently supported solutions.

E2EE solutions typically encrypt the account number immediately upon card swipe or manual entry. You can use G026, [G027 – Encrypted Track](#), or both to send this data to the Worldpay host system. The vendor-specific key data is typically in binary data format.

- The POS application sends G026 for transaction requests when the account number, track data, or both is encrypted at the POS.
- The POS application must format the key data in G026 field 10 depending on the encryption format specified in G026 field 3.
 - Encryption Format V - Convert the key data to hexadecimal representation (upper-case) before inclusion in this group. Binary data results in an unpredictable unstring of the message.
 - Encryption Format S - Populate the key data with the raw eParms value.
 - Encryption Format D - Populate the key data with the Encrypted Track Data in Base64-encoded format. Populate the Track Data field in the base message with spaces.
 - Encryption Format L - Populate the key data with the Terminal Serial Number followed by the delimiter “::” and raw eParms value. Always delimit the Terminal Serial Number with “::”. The eParms value is optional.
- The value of POS Condition Code position 8 depends on the encryption service requested:
 - 1 – This is card number decryption using only Voltage, Semtek/VeriFone, OnGuard, and ADE.
 - 2 – This is card number decryption using only DUKPT.
 - 4 – This is card number decryption and token creation using Voltage, Semtek/VeriFone, DUKPT, OnGuard, and ADE.
 - Use a value of 0 in all other cases.

Transparent Mode provides a way to send VeriFone E2EE transactions without using G026. To use Transparent Mode, the Merchant Record must have the E2EE Vendor Flag set to indicate the E2EE Vendor. Currently, the valid values for the E2EE Vendor Flag are S for VeriFone Shared Key or U for VeriFone Unique Key.

Within the request data is a field (G026 field 02) to identify the requested response format for the account number, because the terminal does not store the clear account number. The section for G026 and [R017 – End-To-End Encryption \(E2EE\) Response](#) identifies these options.

Because manually-entered account numbers are included in a pseudo Track II format, the POS has the following alternatives for handling these with encryption:

- Encrypt the entire pseudo Track II (recommended) provided in the track data field of the base request message and include [G026 – POS Encrypted Data](#).
- Encrypt the account number and use the encrypted value when building the pseudo Track II, provide it in the track data field of the base request message and include group G026.

Example: Masked Account Number

The following example provides the first 6 and last 4 digits of the account number with Xs representing the removed digits:

123456XXXXXX1234

Example: Truncated, Last Four Digits of Account Number

The following example provides the last 4 digits of the account number with Xs representing the removed digits.

XXXXXXXXXXXX1234

See [G026 – POS Encrypted Data](#) on page 393 for more information about each of these options.

B.9.1 Examples of Group Data Requests and Responses

Request Group G026 POS Encryption Data

Use this group when the POS is using an encryption solution such as Voltage or Semtek/VeriFone, and is sending the encrypted Primary Account Number or Track Data within the message.

Example: Group Field G026

The following request includes the Voltage encryption method, encrypted track data and asks for a token and truncated last 4 digits of account number in response:

```
|G026VOT*****ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF123  
4567890ABCDEF1234567890ABCD40EF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF12345678  
90ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDE  
F1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF123456  
7890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890<qs>
```

Example: Group Field G026

The following request includes the Voltage encryption method, encrypted manually entered data and asks for clear account number in response:

```
|G026VCE*****ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF123  
4567890ABCDEF1234567890ABCD0EF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF12345678  
90ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDE  
F1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF123456  
7890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890<qs>
```

Request Group G027 Encrypted Track

Use this group when the POS detects a host timeout for a sale or authorization request and is managing void/reversal processing except for the EBT Voice Authorization/Voucher Clear Reversal (Void) message. When you send [G027 – Encrypted Track](#), it requires [G026 – POS Encrypted Data](#).

Example: Group Field G027

|G0271ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF1234567890ABCDEF123456<q s>|

Void Processing using Encryption

These are the following options for void processing when using encryption with the 610 message set:

- If the POS has the retrieval reference number of the transaction to void and has the last four digits of the card number from the encryption interface, the last 4 digits are used in the primary account number of the base void request message as described for standard 610 reversal processing. In this case, there is no need for either G026 or G027.
- If the POS can provide the encrypted PAN, use it in the primary account number field of the base void request and send group request data G026 setting subfield 03 to value P. Do not include G027.
- The POS sends base void request with both group request data G026 and G027 with encrypted track data. Use spaces in the primary account number (bit 02) of the base void request message.

Response Group R017 End-To-End Encryption (E2EE) Response

Example: Includes the Clear Account Number

```
|R01711161234567890123456<gs>|
```

Example: Includes the Masked Account Number

```
|R0171216123456XXXXXX1234<gs>|
```

Example: Includes the Truncated Last four Digits of the Account Number and the Masked Account Number

```
|R01723041234216123456XXXXXX1234<gs>|
```

B.9.2 POS Encryption Request Examples Using G026 and G027

Example: Sending Encrypted Data Using Swiped Track

To send encrypted data using swiped track:

1. Encrypt the track data using encryption vendor software.
2. Load the encrypted track data into the track data field of the base request message.
3. Set G026 subfield 01 to an appropriate encryption format.
4. Set G026 subfield 02 to an appropriate requested response.
5. Set G026 subfield 03 to T.
6. When you set the G026 subfield 10 value, its value depends on the Encryption Format specified in G026 field 01:
 - If set to V, convert the key data to a hexadecimal representation (upper-case) before including it in this group. Submitting binary data results in unpredictable (“unstring”) behavior.
 - If set to S, populate the key data with the raw eParms value.
 - If set to L, populate the key data with the Terminal Serial Number followed by delimiter “:.” and raw eParms value. Always delimit the Terminal Serial Number with “:.”. The eParms value is optional.
 - If set to O, populate the key with the KSN field encryption uses.

The value of POS Condition Code position 8 in the base request message depends on the encryption service requested:

- If set to 1, the request uses card number decryption only with Voltage, Semtek/VeriFone, or OnGuard.
- If set to 2, the request uses card number decryption only with DUKPT.
- If set to 4, the request uses card number decryption and token creation with Voltage, Semtek/VeriFone, or OnGuard.

7. Send the base authorization request with group request data G026 to the host processor.

Example: POS Scenario for Sending Encrypted Data Using Manually Entered PAN - Option 1

1. Build pseudo track 2 data field using the keyed account number and expiration date.
2. Encrypt the entire pseudo track data field using encryption vendor software.
3. Include the encrypted track data in the track data field of the base request message.
4. Set G026 field 01 to one of the following encryption formats:
 - If set to V, this converts the key data to hexadecimal representation (upper-case) before including it in this group. Binary data results in unpredictable (“unstring”) behavior.
 - If set to S, this populates the key data with the raw eParms value.
 - If set to L, this populates the key data with the Terminal Serial Number followed by delimiter “:.” and the raw eParms value. Always delimit the Terminal Serial Number with “:.”. The eParms value is optional.
 - If set to O, this populates the key data with the KSN that field encryption uses.

The value of G026 field 10 depends on the Encryption Format specified in G026 field 01.

5. Select a desired requested response value for G026 field 02.
6. Set G026 field 03 to value **T**.

Note that the value of POS Condition Code position 8 in the base request message depends on the encryption service requested:

- If set to 1, the request uses card number decryption only with Voltage, Semtek/VeriFone, or OnGuard.
- If set to 2, the request uses card number decryption only with DUKPT.
- If set to 4, the request uses card number decryption and token creation with Voltage, Semtek/VeriFone, or OnGuard.

7. Send the base authorization request with group request data G026 to the host processor.

Example: POS scenario for sending encrypted data using manually entered PAN (option 2)

1. Encrypt the PAN using encryption vendor software and place in pseudo track 2 data field. It does not include the expiration date.
2. Build pseudo track 2 data field using an encrypted account number.
3. Set G026 field 01 to appropriate encryption format.
4. Select desired G026 field 02 requested response value.
5. Set G026 field 03 to value **E**.
6. G026 field 10 is set depending on the Encryption Format specified in G026 field 01:

- If set to V, this converts the key data to hexadecimal representation (upper-case) before including it in this group. Binary data results in unpredictable (“unstring”) behavior.
- If set to S, this populates the key data with the raw eParms value.
- If set to L, this populates the key data with the Terminal Serial Number followed by delimiter “::” and the raw eParms value. Always delimit the Terminal Serial Number with “::”. The eParms value is optional.
- If set to O, this populates the key data with the KSN that field encryption uses.
- The value of POS Condition Code position 8 in the base request message depends on the encryption service requested:
 - If set to 1, the request uses card number decryption only with Voltage, Semtek/VeriFone, or OnGuard.
 - If set to 2, the request uses card number decryption only with DUKPT.
 - If set to 4, the request uses card number decryption and token creation with Voltage, Semtek/VeriFone, or OnGuard.
- Send the base authorization request message with group request data G026 to host processor.

Example: Option 2: POS Scenario for Sending Encrypted manually Entered PAN and Encrypted CVV2 (OnGuard and Voltage only)

This example includes the unencrypted expiration date.

1. Encrypt the PAN using the encryption vendor software and place it in the pseudo track 2 data field. It includes the clear expiration date.
2. Encrypt the CVV2 using the encryption software, which goes in field G040.
3. Include the encrypted track data into the track data field of the base request message.
4. Set G026 field 01 to an appropriate encryption format.
5. Select the desired G026 field 02 requested response value.
6. Set G026 field 03 to value **E**.
7. G026 field 10 is set depending on the encryption format you specify in G026 field 01:
 - If set to V, this converts the key data to hexadecimal representation (upper-case) before including it in this group. Binary data results in unpredictable (“unstring”) behavior.
 - If set to L, this populates the key data with the Terminal Serial Number followed by delimiter “::” and the raw eParms value. Always delimit the Terminal Serial Number with “::”. The eParms value is optional.
 - If set to O, this populates the key data with the KSN that field encryption uses.
8. The base request message sets the value of POS Condition Code position 8. The value depends on the encryption service you request:
 - If set to 1, the request uses card number decryption only with Voltage or OnGuard.
 - If set to 4, the request uses card number decryption and token creation with Voltage or OnGuard.
9. Set G040 to include the encrypted CVV2. The encrypted expiration date field remains blank.
10. Send the base authorization request message with group request data G026 to the host processor.

Example: Option 2 for OnGuard Only: POS Scenario for Sending Encrypted Manually Entered PAN and Encrypted Expiration Date

This includes unencrypted CVV2.

1. Encrypt the PAN using encryption vendor software and place it in the pseudo track 2 data field.
Set the expiration date field in the track to 0000 followed by the clear CVV2.
2. Encrypt the expiration date using the encryption software, This will be placed in field G040.
3. Set G026 field 01 to the appropriate encryption format (O for OnGuard).
4. Select the G026 field 02 requested response value.
5. Set G026 field 03 to value **E**.
6. G026 field 10 is set depending on the Encryption Format specified in G026 field 01:
 - If set to V, this converts the key data to hexadecimal representation (upper-case) before including it in this group. Binary data results in unpredictable (“unstring”) behavior.
 - If set to S, this populates the key data with the raw eParms value.
 - If set to L, this populates the key data with the Terminal Serial Number followed by delimiter “::” and the raw eParms value. Always delimit the Terminal Serial Number with “::”. The eParms value is optional.
 - If set to O, this populates the key data with the KSN that field encryption uses.
7. The base request message sets the value of POS Condition Code position 8 is. The value depends on the encryption service requested:
 - If set to 1, the request uses card number decryption only with Voltage or OnGuard.
 - If set to 4, the request uses card number decryption and token creation with Voltage or OnGuard.
8. Set G040 to include the encrypted expiration date.
The encrypted CVV2 field remains blank.
9. Send the base authorization request message with group request data G026 to the host processor.

There are three options for POS scenarios when sending a void request.

Example: Option 1: POS Scenario for Sending Void Request

This request uses the last four digits of primary account number.

1. Provide the retrieval reference number of transaction to void, and place the last four digits of primary account number in the primary account number field of the base void request message.
2. Send the base authorization request message without group request data G026 and G027 to the host processor.

Example: Option 2: POS Scenario for Sending Encrypted Data in Void Request

This request uses the encrypted primary account number.

1. Provide the encrypted PAN in the primary account number field of the base void request message.
2. Set G026 field 01 to an appropriate encryption format.
3. Select a G026 field 02 requested response value.
4. Set G026 field 03 to value **P**.
5. G026 field 10 is set depending on the Encryption Format specified in G026 field 01:

- If set to V, this converts the key data to hexadecimal representation (upper-case) before including it in this group. Binary data results in unpredictable (“unstring”) behavior.
- If set to S, this populates the key data with the raw eParms value.
- If set to L, this populates the key data with the Terminal Serial Number followed by delimiter “:.” and the raw eParms value. Always delimit the Terminal Serial Number with “:.”. The eParms value is optional.
- If set to O, this populates the key data with the KSN that field encryption uses.
- The value of POS Condition Code position 8 in the base request message depends on the encryption service requested:
 - If set to 1, the request uses card number decryption only with Voltage, Semtek/VeriFone, or OnGuard.
 - If set to 2, the request uses card number decryption only with DUKPT.
 - If set to 4, the request uses card number decryption and token creation with Voltage, Semtek/VeriFone, or OnGuard.
- Send base authorization request message with group request data G026 to host processor.

Example: Option 3: POS Scenario for Sending Encrypted Data in Void Request

This request uses encrypted track 1 or track 2 data.

1. Set G027 field 01 to the appropriate track 1 or track 2 value.
2. Provide encrypted track data in field 02 of group request data G027.
3. Set G026 field 01 to an appropriate encryption format.
4. Select a G026 field 02 requested response value.
5. Set G026 field 03 to value **T**.
6. G026 field 10 is set depending on the Encryption Format specified in G026 field 01:
 - If set to V, this converts the key data to hexadecimal representation (upper-case) before including it in this group. Binary data results in unpredictable (“unstring”) behavior.
 - If set to S, this populates the key data with the raw eParms value.
 - If set to L, this populates the key data with the Terminal Serial Number followed by delimiter “:.” and the raw eParms value. Always delimit the Terminal Serial Number with “:.”. The eParms value is optional.
 - If set to O, this populates the key data with the KSN that field encryption uses.
7. The value of POS Condition Code position 8 in the base request message depends on the encryption service requested:
 - If set to 1, the request uses card number decryption only with Voltage or Semtek/VeriFone.
 - If set to 2, the request uses card number decryption only with DUKPT.
 - If set to 4, the request uses card number decryption and Token creation with Voltage or Semtek/VeriFone.
8. Send the base authorization request message with group request data [G026 – POS Encrypted Data](#) and [G027 – Encrypted Track](#) to the host processor.

B.9.3 Examples of POS encryption requests (Transparent Mode)

Example: POS Scenario for Sending Encrypted Data using a Swiped Track

1. Encrypt the track data using encryption vendor software.
2. Load the encrypted track data into the track data field of the base request message.
3. Set the POS Condition Code in position 8 to **0** in the base request message.
4. Send the base authorization request to the host processor.

POS scenario for sending encrypted data using manually entered PAN (option 1)

- Build pseudo track 2 data field using keyed account number and expiration date.
- Encrypt entire pseudo track data field using encryption vendor software.
- Provide encrypted track data into the track data field of the base request message.
- Convert encrypted vendor binary key data to hexadecimal (upper-case) and provide in [G026 – POS Encrypted Data](#), field 10.
- Set POS Condition Code position 8 = 0 in the base request message.
- Send base authorization request to host processor.

Example: Option1: POS Scenario for Sending Void Request

The request uses the last four digits of primary account number.

1. Provide the retrieval reference number of transaction to void, and place the last four digits of primary account number in the primary account number field of the base void request message.
2. Send the base authorization request message without the group request data [G026 – POS Encrypted Data](#) and [G027 – Encrypted Track](#) to the host processor.

B.10 Tokenization and De-tokenization

The host supports requests for tokenization with E2EE, tokenization without E2EE, tokenization conversion, de-tokenization conversions and de-tokenization (transactions that use token and Token ID). The POS initiates these transaction requests by sending an appropriate request message with applicable group request data fields. Implementation of group response data R998 began with the support of Tokenization.

The Worldpay host manages tokenization security control configurations for merchants. Tokenization security controls govern a merchant's tokenization processing for entities like token keys, restricted transactions, tokenization/de-tokenization conversion, MCC exclusions, payment type/transaction type exclusions, host response of token data, PAN masking, and if a merchant can use the tokenization security feature.

B.10.1 Tokenization

Tokenization is a process where the host replaces the card account number with substitute numbers generated using a host token key assigned to a merchant. The result of a successful tokenization is a token and Token ID value which Worldpay returns to the POS for subsequent use. The token length is the same length of the PAN and the Token ID length is always six characters.

All card based 0100, 0200, 0220, and 0400 requests support tokenization with the following exceptions:

- Check authorization
- Check conversion
- Blackhawk POSA
- Gift Card Activation
- Gift Card Mass

Tokenization Conversion Transaction Using Either Legacy Token or Omni Token

1. The POS requests host convert (tokenize) clear PAN or track data and provides the token and Token ID in the group response data [R017 – End-To-End Encryption \(E2EE\) Response](#).
2. The POS sets clear PAN or Track Data in bit number [45 Track Data](#) when PAN manual entry uses the Track II value in bit number [22 Point-of-Service Entry Mode](#).
3. POS sets bit number [25 Point-of-Service Condition Code](#) position 8 to **3**.
4. The POS may send group request data [G009 – Optional Processing Indicators](#) with position 15 set to **Y** if you want extended errors in the host error response group data [R998 – Detail Extended Host Error Description](#).
5. If the tokenization conversion succeeds, the host approval includes group response data R017 which contains the Token and Token ID values. In the R017 response for Omni token, the token ID value is not present.
6. If the host tokenization fails, a standard error response message returns the group response data R017 with a token result containing **F** (field 02 value 4), it will contain spaces, and the token-id will contain **ZZZZZZ**. Optional group response data R998 contains specific details regarding the token failure when requested using group request data G009 position 15 set to **Y**.

Example: Tokenization Conversion Transaction Using a Legacy or Omni Token

```
|I2.|123456|0100|50|800000|0321031116|123456|032103|111600|020|0000000300|1111|222|3333
33333333|001|*****5454545454545454=00
00|12345678|00001234|000|00|TRACE*DATA*1****|99999999|999999|
```

Tokenization Using Either a Legacy Token or Omni Token Without E2EE

The POS requests that the host convert (tokenize) clear PAN or track data and provide the token and Token ID in the group response data R017.

1. The POS sends base request message, sets bit number 25 (POS condition code) position 8 to 3 and sets bit number 45 (track data) to clear PAN or track data value.
2. The POS may send the group request data G009 with position 15 set to Y if you wanted extended errors in the host error response group data R998.
3. If tokenization succeeds, the host returns group response data R017 with token and Token ID in the approved response message. The R017 response for Omni token does not include the Token ID value.
4. If tokenization fails, the standard error response message with group response data R017 will have a token result if F (field 02 value 4), the token will contain spaces, and the token-id will contain ZZZZZZ. The optional group response data R998 contains specific details regarding the token failure when requested using group request data G009 position 15 set to Y.

Example: Credit Card Sale Request Using Either Legacy or Omni Token Without E2EE

```
|I2.|123456|0200|22|004000|000001500|0321031116|123456|032103|111600|812|0000000300|111
1|222|333333333333|001|*****54545454
4545454=0000|12345678|00000001|000000000|00|000|40|PO#/CUSTOMER*CODE***|000000000|TRACE
*DATA*1****|
```

Tokenization Using Either Legacy Token or Omni Token With E2EE

1. POS requests host convert (decrypt then tokenize) encrypted PAN or track data and provide the token and Token ID in the group response data R017. POS sends base request message, sets bit number 25 (POS condition code) position 8 to 4, and set bit number 45 (track data) to encrypted PAN, encrypted trackdata, or spaces depending on what type of encryption is in use.
2. The POS sends the E2EE group request data (G026/G027) depending on the message type.
3. The POS may send group request data G009 with position 15 set to Y if you wanted extended errors in the host error response group data (R998).
4. If the host E2EE decryption fails, the host cannot generate the token and Token ID. Returns error code in standard error response message.
5. If host E2EE decryption and tokenization successful a standard approval response message is returned to the POS with group response data (R017) which contains the token and Token ID. The R017 response for Omni token will not contain the Token ID value.
6. If the host E2EE decryption is successful but token generation fails, the transaction continues to process in one of the following ways.
 - If Worldpay approves the transaction, the host sends the standard response message with group response data R017. Depending on the group request data G026 field 02 setting in the request message, the message includes one or more of the following: the clear account number, the masked account number, and the truncated last 4 digits of the account number. The token result

will contain F (field 02 value 4), the token will contain spaces, and the token-id will contain ZZZZZZ.

- If Worldpay declines the transaction, the host sends the standard error response message with group response data R017. Depending on the group request data G026 field 02 setting in the request message, the message contains one or more of the following: the clear account number, the masked account number, and the truncated last 4 digits of account number. The token result contains F (field 02 value 4) indicating the token generation failed. The group response data (R017) does not return the Token and Token ID values. The optional group response data R998 contains specific details regarding the token failure when requested using group request data G009 position 15 set to Y.

Example: Credit Card Sale Request Using Either Legacy or Omni Token with E2EE

```
|I2.|123456|0200|22|004000|000001500|0321031116|123456|032103|111600|812|0000000400|111
1|222|333333333333|001|*****5454545454545454=0000|12345678|00000001|000000000|00|000|40|PO#/CUSTOMER*CODE***|00000000|TRACE
*DATA*1****|<rs>G026|SMT|*****|<eparm data>|<gs>|
```

Tokenization Conversion Transaction Using Registration-ID

The POS requests the host convert (tokenize) the Registration-ID, and provide the token in the group response data R017.

1. The POS sends a tokenization conversion base request message where bit number 45 (track data) is spaces, bit number 25 (POS condition code) byte 8 is 6, bit number 139 (token original transaction date) is all 9's, and bit number 140 (token original transaction time) is all 9s.
2. The POS may send group request data G028 providing Registration-ID in field 01, "R " (5 spaces) in field 02 and the expiration date in field 03.
3. The POS sends group request data G009 with position 15 set to Y if you want extended errors in the host error response.
4. If host tokenization is successful, the host approval response includes group response data R017 containing the card last 4 (field 02 value 4) and token (field 02 value 5). R017 will not include Token ID (field 02 value 6).
5. If the host tokenization fails, the standard error response message with group response data R017 will have the token result containing F (field 02 value 4). R017 does not include Token (field 02 value 5) and Token ID (field 02 value 6). Optional group response data R998 will contain specific details regarding the token failure if requested using group request data G009 position 15 set to Y.

Example: Tokenization Conversion Transaction Using Registration-ID

```
|I2.|123456|0100|50|800000|0321031116|123456|032103|111600|812|0000000600|1111|222|3333
33333333|001|*****
**|12345678|00001234|000|00|TRACE*DATA*1****|99999999|999999|<rs>G028|12345678901234567
89|R*****|1234|<gs>|
```

Tokenization Using Registration-ID

The POS requests the host convert (tokenize) Registration-ID and provide the token in the group response data R017.

1. The POS sends a base request message with bit number 25 (POS condition code) position 8 set to 6 and bit number 45 (track data) set to spaces.

2. The POS sends group request data G028 providing Registration-ID in field 01, "R " (5 spaces) in field 02 and expiration date in field 03.
3. The POS may send group request data G009 with position 15 to value "Y", if extended errors are desired in host error response.
4. If host tokenization is successful, the host approval response will include group response data R017 containing the card last 4 (field 02 value 4) and token (field 02 value 5). R017 does not contain Token ID (field 02 value 6).
5. If the host tokenization fails, the standard error response message with group response data R017 will have a token result containing F (field 02 value 4). R017 does not include Token (field 02 value 5) and Token ID (field 02 value 6). Optional group response data R998 will contain specific details regarding the token failure if requested using group request data G009 position 15 set to Y.

Example: Credit Card Sale Request Using Registration-ID

```
|I2.|123456|0200|22|004000|000001500|0321031116|123456|032103|111600|812|0000000600|111
1|222|333333333333|001|*****|
*****|12345678|00000001|000000000|00|000|40|PO#/CUSTOMER*CODE***|000000000|TRACE
*DATA*1****|<rs>G028|1234567890123456789|R****|1234|<gs>|
```

B.10.2 De-tokenization

De-tokenization is a feature where the host attempts to translate a token/token ID or date and/or time (instead of the token ID) using the Worldpay assigned merchant's token key into a clear card account number. Legacy tokens and Omni tokens may also use de-tokenization.

De-tokenization Conversion Transaction Using Legacy Token

The POS requests that the host use Token and Token ID or Token original transaction date and/or time (instead of token ID) to de-tokenize and return clear card account number in response group data (R017).

1. The POS sends a de-tokenization conversion base request message in which bit number 25 (POS condition code) position 8 is set to 5.
2. Send group request data G028 providing the token and Token ID as applicable in fields 01 and 02, and place spaces in field 03. When you provide token original transaction date and/or time, set the Token ID in G028 (field 02) to spaces. When date and time are set to all 9s, it requires the token ID.
3. Use the token original transaction date and time when the Token ID does not match the current key used by the Host or the Token ID is unknown. When you use original transaction date and/or time, set the Token ID field to spaces.
4. The token original transaction date and time are both optional. Use all 9s in both fields when unknown or not applicable. Both fields must contain valid values. When provided, this controls which date/time token key the host uses to de-tokenize to derive the clear PAN or track data.
5. The POS may send group request data G009 with position 15 set to Y if you want extended errors in the host error response.
6. On the host successful de-tokenization conversion, group response data R017 returns to the POS, which contains the card account number in the clear (field 2, value 1).

Example: De-tokenization Conversion Transaction Using a Legacy Token

```
|I2.|123456|0100|51|810000|0321031116|123456|032103|111600|0000000500|1111|222|33333333
3333|001|12345678|00001234|000|00|TRACE*DATA*1****|99999999|999999|<rs>G028|12345678901
```

23456789|123456|1234|<gs>|

De-tokenization Conversion Transaction Using an Omni Token

The POS requests the host use a token to de-tokenize and return the clear card account number in the response group data R017.

1. The POS sends a de-tokenization conversion base request message with bit number 25 (POS condition code) position 8 set to 5, bit number 139 (token original transaction date) set to all 9s, and bit number 140 (token original transaction time) set to all 9s.
2. The POS sends group request data G028 providing token in field 01, field 02 set to 6 spaces, and field 03 set to 4 spaces.
3. The POS may send group request data G009 with position 15 set to Y if you want extended errors in host error response.
4. On a host successful de-tokenization conversion, group response data R017 returns to the POS which will contain clear card (field 2, value 1) and card last 4 (field 2, value 1).

Example: De-tokenization Conversion Transaction Using Omni Token

```
|I2.|123456|0100|51|810000|0321031116|123456|032103|111600|0000000500|1111|222|333333333333|
001|12345678|00001234|000|00|TRACE*DATA*1****|99999999|999999|<rs>G028|12345678901234567
89|*****|1234|<gs>|
```

De-tokenization Successful

1. The POS sends a void base request or another type of base request allowed to use token and Token ID returned from a previous authorization request.
2. The POS includes group request data G028 with token and Token ID.
3. Set bit number 25 POS condition code position 8 to 5.
4. The host validates if the merchant is set up to allow transaction that use token data.
5. The host de-tokenizes into a clear account number.
6. The host returns a standard approval response to the POS.

De-tokenization using Omni token

POS requests host use Token to De-tokenize and return clear card account number in response group data (R017).

1. The POS sends the base request message with bit number 25 (POS condition code) position 8 set to 5 and bit number 45 (track data) set to spaces.
2. The POS sends group request data G028 providing token in field 01, " " (6 spaces) for token-id in field 02, and the expiration date in field 03.
3. The POS may send group request data G009 with position 15 to Y if you want extended errors in the host error response.
4. On host successful de-tokenization, group response data R017 returns to the POS which contains the card account number in the clear (field 2, value 1).

Example: Credit Card Sale Request Using Omni Token

```
|I2.|123456|0200|22|004000|000001500|0321031116|123456|032103|111600|812|0000000500|111
1|222|333333333333|001|B5454545454545454^TEST/MASTERCARD^061210112345678901234567890123
```

```
456789012345|12345678|00000001|00000000|00|000|40|PO#/CUSTOMER*CODE***|00000000|TRACE  
*DATA*1***|<rs>G028|1234567890123456789|*****|1234|<gs>|
```

De-tokenization Unsuccessful

1. The host is unable to de-tokenize into clear card account number.
2. The host returns a standard error response with group response R017 with the token result containing value F (field 02 value 4) indicating the de-tokenization failed.
3. Group response data R017 does not return the card account number.

Optional group response data R998 contains specific details regarding the de-tokenization failure when requested using group request data G009 position 15 set to value Y.

B.11 WIC: The Special Supplemental Nutrition Program for Women, Infants and Children

WIC provides nutritious foods, nutrition education, and referrals to health and other social services to participants at no charge. WIC serves low-income pregnant, postpartum and breastfeeding women, and infants and children up to age 5 who are at nutrition risk.

B.11.1 WIC EBT Balance Inquiry

Prior to a WIC purchase (EBT Sale/Withdrawal) to validate benefits, you must send a balance inquiry (0100 EBT Card Balance Inquiry). You can also send balance inquiries stand-alone. To differentiate these two types of balance inquiries for billing purposes, which are otherwise identical, include Group Data G022 Transaction Specific Indicators in stand-alone requests.

1. The card gets swiped at the POS.
2. The client enters a PIN.
3. The POS sends the WIC Stand-Alone Balance Inquiry Request, which is a 0100 EBT Card Balance Inquiry (DUKPT) request with G022 Transaction Specific Indicators and G029 WIC Merchant ID.
4. The POS receives the WIC Balance Inquiry Response which is a 0110 GC Mass Transaction/EBT Balance Inquiry Approval response with Group Data R019-R021 or a 0110 Gift Card/EBT Error response.
5. WIC benefit balances are displayed/printed from response data and Category/Sub-Category descriptions previously retrieved.

B.11.2 WIC Purchase

You must send a balance inquiry (0100 EBT Card Balance Inquiry) prior to a WIC purchase (EBT Sale/Withdrawal) to validate benefits.

1. Card swiped at POS
2. The Client enters a PIN.
3. The POS sends the WIC Pre-Purchase Balance Inquiry Request which is a 0100 EBT Card Balance Inquiry (DUKPT) with G029 WIC Merchant ID.
4. The POS receives the WIC Balance Inquiry Response, which is a 0110 GC Mass Transaction/EBT Balance Inquiry Approval response with Group Data R019-R021 or a 0110 Gift Card/EBT Error response.
5. Before the process continues, the response must indicate success and the client must have 1 or more WIC Category/Sub-Category benefit items.
6. The retailer scans the items and uses WIC benefit information along with previously retrieved local WIC UPC DB info to validate that the scanned items are WIC approved and that the client has sufficient benefits available to purchase the quantity of items.
7. Once scanning is complete, the retailer can enter manufacturer/cents-off coupons amounts applicable to the WIC items, which subtracts from the total amount the retailer can claim.

Add Coupon/Discount amounts in G015 Additional Amounts, Amount type 52 and include it in EBT Sale transaction.

8. The POS sends the WIC Purchase Request, which is an 0200 EBT Sale/Withdrawal (DUKPT Key) request with a 009000 Processing Code, G029 WIC Merchant ID, G015 Additional Amounts, and the WIC data in G030 through G032.
9. The POST receives the WIC Purchase Response, which is either a 0210 EBT Approval with Group Data R019-R021 response or a 0210 Gift Card/EBT Error response.
10. The response message indicates approval or denial of the transaction.

B.11.3 WIC Purchase Reversal

If the POS does not receive a response message to the WIC Purchase Request or it is late (timeout or late response), the POS must generate a WIC Purchase Reversal message to guarantee the effects of the WIC Purchase are reversed at the host. This must happen before the POS device that originated the reversal can send any additional WIC transactions.

1. The POS sends the WIC Purchase Reversal Request, which is a 0400 Debit Card/EBT Reversal (Void) (DUKPT) request.
2. The POS receives the WIC Purchase Reversal Response, which is either a 0410 EBT Reversal (Void) Approval or a 0410 EBT Reversal (Void) Error.
3. If the host responds to the reversal request, then the Retailer may consider the Reversal processed, regardless of the response code. If the retailer does not receive a response, the Retailer must repeat the process from [Step 2](#) at its earliest opportunity until the retailer receives a response to the reversal.

B.11.4 WIC Coupon/Discount Amount

Specify any coupons, discounts, or both using G015 Additional Amounts Request, amount type 52. Transaction Amount field 4 in the base message represents the amount of the transaction before you apply any coupons or discounts.

B.11.5 WIC Merchant ID

G029 EBT WIC Merchant ID is the grocer identifier code that the financial world uses to identify a grocer in the electronic benefits transaction or cash register receipt and you must include it in all WIC EBT transactions.

B.11.6 WIC Pass-Thru Data

You can find the definitive specification for the WIC Pass-Thru data in the ANS X9.93 Financial Transaction Messages, Electronic Benefits Transfer (EBT).

G030 (WIC Pass-thru Data Field #1) thru G032 (WIC Pass-thru Data Field #3) comprise one or more composite data elements, each containing three sub-elements. The first sub-element, *EBT data dataset identifier*, describes the type of EBT data for the composite element. The next sub-element, *EBT data data length*, specifies the length of the additional data information specified by the dataset identifier. The third sub-element is the actual data Worldpay provides for the dataset identifier indicated.

The following summarizes the sub-elements of a standard composite data element:

- a. EBT data dataset identifier, an 2

- b. EBT data data length, n 3
- c. EBT data information, ans..994

G030 Data can contain as many complete composite data elements as will fit within the total 999 positions of the bit. Where indicated by the specification, if the message requires more composite data elements than will fit into G030 Data, Worldpay places these additional composite elements in G031 and /or G032 as indicated.

Earliest WIC Benefit Expiration Date – EF or 12

EBT data data identifier: EF or 12 (WIC Virginia only)

EBT data data length: 008

EBT data information: Type: n 8

Based across all the WIC Prescription Balance Info returned in Fields 22/23/24, this is the earliest date that one or more of the benefits will expire on in YYYYMMDD format.

WIC Prescription Balance Info – EA

EBT data data identifier: EA

EBT data data length: 014

EBT data information: The data portion is in bitmap format.

TABLE B-5 WIC Prescription Balance Info

Type	Bit #	Field Description
Bitmap (an 4)	-	ASCII bitmap, 1420
n 2	4	Category Use 19 for Cash Value Benefit (CVB).
n 3	6	Sub-Category
n 5	11	Quantity allowed in the 999v99 format

Note: Prescription equals Food Benefits.

WIC UPC Purchase Info – PS

EBT data data identifier: PS

EBT data data length: 034

EBT data information: The data portion is in bitmap format.

TABLE B-6 WIC UPC Purchase Info

Type	Bit #	Field Description
Bitmap (an 4)	-	This is the ASCII bitmap, which is 4620.
n 17	2	This is the UPC/PLU data. Left pad it with zeros. The first position indicates UPC (0) or PLU (1). UPC/PLU data length bit 11 specifies its exact length from the right-most digit.
n 6	6	This is the Item Price (store price per quantity unit in the 9999v99 format). For Cash Value Benefit (CVB) items, you must set this to 000100.
n 5	7	This is the Purchase Quantity (999v99). For CVB items, this is the price of the item in penny benefit units. \$1.50 equals 00150. For weighted items, this is the total weight. For all other normal items (non-CVB and non-weighted), this is the number of UPC/PLUs purchased. One non-weighted UPC/PLU equals 00100.
n 2	11	This is the UPC/PLU data length. It is the length of the UPC/PLU starting from the right-most digit.

WIC UPC Exception/Denial Info – PS

EBT data data identifier: PS

EBT data data length: 047

EBT data information: The data portion is in bitmap format. Worldpay only returns this type of record when an exception condition or denial of a UPC/PLU occurs. Worldpay does not send this record for fully approved UPC/PLUs that do not exceed the maximum price.

TABLE B-7 WIC UPC Purchase Info

Type	Bit #	Field Description
Bitmap (an 4)	-	This is the ASCII bitmap, which is 47E0.
n 17	2	This is the UPC/PLU data. Left pad it with zeros. The first position indicates UPC (0) or PLU (1). UPC/PLU data length bit 11 specifies the exact length from the right-most digit.

TABLE B-7 WIC UPC Purchase Info

Type	Bit #	Field Description
n 6	6	<p>This is the item price, which is the approved price for the item (9999v99). If the Item Action Code (bit 7) is 00, the product has approval but it exceeds the maximum price. This will contain the maximum price which is less than the Original Item Price.</p> <p>Note: Cash Value Benefit (CVB) items do not use the maximum price and are limited only by the quantity of benefits available. If the Item Action Code is not 00, then item price is 000000.</p>
n 5	7	<p>This is the Purchase Quantity, which is the quantity of the original PS Purchase Info record affected by this exception/denial record (999v99). For CVB items, this is the price of the item affected in penny benefit units (\$1.50 is 00150). For weighted items, this is the total weight affected. For all other normal items (non-CVB and non-weighted), this is the number of UPC/PLUs affected (one non-weighted UPC/PLU is 00100)</p>
n 2	8	This is the Item Action Code.
n 6	9	This is the original requested Item Price of UPC/PLU (9999v99).
n 5	10	This is the original requested Purchase Quantity (999v99).
n 2	11	This is the UPC/PLU data length, which is the length of the UPC/PLU starting from the right-most digit.

B.12 Dynamic Currency Conversion (DCC)

DCC is an optional third-party service available to merchants. It provides a means for converting selected foreign card transactions into the native currency of the card at a designated exchange rate. The cardholder must actively agree to this rate, and there are other regulations involved. Refer to the Visa and MasterCard specifications for their full requirements.

The DCC transaction flow is typically as follows:

1. The cardholder presents a Visa or MasterCard credit card at the point of sale (POS).
2. The POS sends an authorization request with the POS Condition Code position 9 set to 2, which indicates a request for DCC rates. This is known as the first pass. Only the first pass request uses this special value.
3. The host system receives the request and checks to see if all of the following are true:
 - The terminal is configured to support DCC on the host.
 - The card supports DCC.
 - The incoming message requested DCC.
4. If any one of the above is not true, the host sets the POS Condition Code position 9 back to 0, and then the host handles the transaction as normal and completes it without any DCC processing in a single pass.
5. If all of the above are true, then the host routes the transaction to retrieve a conversion rate, and the host returns this rate in the response to the POS using response group R022. The transaction is logged on the host in a manner that excludes any settlement.
6. At the POS, the cardholder must actively decide to accept or reject the conversion rate. There are Visa and MasterCard regulations regarding how the POS must handle this.
7. After the cardholder makes a decision regarding the conversion rate, the POS sends a standard transaction to the host and includes group G033. This group must have the DCC information that group R022 previously returned and must have the DCC Indicator set to Y or N, indicating whether the customer accepted the rate. Note that the second pass transaction must have a zero in POS Condition Code position 9. Setting it to 2 as in the first pass will result in an error. The host returns response group R022 for second pass transactions, updating the approved amount with the results of the authorization. For partial approvals, R022 will contain the approved amount in the cardholder's currency; R007 will contain the approved amount in U.S. dollars.

B.13 EMV

EMV is an Integrated Circuit Card Specifications for payment systems. It was developed jointly by Europay, MasterCard and Visa in the mid-1990s. EMV helps to facilitate interoperability between chip cards and terminals for both credit and debit transactions. EMV cards are also known as Chip Cards or Smart Cards. The chip stores information, performs processing, contains secure elements which store secret information and performs cryptographic functions.

EMV protects against counterfeit fraud through authentication of unique data that resides on chip cards, smart phones, and other devices. EMV also provides risk management parameters at the card level and offers both online and offline PIN to help protect against fraud due to lost and stolen cards.

The following illustrates the EMV transaction flow:

1. **Application Selection** - The card and the terminal handshake determines which stored applications the chip uses when processing the transaction.
2. **Initiate Application Processing and Read Application Data** - The terminal reads all data related to the selected application after it identifies all applications.
3. **Offline Data Authentication** - If the card and terminal support Offline Data Authentication, they work together to validate the authenticity of the card.
4. **Processing Restrictions** - Checks occur to confirm the chip can perform the transaction requested.
5. **Cardholder Verification** - The card and the terminal determine cardholder verification. The verification may be Offline PIN, Online PIN, Signature or No CVM.
6. **Terminal Risk Management** - The terminal performs several checks (such as floor limit) to determine whether there is a requirement for online processing.
7. **Terminal Action Analysis** - The terminal requests to go online or requests an offline approval.
8. **Card Action Analysis** - The card decides if it will approve the transaction offline or go online.
9. **Online Processing** - If the chip requests to go online, the terminal builds an online request for authorization and online card authentication. The terminal forwards the transaction request to the selected payment authorizer.
10. **Completion and Script Processing** - The transaction completes and issuer scripts return to the card for updating if necessary.

B.13.1 Changes to the Message Set to Support EMV

The POS application and chip card involved in the transaction determine the EMV chip card data. You must include this tag data in G035 (EMV Tag Data) chip card transactions including offline approvals. You can find any corresponding tag response data in R023 (EMV Response Data) in the response message. In addition to the standard message requirements of credit and debit card based 0100, 0200, 0220, and 0400 messages, include G034, G035 and any applicable EMV parameter options. The fields listed below contain EMV specific options.

NOTE: The presence of EMV tag data does not eliminate standard message requirements for other fields. For example, you must still populate the field Transaction Amount in a message even if you send 9F02.

G008 - POS Data Code

This group data comprises a series of values that identify terminal capability, terminal environment, and point-of-interaction security data. EMV specific fields include:

- G008.1 Card Data Input Capability - Contains values to reflect EMV terminal capabilities
- G008.7 Input Mode - Contains values to reflect EMV terminal capabilities
- G008.9 Cardholder Authentication Entity
- G008.10 Card Data Output Capability

G017 - Discover/Carte Blanche/Diners Club International/Japanese Credit Bureau/China Union Pay POS Data Code

G017.11 POS Device Card Data Input Capability Indicator comprises values that reflect EMV terminal capabilities.

G034 – POS Identification Data

G034 provides identification data for POS applications and associated devices. When G035 is present, it requires G034.

G035 - EMV Tag Data

The POS application and chip card involved in the transaction determine G035 EMV chip card data. You must include this tag data for all for all non-reversal chip card transactions including 0220 offline approvals. For 0400 reversals, it is network dependent. The presence of G035 tag data does not eliminate standard message requirements for other fields.

G036 – Credit Card PIN Data

EMV online PIN verification credit card transactions require this group.

22.1 Point-of-Service Entry Mode

This field contains two subfields that indicate the method used to enter the primary account number (PAN). The values reflect EMV terminal operation.

25.9 Point-of-Service Condition Code, Advice Reason Code

There are special codes for EMV offline approvals.

70 Network Management Information Code

These are special reversal codes for EMV transactions.

107.2 Point-of-Service Device Capability Code

This is the type of method that reads the encoded data. The values reflect the EMV terminal capabilities.

R023 - EMV Response Data

In the response message, R023 (EMV Response Data) contains any corresponding response tag data.

B.13.2 EMV Credit

EMV Credit messages cover credit card sale, return, force post, adjustment, cash advance, and prior authorization. In addition to the standard message requirements of 0200/0220 credit financial transaction messages, include G034, G035, and any applicable EMV entry mode and device capability parameters listed in [Changes to the Message Set to Support EMV](#) on page 622.

B.13.3 EMV Debit

EMV Debit messages cover debit card sale and return. In addition to the standard message requirements of 0200/0220 debit financial transaction messages, include G034, G035, and any applicable EMV entry mode and device capability parameters listed in [Changes to the Message Set to Support EMV](#) on page 622.

B.13.4 EMV Reversals

Reversals can occur in a number of scenarios including when the connection is lost, when the transaction times-out because it has not received a response from the issuer or when the merchant or cardholder notice the transaction amount is incorrect. In addition, when a cardholder uses a chip card, the card itself may trigger a reversal. EMV Tag data is optional in 0400 Reversals and is situation and network dependent. Refer to the appropriate network documentation.

B.13.5 EMV Partial Authorizations

A Partial Authorization occurs when the issuer approves a transaction for an amount less than what the merchant requested in the authorization request. The Worldpay EMV implementation supports both partial authorization and reversals. For more information, see [Partial Approval](#) on page 592.

B.13.6 EMV Pre-Authorizations

A Pre-Authorization occurs when an authorization takes place before the final amount is unknown. Make the pre-authorized amount the amount presented to the chip and sent online for 0100 authorization. When the transaction is complete and the final transaction amount is known, submit the clearing record for the final amount with the 0220 Credit Card Prior Authorization and the chip data from the original 0100 Authorization that G035 includes.

B.13.7 EMV Fallback

Fallback occurs when there is an issue with the card or the terminal prevents the two from successfully communicating. If the terminal cannot read the chip, the transaction can fallback to a magnetic stripe or key-entered transaction. In this case, you must set 22.1 (POS Entry Mode) and G008.7 (Card Data Input Mode, which is for Amex only) to reflect fallback. Some networks may not allow fallback.

B.14 PINless Debit

PINless debit is a payment type that certain merchants use when they have established some type of contractual relationship with the consumer and, therefore, know their identity. Consumers may make payments using a PIN debit card but without having to enter a PIN. Since consumer identity is already known, interchange rates are generally lower than card-not-present signature debit.

To use PINless debit, include the following in the credit or debit card transaction:

1. Include G009.20 (Pinless Debit Indicator) set to Y.
2. Include 52, Personal Identification Number (PIN) Data, set to spaces.
3. Include 117, DUKPT Serial Number, set to spaces.

The response includes R027 Pinless Debit Indicator, which indicates that Worldpay processed the transaction as a pinless debit transaction.

B.15 PINless Credit Conversion

The POS has the option to send signature credit requests through the debit networks based on the BIN routing table setup at Worldpay. Worldpay will convert the signature credit request to a PINless debit request depending on certain criteria in the transaction request. The benefit to converting to a debit transaction is that it will save the merchant cost per transaction, because PINless debit interchange rates are generally lower than credit authorization.

The conversion to PINless debit only occurs when the following criteria is met:

- A request attempts a credit card authorization.
- No PIN is present in the request message.
- The transaction amount is less than \$50.
- No cash back amount is present in the request.
- The MID in the request message is set up to process PINless debit on the Worldpay tables.
- The BIN can process PINless debit.

The response includes R027 Pinless Debit Indicator, which indicates Worldpay processed the transaction as a pinless debit transaction.

B.16 Card Network Tokenization

The host supports requests for Card Network Tokenization using 3DS or EMV tags.

B.16.1 Tokenized Transactions using 3DS (Apple Pay In-App)

This section describes how to perform tokenized transactions using 3DS for the following card types: Amex, Master Card, Visa, and Discover. These are scenarios in which the merchant performs the decryption.

B.16.1.1 Amex, Master Card, Visa, and Discover

To submit tokenization using 3DS (Apple Pay In-App):

1. Set Field [25 Point-of-Service Condition Code](#) byte 8 to 7.
2. Set Field [22 Point-of-Service Entry Mode](#) to 82.
3. Send token value (DPAN) in [45 Track Data](#).
4. If needed, send Token-Requestor-ID data in [G037 – Card Network Tokenization Data](#), field type 1.
5. If needed, send Token-Assurance-Level in G037, field type 2.
6. Send cryptogram data in G037, field type 3, and base 64 encoded.
7. Send Return PAN last 4 in G037, field type 4, if needed (for Amex only).

NOTE: Visa requires AVS verification; thus, it is a best practice to include the address and zip code for all transactions.

Example: Amex Credit Card Sale Request Using Token, 3DS Tag, and Additional Data

The following is an example of group field G037:

```
|I2.N0241002002200400000000071201281506490000010128150649129190000000700134061100009109
5618011
00000000000000010000000000000042
000000000echodataECHODATA<rs>G009121NYNNNNNN1NYN<gs>G028
3411119766720000C80001214<gs>G002313233343536373839303131313131313131313031323334353637
3839303232323232323232305<gs>G0372020299011112345678901<gs>
```

Example: MC Credit Card Sale Request using Token, 3DS Tag, and Additional Data

The following is an example of group field G037:

```
|I2.N02410020022004000000000071201281506490000010128150649129190000000700123461000009109
5618011
00000000000000010000000000000042
000000000echodataECHODATA<rs>G009121NYYNNNNNN1NYN<gs>G028
3411119766720000C80001214<gs>G002313233343536373839303131313131313131313031323334353637
3839303232323232323232305<gs>G0372020299011112345678901<gs>
```

For more information about G037, see [G037 – Card Network Tokenization Data](#) on page 418.

B.16.2 Using the Worldpay Mobile API for Apple Pay

NOTE: This section is an excerpt from the Worldpay eCommerce Technical Publication, *Worldpay eCommerce Apple Pay Solution*. Refer to the full document for further information.

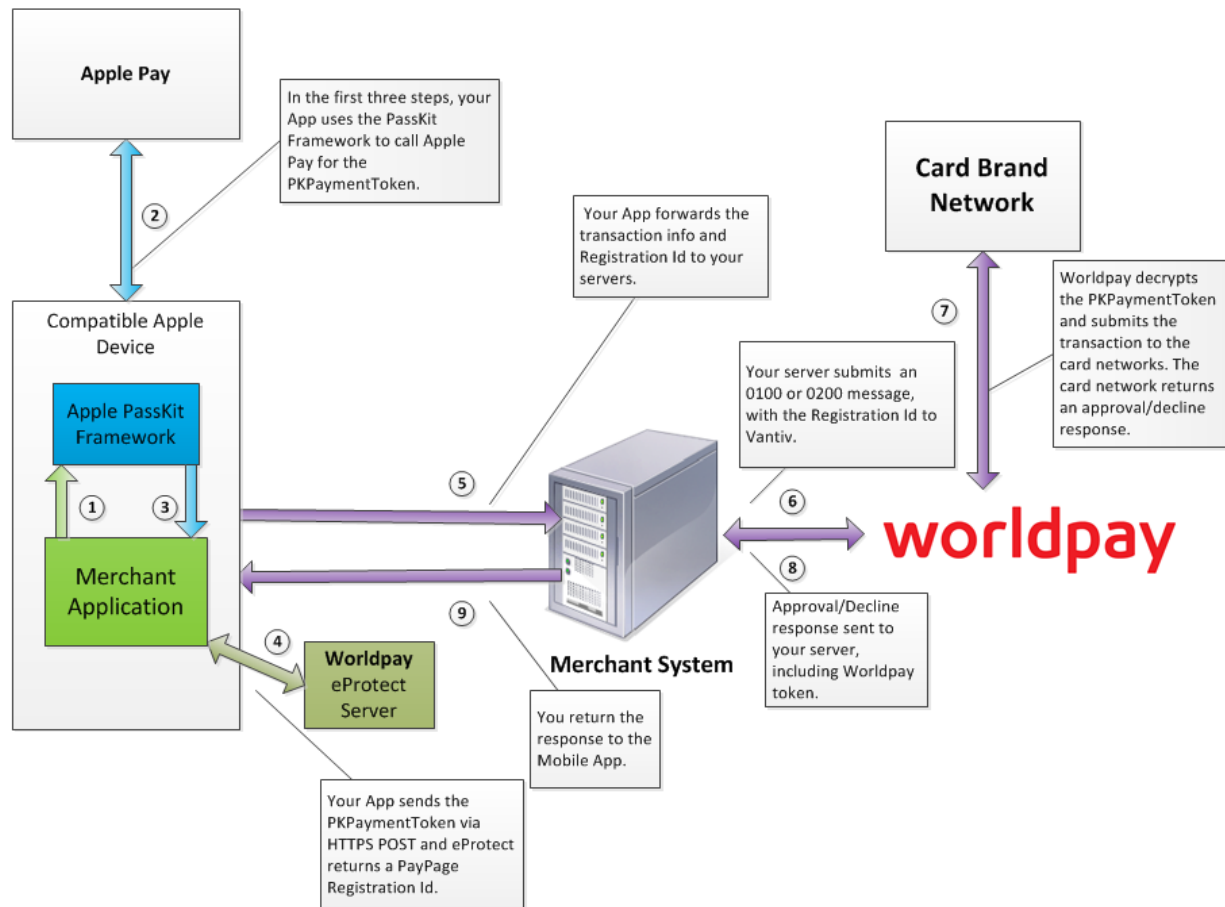
In this scenario, your native iOS application performs an HTTPS POST of the Apple Pay PKPaymentToken using the Worldpay Mobile API for Apple Pay. From this point forward, your handling of the transaction is identical to any other eProtect® transaction. The eProtect server returns a Registration ID and your Mobile App (or server) constructs the 610 transaction using that ID.

The steps that occur when a consumer initiates an Apple Pay purchase using your mobile application are as follows and also shown in [Figure B-1](#).

1. When the consumer selects the Apple Pay option from your application or website, your application/site uses the Apple PassKit Framework to request payment data from Apple Pay.
2. When Apple Pay receives the call from your application or website and after the consumer approves the Payment Sheet (using Touch ID), Apple creates a PKPaymentToken using your public key. The PKPaymentToken includes a network (Visa, MasterCard, American Express, or Discover) payment token and a cryptogram.
3. Apple Pay returns the Apple PKPaymentToken to your application. The Apple documentation defines this. Refer to <https://developer.apple.com/library/content/documentation/PassKit/Reference/PaymentTokenJSON/PaymentTokenJSON.html>.
4. Your native iOS application sends the PKPaymentToken to Worldpay's secure server using an HTTPS POST (see the *eProtect Integration Guide - Enterprise*) and eProtect returns a Registration ID (low value token).
5. Your native iOS application forwards the transaction data along with the Registration ID to your order processing server, as it would with any eProtect transaction.
6. Your server constructs/submit a standard 0100 (Authorization/Tokenization Conversion) or a 0200 message using the Registration ID. Note that it is not necessary to set the expiration date in the Authorization/Sale.

NOTE: Visa requires AVS verification; thus, it is a best practice to include the address and zip code for all transactions.

7. Using the private key, Worldpay decrypts the PKPaymentToken associated with the Registration ID and submits the transaction with the appropriate information to the card networks for approval.
8. Worldpay sends the Approval/Decline message back to your system. This message is the standard format for an 0110 or 0230 response message and includes the Worldpay token.
9. You return the Approval/Decline message to your mobile application.

FIGURE B-1 Data/Transaction Flow using the Worldpay Mobile API for Apple Pay

B.16.3 Using the Worldpay Mobile API for Android Pay

NOTE: This section is an excerpt from the Worldpay eCommerce Technical Publication, *Worldpay eCommerce Solution for Android Pay*. Refer to the full document for further information.

This is the recommended and typical method of implementing Android Pay for Web and Mobile Applications. The steps that follow, along with [Figure B-2](#), illustrate the high level flow of messages associated with an Android Pay purchase, when utilizing the Worldpay eProtect service.

NOTE: This process assumes you have integrated with Google using the method that returns the Worldpay low-value token (`paypageRegistrationId`) from Google following the Full Wallet request. For more information, see Google's tutorial (select Vantiv gateway) at: <https://developers.google.com/pay/api/web/guides/tutorial#full-example>. Google also provides the ability to test with test cards at: <https://developers.google.com/pay/api/web/guides/resources/test-card-suite>.

1. When the consumer clicks the Android Pay button in your application, the action triggers a `MaskedWalletRequest` to Google. In the `MaskedWalletRequest`, you must set a new object `PaymentMethodTokenizationParameters` indicating that you are using Worldpay. Use the following code sample as a guide to setting this field.

Setting the `PaymentMethodTokenizationParameters`

```
PaymentMethodTokenizationParameters parameters =
PaymentMethodTokenizationParameters.newBuilder()
    .setPaymentMethodTokenizationType(PaymentMethodTokenizationType.PAYMENT_GATEWAY)
    .addParameter("gateway", "vantiv")
    .addParameter("vantiv:merchantPayPageId", payPageId)
    .addParameter("vantiv:merchantOrderId", orderId)
    .addParameter("vantiv:merchantTransactionId", id)
    .addParameter("vantiv:merchantReportGroup", reportGroup)
    .build();
```

IMPORTANT: You must use the same `orderId` value on all calls (i.e., Google, Register Token, Authorization, Sale, etc.). Failure to use the same `orderId` can prevent customers from tracking their orders using the Android Pay application.

Setting New Object in the `MaskedWalletRequest`

```
MaskedWalletRequest request = MaskedWalletRequest.newBuilder()
    .setMerchantName(Constants.MERCHANT_NAME)
    .setPhoneNumberRequired(true)
    .setShippingAddressRequired(true)
    .setCurrencyCode(Constants.CURRENCY_CODE_USD)
    .setEstimatedTotalPrice(cartTotal)
    .setCart(Car.newBuilder())
    .setCurrencyCode(Constants.CURRENCY_CODE_USD)
    .setTotalPrice(cartTotal)
    .setLineItems(lineItems)
    .build()
    .setPaymentMethodTokenizationParameters(parameters)
    .build();
```

The information returned by Google in the `MaskedWallet` object may include a masked card number (last-four digits exposed) and shipping information. The consumer has the option of changing this information. If any info changes, Android Pay returns an updated `MaskedWallet` object.

2. Upon confirmation of the order by the consumer your application initiates a `FullWalletRequest` to Google.

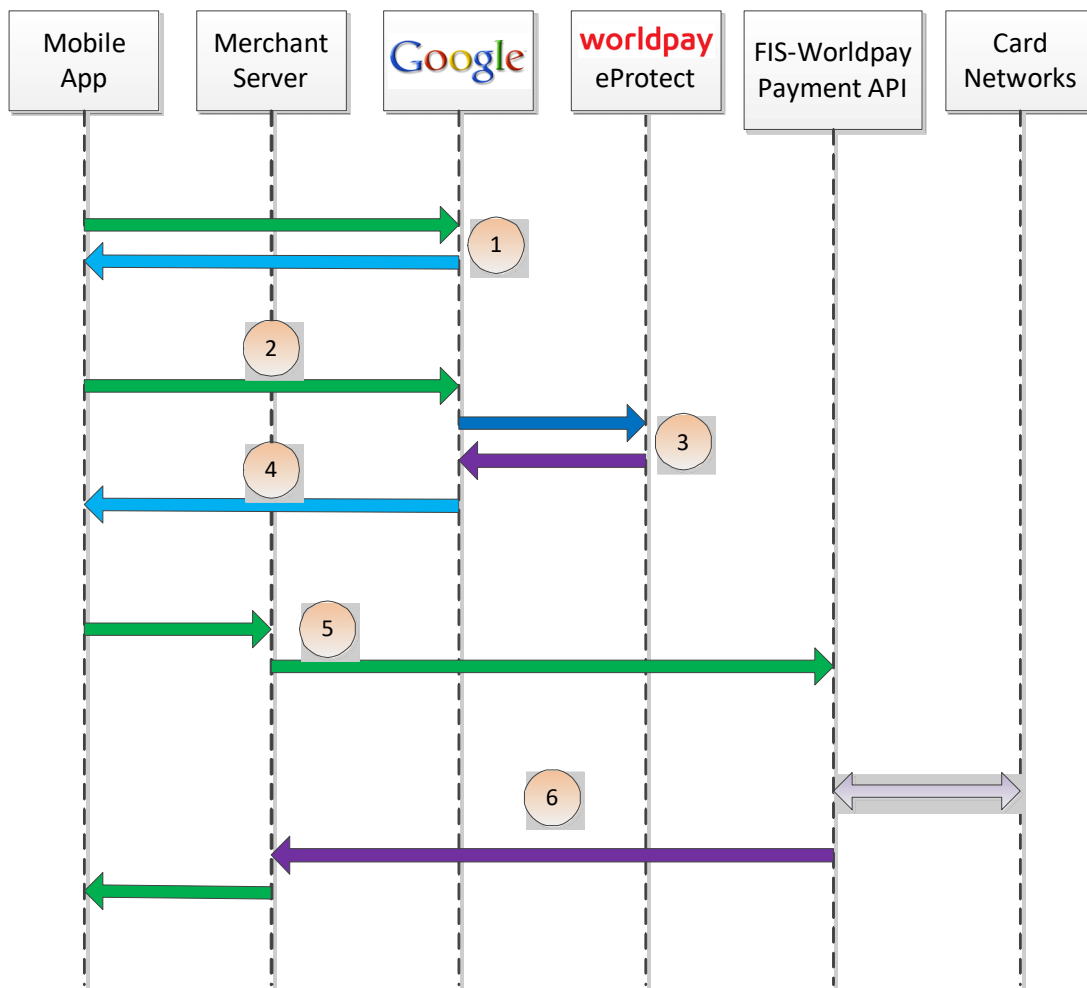
3. After receiving the `FullWalletRequest` from your application, Google submits the card information to Worldpay eComm eProtect. The eProtect servers return a low-value token (`paypageRegistrationId`).
4. Google returns the low-value token (`paypageRegistrationId`) to your application under the `tokenizationData.token` field along with the Full Wallet information.

NOTE: It is not necessary to set the expiration date in the Authorization/Sale.

5. Your applications sends the transaction information to your servers along with the low-value token. Your servers submit the 0100 or 0200 message to Worldpay. You must set the `orderSource` to `androidpay` in the transaction. Note that it is not necessary to set the expiration date in the Authorization/Sale.

NOTE: Instead of submitting an 0100 or 0200 message, you can submit a Register Token transaction to convert the low-value token to a Worldpay high-value token. You would then use the high-value token in subsequent transactions submitted to Worldpay.

6. Worldpay processes your transaction normally and returns the results along with a high-value token.

FIGURE B-2 High Level Message Flow for Android Pay using eProtect

B.16.4 Worldpay Online Systems - 610 Message Format

This section contains examples of an Authorization with a Registration ID, a Sale with a Registration ID request, and a Token Conversion Request.

The following example contains an authorization request with the Registration ID in field 120. If you are planning on converting a Registration ID to a network token with an Apple Pay or Android Pay cryptogram, set field 25 to 59, which indicates eCommerce. You can send the Registration ID (low value token) without using 59 in field 25.

Add Doug's note here

Example: Authorization Request (0100 Message)

The following is an example of a Credit Card Authorization Request using Registration-ID:

```
|I2.|123456|0100|21|004000|123456789|123456|1234|123456|123456|123456|011|0000000600|11
11|222|333333333333|123|*****
```

```
***|12345678|12345678|123456789|123|12|PO#/CUSTOMER*CODE***|123456789|TRACE*DATA*1****|<rs>G028|1
234567890123456789|R****|1234|<gs>
```

Example: Registration ID Request through Financial Transaction (0200 message)

The following is an example of a Credit Card Sale Request using Registration-ID:

```
|I2.|123456|0200|22|004000|000001500|0321031116|123456|032103|111600|812|0000000600|1111|222|3333
33333333|001|*****|1234567
8|00000001|000000000|00|000|40|PO#/CUSTOMER*CODE***|000000000|TRACE*DATA*1****|<rs>G028|123456789
0123456789|R****|1234|<gs>
```

Example: Token Conversion Request

The following is an example of Token Conversion Request for a low-value token:

```
|I2.|123456|0100|50|800000|0321031116|123456|032103|111600|812|0000000600|1111|222|333333333333|0
01|*****|12345678|00001234
|000|00|TRACE*DATA*1****|99999999|999999|
```

B.16.4.1 Response

The following is an example of a token approval response:

Example: Token Approval Response

```
|0110|53|123456|0321031116|123456|TRACE*DATA*1****|138001|N|
```

If host tokenization fails (F value) when processing Legacy or Omni tokens, the token contains spaces and the Token ID contains ZZZZZZ. The host attempts to process transaction requests without token data (using clear PAN or Track) when applicable. The transaction may result in an approval or decline using E2EE, clear PAN/track data, or both.

If host tokenization fails when processing the Registration ID, the token field and token-id field is not returned in R017. The presence of this Field Type 4 with a value of F indicates an error. The transaction results in a decline if the transaction cannot create a token using the Registration ID.

Table B-8 lists some of the most common TPS codes. These codes are not necessarily tied to a specific network or product. Worldpay returns them for any card type depending on the transaction disposition.

TABLE B-8 TPS Global Response Codes

TPS	Response Message	Description
001	AUTH DOWN	This is the TPS response when no external authorizer is available.
307	CONVERSION TRAN ERR	<p>Description: Worldpay does not allow the token/de-token conversion transaction.</p> <p>Action: Check the host tokenization configuration settings and request message.</p>

TABLE B-8 TPS Global Response Codes (Continued)

TPS	Response Message	Description
307	PAYMENT TYPE ERROR	Description: The host payment type setup is configured to decline token transaction request. Action: Check the host tokenization configuration settings and request message.
307	ADDITIONAL TRAN ERR	Description: Worldpay does not allow the transaction to use a token. Action: Check the host tokenization configuration settings and request message.
307	RESTRICT TRAN ERROR	Description: Worldpay does not allow restricted transactions to process. Action: Check the host tokenization configuration settings and request message.
307	INVALID TRACK DATA	Description: The track data is blank, so Worldpay cannot tokenize transaction request. Action: Verify the values for clear PAN or Track data and then retry the transaction.
307	INV POS COND CODE	Description: The POS condition code is invalid for request message. Action: Verify the values for POS condition code field and then retry the transaction.
307	INV ORIG DATE TIME	Description: The transaction contains an invalid token original date or time values, which are either not numeric or there is a format issue. Action: Verify the POS values for the token original date and time fields and then retry the transaction.
307	TRAN NOT ALLOWED	Description: Transaction requesting or using token is not allowed Action: Verify POS request message - retry transaction
307	POS ENTRY MODE ERROR	Description: In a transaction request using a token, you must set manual POS entry mode. Action: Verify the POS request message and then retry the transaction.
307	PAN OR TRACK ERROR	Description: Transactions using a token must initialize track, PAN or both to spaces. Action: Verify the POS request message and then retry transaction.
416	REGISTRATION-ID NOT FOUND	Description: Worldpay could not locate the Registration-ID used in the transaction in the ES data base. It may have expired. Action: Check the Registration-ID and then retry the transaction.
714	INV CARD NUMBER	This is the TPS response code that Worldpay will most commonly present when a transaction fails to locate a viable routing option.
796	AUTH DOWN	This indicates a system malfunction.

For more information and a complete list, see [Appendix A, "TPS Response Codes"](#).

Benefit Card Services Processing

This appendix describes the following for the Benefit Card Services OTC flow between a merchant and Worldpay:

- [Field Definition Changes](#)
- [Reversal Processing](#)
- [Example Field Definitions](#)

C.1 Field Definition Changes

Merchants may be required to send Worldpay UPC/PLU data for networks to identify approved products in addition to additional amounts for each purse. Worldpay will identify eligible Benefit Card Services BINs as flagged by the networks in the master merchant BIN file. Merchants will receive a separate BIN entry for Benefit Card Services eligible BINs. If a merchant sends in UPC/PLU data on a non-Benefit Card Services eligible bin, Worldpay will deny the transaction with a Denial 1 (Invalid Card).

All Benefit Card Services transactions must include flag 38 in group field G009.

C.1.1 Group Field G015 – Additional Amounts Request

The format for group field G015 remains. There are new amount types that merchants will be required to send and receive in addition to those defined in [Table 4-18](#) (group field G015 positions 3-4).

Use an account type of 00 (Default Account, group field G015 positions 1-2) for Benefit Card Services transaction requests.

For debits/purchases, use **D** as the sign for each amount (position 8). For returns/credits, use **C** as the sign for the purse to be credited'. G015 now supports up to 12 amounts only for Benefit Card Services transactions.

C.1.1.1 Amount Types - Benefit Purse Amounts

Some of the new amount types exchange amounts between two benefit purses for the following types of amounts: requested amount, approved amount, and balance amount.

TABLE C-1 BAmountenefit Purse Amounts

Benefit Purse	Request	Approved	Balance (Reserved)
OTC	5A	5B	5C
Food (Healthy Choice)	5D	5E	5F

Merchants performing integrated Approved Product List (APL) evaluation may populate requested amount types in messages out to WorldPay. Requested amounts may be updated by the network following UPC/PLU data validation. Approved amounts will be sent back on reply messages from Worldpay.

C.1.1.2 Amount Type 5G - Program Discount Amount

You can send amount type 5G as an aggregate of all the applicable individual discounts for the given product data. This amount type can also be passed back in reply messages.

C.1.1.3 Amount Type 5I – Other

Amount type 5I can be sent on reply messages back to the merchant. This amount type can be sent back for the following reasons:

- Transaction amount remainder as the difference between amount requested in field 4 (Transaction Amount) and the total qualified benefit amounts.
- Amounts for which no UPC/PLU data was delivered from the merchant to Worldpay.
- Amounts for which no qualified benefit program was identified when evaluating the Approved Product List (APL) for the available benefits assigned to the BIN.

C.1.2 Group Field R007 – Additional Amounts Response

Use R007 to pass back additional amounts from the network. The new amount types outlined in the above section can be sent back in R007.

R007 will also be expanded from 4 additional amounts to 12 additional amounts on Benefit Card Services transactions.

C.1.3 Group Fields G030, G031, G032, G091 – UPC/PLU Pass-Thru (Usage 2) Request

Merchants can send UPC/PLU data to Worldpay for eligible products. In a situation where a product sent in group field G030 is not found on the APL, merchants will be required to handle partial approvals. The remaining amount for items not found on the APL will be sent back in group field R007 under amount type 5I. If the message requires more data elements than will fit into group field G030, these additional elements are placed in group fields G031, G032, and a new group field G091. The layout for group field G030 is as follows:

ans 999

TABLE C-2 Group Field Descriptions

Field Descriptions	Field Length	Notes
UPC/PLU Tag	AN 5	*PS*\ Designates group field G030 as UPC/PLU pass-thru data
Purchase Item Data Length	N4	
UPC/PLU Indicator	N1	0 = UPC, 1 = PLU
UPC/PLU Value	N 15	UPC/PLU value. Right-justified, padded with 0s
UPC/PLU Check Digit	N1	Calculated using UPC-A check digit algorithm from GS1

TABLE C-2 Group Field Descriptions

Field Descriptions	Field Length	Notes
Category Code	AN 2	Identifies the product/produce item at a macro level, e.g. "milk"
Sub-category Code	AN 3	Identifies the product/produce item at a micro level, e.g. "skim"
Benefit Purse Type	AN 2	Benefit purse type value as defined for requested amount type values (Blank on requests)
Units	N 5	Quantity of package measure
Package Measure	AN 10	Ounces, Gallons, etc.
Original Item Price	N 6	
Purchase Quantity	N 5	
Discount Amount	N 6	
Coupon Amount	N 6	For future use
Coupon Quantity	N 5	For future use
Final price	N 6	
UPC/PLU Data Length	N 2	Right justify and zero fill.
Item Action Code	N 2	00 = Approved / on APL. 04 = Not Approved/Not on APL. 07 = Exceeds Available/on APL. '00' on requests

Example: A Single Item in Group Field G030

PS\007700000003813700577CCSCC 00040Count 00059900001000000000000000000005991100

Tag = c'*PS*\'

Length = c'0077'

UPC/PLU Indicator = c'0'

UPC/PLU Value = c'000000381370057'

UPC/PLU Check Digit = c'7'

Category Code = c'CC' (Placeholder value)

Sub-category Code = c'SCC' (Placeholder value)

Benefit Purse = c' '

Units = c'00040'


```

Package Measure = c'Count      \
Original Item Price = c'000599'
Purchase Quantity = c'00001'
Discount Amount = c'000000'
Coupon Amount = c'000000'
Coupon Quantity = c'00000'
Final Price = c'000599'
UPC/PLU Data Length = c'11'
Item Action Code = c'00'

```

C.1.4 Group Fields R019, R020, R021, R091 – UPC/PLU Pass-Thru (Usage 2) Response

UPC/PLU data will be sent back using response group field R019, R020, R021, and R091. Additional data elements are placed in R020, R021, and R091 when the data exceeds the max length of R019. R091 is a new group field to pass an additional 999 bytes of UPC/PLU data.

C.1.5 Group Field G009 – Optional Processing Indicators

A new request flag will be added to group field G009 to designate a transaction as a Benefit Card Services transaction. Every Benefit Card Services transaction must include this flag. The layout of the flag is as follows: added to group field G009 to designate a transaction as a Benefit Card Services transaction. Every Benefit Card Services transaction must include this flag. The layout of the flag is as follows:

TABLE C-3 Flag Layout

Field Number	Request Optional Group Description	Data Type	Position	Length	Valid Value/Notes	Required
38	Benefit Card Services Transaction Request	an	38	1	Valid values are: <ul style="list-style-type: none"> N – Not a Benefit Card Services transaction Y – Designates transaction as a Benefit Card Services The field interprets any other value as N/	

C.2 Reversal Processing

Benefit Card reversal processing may require the merchant to send in both group field G015 and group fields G030, G031, G032, and G091 in the request with the same data that was received in the original authorization. Group field G015 should be included with data echoed from the original purchase response being reversed. For full reversals, group field G015 is not required but should be sent if available. If additional amounts are not available, UPC data can be sent in group fields G030, G031, G032, and G091 instead. The Benefit Card Services transaction flag in group field G009 must be included on reversals or merchandise returns. This is in addition to the typical reversal field requirements.

C.3 Example Field Definitions

This section provides example scenarios.

C.3.1 Example 1 – Purchase Request with OTC Data Approval

Example: Additional Amounts

Request to Worldpay (G015):

G015005A840D000000000599

Response from Worldpay (R007):

R007005A840D000000000599005B840D000000000599

Example: UPC/PLU Data

Request to Worldpay (G030):

G030*PS*\007700000003813700577CCSCC 00040Count 00059900001000000000000000000005991
100

Response from Worldpay (R019):

R019*PS*\007700000003813700577CCSCC 00040Count 00059900001000000000000000000005991
100

C.3.2 Example 2 – Purchase Request with Food Data with Insufficient Benefit

Example: Additional Amounts

Request to Worldpay (G015):

G015005D840D000000000249

Response from Worldpay (R007):

R007005F840D000000000000

Example: UPC/PLU Data

Request to Worldpay (G030):

G030*PS*\007700000007983400679CCSCC 00001QUART 00024900001000000000000000000002491
100

Response from Worldpay (R019):

R019*PS*\007700000007983400679CCSCC 00001QUART 00024900001000000000000000000002491
100

C.3.3 Example 3 – Purchase Request with Food and OTC Data Approval

Example: Additional Amounts

Request to Worldpay (G015):

G015005A840D000000000599005D840D000000000249

Response from Worldpay (R007):

R007005A840D000000000599005D840D000000000249005B840D000000000599005E840D000000000249

Example: UPC/PLU Data

Request to Worldpay (G030):

G030*PS*\01540000003813700577CCSCC 00040Count 000599000010000000000000000000005991
10000000007983400679CCSCC 00001QUART 000249000010000000000000000000002491100

Response from Worldpay (R019):

R019*PS*\01540000003813700577CCSCC 00040Count 000599000010000000000000000000005991
10000000007983400679CCSCC 00001QUART 000249000010000000000000000000002491100

C.3.4 Example 4 – Purchase Request with Insufficient OTC, Sufficient Food (Partial Approval)

Example: Additional Amounts

Request to Worldpay (G015):

G015005A840D000000000599005D840D000000000249

Response from Worldpay (R007):

R0070003840C0000000002490057840C000000000848005A840D000000000599005D840D000000000249005
B840D000000000003205E840D000000000249

Example: UPC/PLU Data

Request to Worldpay (G030):

G030*PS*\01540000003813700577CCSCC 00040Count 000599000010000000000000000000005991
10000000007983400679CCSCC 00001QUART 000249000010000000000000000000002491100

Response from Worldpay (R019):

R019*PS*\01540000003813700577CCSCC 00040Count 000599000010000000000000000000005991
10000000007983400679CCSCC 00001QUART 000249000010000000000000000000002491100

C.3.5 Example 4.A – Full Reversal of Example 4

Example: Additional Amounts

Request to Worldpay (G015):

```
G0150003840C0000000002490057840C000000000848005A840D000000000599005D840D000000000249005
B840D000000000003205E840D000000000249
```

Response from Worldpay (R007):

```
R0070003840C0000000002490057840C000000000848005A840D000000000599005D840D000000000249005
B840D000000000003205E840D000000000249
```

Example: UPC/PLU Data

Group field G030 is not required to send in for reversals.

C.3.6 Example 4.B – Partial Reversal of Example 4 (Only Cancelling OTC Portion)

Example: Additional Amounts

Request to Worldpay (G015):

```
G0150003840C0000000002490057840C000000000848005A840D000000000599005D840D000000000249005
B840D000000000003205E840D000000000249
```

Response from Worldpay (R007):

```
R0070003840C0000000002490057840C000000000848005A840D000000000599005D840D000000000249005
B840D000000000003205E840D000000000249
```

Example: UPC/PLU Data

Group Field G030 is not required to send in for reversals.

Glossary

A

Accountholder Authorization Value (AAV)

eCommerce websites use AAV when they want authentication for MasterCard SecureCode.

Additional Standard Transaction

An Additional Standard Transaction is a transaction that a merchant cannot originate using a token instead of a card number unless the settings on Worldpay's processing systems for Tokenization Support and Additional Standard Transaction are set to allowed.

Additional Standard transactions are: preauthorization completions, adjustments, recurring, and gift card close.

Address Verification Service (AVS)

This is the verification of a cardholder's address information against the issuer's information. It returns a special result code describing the verification outcome.

Authorizing transactions for mail/telephone orders where the card is not present primarily use AVS.

Authorization

The approval or guarantee given by the card issuer to the acquirer and/or card acceptor.

B

Bit

The number in a bit map that refers to a data element, implying both its relative position in a message and its identity.

C

Cardholder

The customer associated with the primary account number (PAN) requesting the transaction from the card acceptor.

Cash Back

The amount of cash above the amount of purchase a customer receives back from a debit, credit, or check authorization transaction.

Cardholder Authentication Verification Value (CAVV)

eCommerce websites use CAVV when they want authentication for Verified by VISA.

Controller

In the context of the Worldpay message set, a controller is a software application that concentrates and manages transactions from multiple in-lane POS devices, transmitting them to the Worldpay host system.

Worldpay treats the controller as a single terminal (a single batch), but retains in a separate field the number of the in-lane device at which each transaction occurred.

Core Transaction

A Core Transaction is a transaction that a merchant can originate using a token instead of a card number when Tokenization Support is set to allowed.

Core Transactions are voids and reversals.

Credit Transaction

A claim for funds by the cardholder for the credit of his/her account. At the same time, the transaction provides details of funds acknowledged as payable by the acquirer (and/or the card acceptor) to the card issuer.

D

Data Element

A field in a message. Each element consists of data whose attributes and format conform to those defined by, first, the ISO standard, and then by this specification. You refer to it by field name and bit number.

Debit Transaction

An approval by the cardholder of the debit to his account. At the same time, the transaction provides a claim of funds made by the acquirer (and/or the card acceptor) to the card issuer.

De-tokenization

De-tokenization is the process of obtaining the original card account number from a token and Token ID value.

Derived Unique Key Per Transaction (DUKPT)

An encryption technique for PIN-based transactions that provides enhanced security through the use of a different encryption key with each transaction.

E**EAN128**

European Article Numbering (EAN) is the European standards body that administers the barcode symbols and data definition in Europe. EAN128 and UCC128 are identical.

EBT

Electronic Benefits Transfer is the program that uses a debit-like card to disburse funds to recipients of federal and state aid. It applies to both food and cash benefits.

Electronic Funds Transfer (EFT)

This is the method by which funds for an electronic payment transaction move from a card issuer to a merchant or other point of sale or service. Also the transaction type that involves such funds transfers; a financial transaction, as opposed to cash or check.

F**Field**

A named data element which is also referred to by bit number.

H**High Value Token**

A high value token is when the host can use the token itself in lieu of cardholder data to perform a transaction at multiple merchant locations.

Host

This is either the authorization switch or the settlement party that is in use authorization network.

K**Key Encryption Key (KEK)**

A secure key used to encrypt the exchange of Pin Encryption Keys (PEKs) within the authorization network. Each node of the authorization link must know the KEK.

L**Low Value Token**

A session identifier or surrogate token value that you cannot use as a payment instrument in lieu of cardholder data, which is analogous to a temporary token.

M**Message**

A set of data elements used to exchange information between institutions or their agents. No communications (header/trailer, protocol, or character code) or security implications are assumed or identified.

Master File Key (MFK)

A unique key designated by the company to encrypt all keys used within the system.

O**Omni Token**

A High-Value unified token where the customer can choose to connect with one or more Worldpay platforms and receive a consistent token from a singular enterprise token server.

P**Primary Account Number (PAN)**

The number that identifies the cardholder's account.

PIN Encryption Key (PEK)

A secure key used to encrypt a customer's Personal Identification Number (PIN) that the customer enters at the terminal device; it is also referred to as the working key.

Personal Identification Number (PIN)

The number entered at the POS terminal by the customer for a debit or EBT transaction.

PIN Block

An encrypted form of the customer's PIN using a portion of the customer card number.

Point of Service (POS)

The location of the transaction's origin.

POSA

POSA (Poe-zah) cards are prepaid debit products that have no value until activated by specialized software at a retail point of sale terminal. POSA vendors sell cards in product categories including long distance phone cards, cell phone minutes, Gift Cards from retailers and restaurants, ring tones, iTunes and many more.

R**Registration ID**

The eProtect Registration ID is a temporary low-value token, active for 24-hours (or upon authorization) that replaces payment card information (PAN, optional CVV2) from passing through merchant web servers. Worldpay returns the Registration ID only upon request to the eProtect server before the order is submitted for processing. The Registration ID can be for authorization and conversion to the high-value Omni-Token.

Currently the Registration ID is 19 digits numeric, composed of random values, there is no encryption involved, and it doesn't contain any embedded data.

Request

The message that originates an interactive series of messages.

Response

Part of the interactive series of messages initiated by a request.

Restricted Transaction

A Restricted Transaction is a transaction that a merchant cannot originate using a token instead of a card number unless the settings on our processing systems for Tokenization Support and

restricted Transaction are set to allowed. Restricted transactions are returns, gift card refund, reload, and unloads.

Reversal

The **host** sends this message to sender of the original message to inform them that it cannot process as instructed. That is, the message is undeliverable, not processable, or canceled by the receiver.

Routing

The directional flow of messages by which the acquirer and card issuer communicate with each other directly or through one or more intermediate network facilities, which may act as agent(s) for the original parties involved in the message flow.

S**Store-and-Forward (SAF)**

A transaction queue maintained by the POS device that retransmits requests due to network and/or issue unavailability.

Settlement

A transfer of funds to complete one or more prior transactions made, which is subject to final accounting.

T**Terminal**

In the context of the Worldpay ems message set, a terminal can be an in-lane POS device (terminal type 600) or an in-store controller application (terminal type 610). In either case, the terminal is the point of origin of messages containing electronic transactions.

Terminal type

For processing purposes, Worldpay defines the terminal type in the Worldpay terminal record and terminal parameter file when the system is set up. The terminal application (for example, HCS) plus the terminal type (for example, 600) determine the way the Worldpay Online System will handle transactions from a given terminal or controller. See [Chapter 1, "Introduction"](#) for more information.

Token

Tokenization is a substitution for Primary Account Number (PAN) with proxy data. Tokenization limits the ability to conduct fraudulent payment transactions. A token value is numeric and is the same length as the card account number length. The POS initiates a token request and on successful processing the host returns the token in the response message. Usage requires the token replacing the PAN and/or track data.

Token ID

The Token ID is a host-generated numeric value created during the tokenization process using a token key assigned to a merchant. The host returns this value to the POS along with the token when the merchant requests tokenization. In practice, Worldpay Legacy token (reverse crypto) transactions require Token ID. Omni transactions use spaces.

Tokenization Support

A setting on Worldpay's processing systems that controls whether the merchant's transactions will generate tokens and whether the merchant can originate transactions using tokens instead of card numbers.

Transaction

A collection of related messages designed to complete (insofar as this is possible) the intention of the initiator of the original message, and normally concluded by a debit or credit transaction. Amendments or reversals carried out subsequently are considered a separate transaction set.

Transaction Amount

The amount of the authorization, excluding the cash back amount. This represents the amount of the sale. The authorization is performed for the sum of this amount plus any cash back.

UCC128

Uniform Code Council (UCC) is the U.S. organization responsible for local US standards of barcode symbols and data definition in the United States. UCC128 and EAN128 are identical and synonymous.

Void Undelivered Logic

A method of confirming that a terminal received a transaction. The terminal transmits the reference number of the last EFT transaction in each request. If the terminal and host are not in sync, the last EFT transaction is reversed.