



eComm cnpAPI Differences Guide

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V2.2

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About This Guide

This manual serves as a reference to changes in the cnpAPI across supported versions. It is intended to supplement the *Worldpay eComm cnpAPI Reference Guide* by detailing the difference between versions of the schema.

Intended Audience

This document is intended for merchants contemplating an upgrade from an older version of the cnpAPI format to a newer version.

Revision History

This document has been revised as follows:

TABLE 1 Document Revision History

Doc. Version	Description	Location(s)
2.2	Updated doc with info for V12.9 through V12.12	All
2.1	Updated document with new info/element for V12.6, V12.7, and V12.8.	All
2.0	Applied new Worldpay template and other updates related to the Vantiv-Worldpay merger.	All
1.9	Added <actionReason> as child of credit transaction.	All
1.8	Added RecycleEngineActive element (child of recycling) used to specify if recycling of declined Auth/Sale is being handled by the engine. Also added recycleId element (child of recyclingRequest). These elements were also backported to V3.1, V4.1, V5.1, V6.2, and V7.3	All

TABLE 1 Document Revision History

Doc. Version	Description	Location(s)
1.7	Added <code>RecycleRequest</code> element and child used to control recycling of declined Auth/Sale. These elements were also backported to V3.1, V4.1, V5.1, V6.2, and V7.3	All
1.6	Added <code>actionReason</code> element. Added a new enum for the <code>orderSource</code> element. Also, <code>maxDigits</code> for amount element changed from 8 to 12.	All
1.29	Updated the document from V21.1 to V12.5. Also, also made corrections/additions (due to back-porting of features) to the V8.x, V9.x, V10.x, and V11.x sections.	All
1.28	Updated document for V8.31, V9.14, V10.8, V11.4, and V12.1.	All
1.27	Updated document for V11.3	All
1.26	Updated document for V10.7 and V11.2	All
1.25	Replaced LittleXML with <code>cnpAPI</code> Updated document for V11.1	All All
1.24	Updated document for V9.12 and V11.0	All
1.23	Updated document for XML V10.4	All
1.22	Updated document for V9.2 through V9.8 and V10.0 through V10.3	All
1.21	Updated document for version 9.1.	All
1.20	Added info about new <code><orderSource></code> enum, <code>echeckppd</code>	All
1.19	Added information about the <code>mpos</code> element and its child elements.	All
1.18	Added info about standalone Fraud Check transaction.	All
1.17	Added <code>triggeredRule</code> element for Advanced Fraud Tools	All
1.16	Added many new elements for Private Label Gift Card support, Recurring Engine support, Advanced Fraud Tools, and Virtual Card Indicator	All
1.15	Added information about new <code>debtRepayment</code> element	All
1.14	Added information about new <code>surchargeAmount</code> element and the addition of a <code>terminalId</code> element for pos transactions.	All
1.13	Added information about recycling element being added to the <code>voidResponse</code> message.	All
1.12	Added <code>merchantData</code> element to <code>eCheckVerification</code> and <code>eCheckRedeposit</code> transactions.	All

TABLE 1 Document Revision History

Doc. Version	Description	Location(s)
1.11	Added info about a new transaction type and response: <code>updateCardValidationNumOnToken</code> and <code>updateCardValidationNumOnTokenResponse</code> . Also, <code>cardValidationNum</code> element was added to the <code>registerTokenRequest</code> transaction.	All
1.10	Added info about <code><fraudFilterOverride></code> element	All
1.9	Added <code><actionReason></code> as child of credit transaction.	All
1.8	Added <code>RecycleEngineActive</code> element (child of <code>recycling</code>) used to specify if recycling of declined Auth/Sale is being handled by the engine. Also added <code>recycleId</code> element (child of <code>recyclingRequest</code>). These elements were also backported to V3.1, V4.1, V5.1, V6.2, and V7.3	All
1.7	Added <code>RecycleRequest</code> element and child used to control recycling of declined Auth/Sale. These elements were also backported to V3.1, V4.1, V5.1, V6.2, and V7.3	All
1.6	Added <code>actionReason</code> element. Added a new enum for the <code>orderSource</code> element. Also, <code>maxDigits</code> for amount element changed from 8 to 12.	All
1.5	Added new <code>taxBilling</code> and <code>merchantData</code> elements (with child elements) associated with schema V8.8.	All
1.4	Added the <code>paypage</code> element as an option to the Capture Given Auth, Credit, and Force Capture transactions.	All
1.3	Added new feature and element information associated with the Automatic Account Updater (v8.5) service and the Recycling Advice feature(v8.6).	All
1.2	Added another use for the <code>paypageRegistrationId</code> element.	All
1.1	Added information concerning feature and schema changes associated with LittleXML schema version 8.5.	All
1.0	New Release.	N/A

Document Structure

This manual contains the following sections:

Chapter 1, "Schema Differences"

This chapter provides an overview of the difference between versions of the cnpAPI schema. It is divided into two sections. The first provides a high level overview of the features added in each release of the schema. The second section provides information about the specific elements and structures added to the XML schema in each release.

Documentation Set

The Worldpay documentation set also include the items listed below. Please refer to the appropriate guide for information concerning other Worldpay product offerings.

- *Worldpay eComm iQ Reporting and Analytics User Guide*
- *Worldpay eComm cnpAPI Reference Guide*
- *Worldpay eComm Chargeback API Reference Guide*
- *Worldpay eComm Chargeback Process Guide*
- *Worldpay eComm PayPal Integration Guide*
- *Worldpay eComm PayFac API Reference Guide*
- *Worldpay eComm PayFac Portal User Guide*
- *Worldpay eComm eProtect Integration Guide*
- *Worldpay eComm Scheduled Secure Reports Reference 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.

Contact Information

This section provides contact information for organizations within Worldpay.

Relationship Management/Customer Service - For non-technical issues, including questions concerning iQ Reporting and Analytics, help with passwords, modifying merchant details, and changes to user account permissions, contact the Relationship Management/Customer Service Department. If you are a Payment Facilitator (PayFac), refer to the second table.

Relationship Management/Customer Service Contact Information - Merchants

Telephone	1-844-843-6111 (Option 3)
E-mail	ecomcustomercare@worldpay.com
Hours Available	Monday – Friday, 8:00 A.M.– 6:00 P.M. EST

Relationship Management/Customer Service Contact Information - Payment Facilitators

Telephone	1-844-843-6111 (Option 5)
E-mail	PayFacEComm@worldpay.com
Hours Available	Monday – Friday, 8:00 A.M.– 5:00 P.M. EST

Technical Publications - For questions or comments about this document, please address your feedback to the Technical Publications Department. All comments are welcome.

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Schema Differences

The purpose of this guide is to assist merchants processing on the Worldpay eComm platform, when upgrading their systems to newer versions of the cnpAPI schema by providing details about the changes to the schema from V3.0 to the current release. The structure of the document allows you to select your current schema version and quickly determine the schema changes for each newer version, ignoring the older version.

The guide is divided into two sections. The first provides a high level overview of the features added in each release of the schema. If no details are provided for a particular released version, there were no new features added in the version. That does not necessarily mean there were no schema changes. In some cases, existing XML structures may have changed, causing the version change, without new elements being added.

The second section of the guide provides information about the specific elements and structures added to the XML schema in each release.

You should use the information in this guide in conjunction with the *Worldpay eComm cnpAPI Reference Guide* and the schema files to determine your upgrade path.

NOTE: This document does not provide information about new Response Reason Codes that may have accompanied feature introduction. Please consult the latest *Worldpay eComm cnpAPI Reference Guide* for a comprehensive list of Response Reason Codes.

1.1 Feature Introduction by Schema Version

This chapter provides information about the cnpAPI schema changes in terms of feature introduction. Each section covers the features released during the life of that major schema version. The sections of this chapter are:

- [Feature Additions 3.x Schema](#)
- [Feature Additions 4.x Schema](#)
- [Feature Additions 5.x Schema](#)
- [Feature Additions 6.x Schema](#)
- [Feature Additions 7.x Schema](#)
- [Feature Additions 8.x Schema](#)
- [Feature Additions 9.x Schema](#)
- [Feature Additions 10.x Schema](#)
- [Feature Additions 11.x Schema](#)
- [Feature Additions 12.x Schema](#)

NOTE: Not all features require changes to the schema files. There may be other features offered on the Worldpay eCommerce platform, but not mentioned in this document. Please consult your Implementation Consultant or Relationship Manager for information about features or capabilities not mentioned in this document.

1.1.1 Feature Additions 3.x Schema

- **Support for all Basic Transactions** - added support for all basic transaction types including: Authorization, Capture, Credit, Sale, Capture Given Auth, Force Capture, eCheck Sale (Batch only), eCheck Credit (Batch only), and Void (Online only).
- **3DS Support** - added support for 3DS data.
- **Account Updater Support** - added Account Updater transactions/support (Batch only).
- **Level II Data Support** - added support for the submission of Level II data in transactions.

1.1.2 Feature Additions 4.x Schema

- **Level III Data Support** - added support for the submission of Level III data in transactions.

1.1.3 Feature Additions 5.x Schema

- **PayPal Support (5.1)** - added support for PayPal transactions

1.1.4 Feature Additions 6.x Schema

- **Schema Reorganization (6.0)** - reorganization of the schema files to enforce element ordering (sequence of elements).
- **Bill Me Later Support (6.1)** - added support for BML transactions.
- **Auth Reversal Transaction (6.2)** - added support for Authorization Reversal transactions.

1.1.5 Feature Additions 7.x Schema

The following features and capabilities were added to the 7.x schema family.

- **Partial Authorization (7.0)** - adds support for Partial Authorizations. Also, the response message includes the amount approved when the Authorization is not for full amount.
- **customBilling element moved (7.0)** - the `customBilling` element was moved from Capture transaction to Authorization transaction
- **Worldpay Vault/Tokenization (7.1)** - adds support of the tokenization of credit card account numbers and the use of tokens in all credit card transactions.
- **Enhanced Authorization Feature Set (7.2)** - the optional Enhanced Authorization feature include the Prepaid Indicator and the Affluence Indicator.
- **Custom Billing URL (7.2)** - optionally, a url can be submitted in the custom billing descriptor in place of city or phone.
- **Flexible Spending Account Transaction (7.3)** - adds support for FSA/Healthcare cards including the breakout of types of healthcare charges.
- **Advanced AVS (7.3)** - adds the capability to perform advanced AVS results (checking `<phone>` and `<email>` values) for American Express card transactions.

NOTE: A coding change that accompanied schema version 8.7, but retroactive to V7.3, allows the checking of the name as part of Advanced AVS. While there was no associated schema change, the returned AAVS code now makes use of the first digit. Previously, the first digit was always 0, but the valid values now can be 0, 1, 2, or 3.

- **Transaction Tracking elements (7.3)** - add the capability to track transactions based upon `<campaign>`, `<affiliate>`, or `<merchantGroupingId>`

NOTE: The transaction tracking feature was added in October 2011 without a revision to the schema version. If you coded to V7.3 (or any 7.x version) prior to October 2011, you must modify your coding to take advantage of this feature.

1.1.6 Feature Additions 8.x Schema

The following features and capabilities were added to the 8.x schema family.

NOTE: Schema version 8.3 was produced and made available to merchants participating in the Beta testing of certain new features. The new features tested in version 8.3 became available in later versions of production schema.

- **Online eCheck Transaction (8.0)** - eCheck transactions are supported for Online submissions. Also, added the eCheck verification transaction type, automatic NOC updates, and automatic eCheck redeposit capability.
- **eCheck Verification (8.0)** - a new transaction type, `echeckVerification`, has been added to the schema to allow check of historical data about the account.
- **Automatic NOC Updates (8.0)** - automatically corrects submitted account information if applicable NoC data is on file.
- **Merchant Initiate eCheck Redeposit (8.1)** - a new transaction type, `echeckRedeposit`, has been added to the schema to allow merchant initiate redeposits of echeck returns if the reason is either Insufficient Funds or Uncollected Funds. You can not use this transaction type if you have the optional Automatic Redeposit feature enabled.
- **eCheck Void (8.1)** - introduces the `echeckVoid` transaction type that you can use to either void unsettled eCheck transactions or to halt automatic redeposit attempts. This transaction type is available for Online transactions only.
- **eCheck Tokenization (8.2)** - allows the substitution of tokens for eCheck account numbers eCheck transaction. This feature includes provisions for explicit registrations of eCheck accounts using the `registerTokenRequest` transaction type and implicit registration via normal eCheck transactions. The use of this feature is optional.
- **eCheck Token Updates for Automatic NOC Updates (8.2)** - the system automatically updates the token (issues a new token), when a NOC exists against the eCheck account number/routing number used for the original token generation.
- **Prepaid Card Filter (8.4)** - allows the filtering of transactions using prepaid cards. Filtering can be configured selected transactions or all transaction involving prepaid cards. If you select the All option, you can disable the feature for specific transactions.
- **International Card Filter (8.4)** - allows the filtering of transactions based upon the country of the Issuer. Filtering can be configured by country and disabled for specific transactions.
- **Reloadable Prepaid Card Indicator (8.4)** - returns information on whether or not the prepaid card is reloadable.
- **Prepaid Card Type Indicator (8.4)** - returns information on the type of prepaid card used (i.e., Teen, Gift, Payroll, etc.)
- **Issuer Country Indicator (8.4)** - returns information indicating the country of the issuing bank.
- **Cardholder Type Indicator (8.5)** - returns information indicating whether the card is a Commercial or Consumer card.
- **eProtect (PayPage) Support Items (8.5)** - new elements added to the schema to support transactions originating with Worldpay eProtect enabled merchants.
- **American Express Auth Reversals (8.5)** - introduces support for merchant initiate Authorization Reversals for American Express transactions.
- **Automatic Account Updater (8.5)** - introduces support for Automatic Account Updater service including the optional return of update information in the response messages for both tokenized and non-tokenized merchants.

NOTE: The Automatic Account Updater service was introduced for beta testing in schema version 8.3 and capabilities added in versions 8.4 and 8.5. While development was complete in version 8.5, this service became generally available starting with version 8.6.

- **Recycling Advice (8.6)** - supports the return of a date/time stamp indicating the recommended time for recycling of certain declined Authorizations.
- **Additional PayPage support (8.7)** - support was added to allow the use of the `<paypageRegistrationId>` element (child of the `<paypage>` element) in Capture Give Auth, Credit, and Force Capture transactions.
- **Tax Billing and Convenience Fee (8.8)** - supports the designation of Tax and Convenience Fees for use by MCC9311 merchants.
- **Transaction Tracking elements (8.8)** - add the capability to track transactions based upon `<campaign>`, `<affiliate>`, or `<merchantGroupingId>`.
- **Prior Fraud Advice Filter (8.10)** - allows filtering of MasterCard and Visa transactions based upon the Worldpay eCommerce system receiving a Fraud Advice record for the account within the previous 200 days.
- **Prior Chargeback Filter** - allows filtering of transactions based either upon the receipt of any chargeback by the merchant from the same account within the last 90 days, or only the subset of chargebacks tagged as fraud chargeback (i.e., chargeback code is fraud related).
- **Security Code No-Match Filter (8.12)** - allows filtering of transactions based upon a failure to match the Security Code (CVV2/CVC2/CID) submitted with the transaction.
- **Global Filter Override (8.13)** - disables all Fraud Filters for the transaction
- **Update of Card Validation Number (CVV2/CVC2/CID) (8.14)** - under certain circumstances, for tokenized merchants, the Worldpay eComm Platform stores the encrypted security code on a temporary basis. A new transaction type (`updateCardValidationNumOnToken`) was introduced allowing the update of the stored security code.
- **Surcharge Provisions (8.17)** - A new `surchargeAmount` element was added to several transaction types allowing merchants to apply surcharges for Visa and MasterCard credit card transactions.
- **Debt Repayment (8.19)** - A new `debtRepayment` element was added to the Authorization, Force Capture, Capture Given Auth, and Sale transactions. The new element should be set to true for Visa transaction that are debt repayments. The merchant must be either MCC 6012 or 6051.
- **Virtual Account Number Indicator (8.22)** - Support for a new Insights indicator that specifies if a card number is a virtual card.

NOTE: New elements in support of Recurring Engine and Private Gift Cards were added to the schema files beginning with V8.19. These features were not completed and available for use until V8.22.

- **Private Label Gift Card Support (8.22)** - Many new transactions types (i.e., activate, deactivate, load, unload, balance inquiry, etc.) were introduced to the schema in support for Private Label Gift Card transactions.
- **Recurring Engine (8.22)** - A new Value Added Service whereby Worldpay manages all recurring payments based upon merchant defined payment Plans.
- **Advanced Fraud Tools Support (8.23)** - Added several new elements in support of Worldpay/ThreatMetrix integration. This integration allows you to filter transactions based upon the results ThreatMetrix analysis of customer devices/connection.
- **CAT (Cardholder Activated Terminal) Support (8.23)** - Added new elements in support of CAT transactions.

- **Advanced Fraud Tools Support (8.24)** - Added the `triggeredRule` element, which provides details about any rules that were triggered from the merchant's policy. This element can occur multiple times (once for each triggered rule) in the response message.
- **Standalone Fraud Check Transaction (8.25)** - Added support for a standalone Fraud Check transaction type.
- **Mobile POS Device Support (8.25)** - Added support for transaction originating with a ROAM Mobile POS device.
- **New Enumeration for `<orderSource>` (8.26)** - Added `echeckppd` enum to `<orderSource>` for use with eCheck PPD transactions (Prearranged Payment and Deposit Entries). This type of transaction occurs when a merchant receives a written authorization, including a voided paper check, from a consumer so that the merchant can debit the consumer account. These transactions can be single entry or recurring debits to a consumer's account.
- **Support for MasterCard MasterPass product (8.27)** - Added new `<wallet>` element (and child elements) to support merchants using the MasterCard MasterPass product.
- **Support for Apple Pay (8.28)** - Added support for one method of processing Apple Pay in-app purchases. Added `applepay` enum to `<orderSource>` and changed `maxLength` of the `authenticationValue` element from 32 to 56 characters. Note: Support for Apple Pay will not be fully released until late-January 2015.
- **Support for Apple Pay (8.29)** - Added `<applepay>` as a payment method to several transaction types and `<applepayResponse>` to various response messages. Also added `<secondaryAmount>` to several transaction types to support convenience fees.
- **Added support for Recurring and Installment Card on File transactions (8.30)** - Two new enums were added to the `<processingType>` element. Also, we added new elements to support the use of a `<networkTransactionId>` returned by Visa, Mastercard, and Discover.
- **Added support for Card on File transactions (8.31)** - The following values were added to the `processingType` element enumerations: `initialCOF`, `merchantInitiatedCOF`, and `cardholderInitiatedCOF`.

1.1.7 Feature Additions 9.x Schema

The following features and capabilities were added to the 9.x schema family.

- **Support for Instruction-Based Dynamic Payout (9.0)** - Added six new transaction types in support for the PayFac Instruction-Based Dynamic Payout product.
- **Support for Apple Pay (9.1)** - Added support for one method of processing Apple Pay in-app purchases. Added `applepay` enum to `<orderSource>` and changed `maxLength` of the `authenticationValue` element from 32 to 56 characters.
- **Support for eCheck Prenotification transactions (9.1)** - Added two new Batch only transaction types to support eCheck Prenotification transactions. Note: Although included in the schema, the eCheck Prenotification transactions are not yet released for general use.
- **Support for Apple Pay (9.2)** - Added `applepay` as a method of payment.
- **Support for Convenience Fees (9.2)** - Added the `<secondaryAmount>` element. The `secondaryAmount` is the principal portion of the purchase, when a convenience fee is included as part of the total transaction amount. For example, if the total transaction amount is \$105 (i.e. \$100 principal + \$5 convenience fee), the `secondaryAmount` is \$100. Convenience fees are used in market segments where the merchant cannot pass on the costs associated with accepting a credit card-based payment by law. These service providers partner with third party agents to allow customers to use credit cards and charge a fee to provide the service.

- **Support for new account markers and custom fields for Advanced Fraud Tools (9.3)** - The new account markers sent to ThreatMetrix include: bill to address, ship to address, amount, and five custom attribute fields. The custom attribute elements have merchant defined values that Advanced Custom (i.e., self-serve merchants) can use to create additional rules for inclusion in the fraud evaluation. The account markers were also added to the standalone Fraud Check transaction type, bringing it into parity with the AVF functionality on the Auth/Sale transactions.
- **Support for Convenience Fees added to Credit and eCheckCredit transactions (9.3)** - This was required so the Convenience Fees could be defined on refunds, if originally used in the parent transaction.
- **Support for return of Last Four of Card Number on ApplePay transactions (9.4)** - The `<cardSuffix>` element was added to the `authorizationResponse` and `saleResponse` messages. This element provides the merchant the last four digits of the card number for ApplePay transaction involving Visa or MasterCard.

NOTE: XML version V9.5 was never released for general availability.

- **Support for Visa funding of a host-based prepaid product, a brokerage account, or escrow account (9.6)** - A new element, `<processingType>`, was added as an optional child of `<authorization>`, `<captureGivenAuth>`, `<forceCapture>`, and `<sale>` transactions. This element defines a Visa transaction that is intended to fund a host-based prepaid product, a brokerage account, or escrow account.
- **Support for VisaCheckout (9.7)** - Added a new enumeration, `VisaCheckout`, to the `walletSourceType` element.
- **Support for Android Pay (9.8)** - Added a new enumeration, `androidpay`, to the `orderSource` element. Also, added the `androidPayResponse` element and children to various response messages.
- **Support for Gift Card PIN (9.9)** - Added `pin` element to various transaction request and response messages, as well as to the `card` element.
- **Support for Sessionless Advanced Fraud Tool option (9.9)** - The new capability allows the use of Advanced Fraud Tools without the submission of the `threatMetrixSessionId` element. With this option, the fraud check only involves Worldpay submitted data points and any custom attributes submitted by the merchant.
- **Support for Visa and Discover Recurring Payments using `networkTransactionId` (9.10)** - For recurring payments involving network tokens (i.e., Apple Pay and Android Pay), Visa and Discover return a `networkTransactionId`, which the merchant must include in subsequent recurring payments as a reference to the original transaction.
- **Support for 8-digit Canadian eCheck Routing Numbers (9.10)** - The `minLength` of the `routingNum` was changed for 9 to 8.
- **Support for return of `eciIndicator` in Android Pay response (9.11)** - The `eciIndicator` element was added to the `androidpayResponse` element.
- **Support for SEPA (Single Euro Payments Area) Direct Debit (9.12)** - Support was added for the SEPA method of payment in Online Sale transactions. SEPA allows for the direct debit of accounts for Euro-to-Euro transactions, adding to our International offering.
- **Support for iDEAL Real-time Bank Transfer (9.12)** - Support was added for the iDEAL method of payment in Online Sale transactions. iDEAL, used predominantly in the Netherlands, allows for the direct transfer of funds from consumer accounts to merchant accounts for Euro-to-Euro transactions, adding to our International offering.

- **Support for SOFORT and Giropay Real-time Bank Transfer (9.13)** - Support was added for both the SOFORT and Giropay methods of payment in Online Sale transactions. Giropay services German consumers, and SOFORT services consumers in several countries (predominantly Germany and other German speaking countries). These payment methods allow for the direct transfer of funds from consumer accounts to merchant accounts for Euro-to-Euro transactions, adding to our International offering.
- **Added support for Card on File transactions (9.14)** - The following values were added to the `<processingType>` element enumerations: `initialCOF`, `merchantInitiatedCOF`, and `cardholderInitiatedCOF`.

1.1.8 Feature Additions 10.x Schema

For all 10.x family of schema, all transactions require the `id` attribute. Also, all linked transactions (i.e., transactions that use the `littleTxnId` to reference the parent transaction) return a response code of 001 - Transaction Received in the XML response message. You must either pick-up the Declined Transaction SSR report, or view the Declined transaction report in the eComm iQ to determine the final disposition of the transaction.

The following features and capabilities were added to the 10.x schema family.

NOTE: Many of the features/capabilities add to the V10.x versions were also back-ported to the later versions in the V9.x stream (see previous section).

- **New Status Query transaction type (10.0)** - This new transaction type allows you to verify the receipt and status of a submitted transaction.
- **Support for Android Pay (10.1/10.2)** - The schema file were modified to support Android Pay In-App purchases in version 10.1, but the new capability was not generally available until the 10.2 release.
- **New Funding Instruction Void transaction (10.1)** - Allows you to void an unsettled Dynamic Payout Funding Instruction.
- **Support for Sessionless Advanced Fraud Tool option (10.3)** - The new capability allows the use of Advanced Fraud Tools without the submission of the `threatMetrixSessionId` element. With this option, the fraud check only involves Worldpay submitted data points and any custom attributes submitted by the merchant.
- **Support for SEPA (Single Euro Payments Area) Direct Debit (V10.4)** - Support was added for the SEPA method of payment in Online Sale transactions. SEPA allows for the direct debit of accounts for Euro-to-Euro transactions, adding to our International offering.
- **Return several network ISO 8583 fields in Enhanced Auth Response (10.4)** - The new capability returns data from seventeen fields of the ISO 8583 network response messages. This provides additional data points for transactional analysis.
- **Custom Identifier element added to PayFac Dynamic Payout instructions (10.4)** - Support added for `customIdentifier` element in Dynamic Payout funding instructions. Payment Facilitators can use this element to specify a Billing Descriptor to appear on the bank statements of the parties involved in the funds transfer. The information you provide in this element populates the Individual ID field of the ACH Record. The use of this field and its appearance on bank statements is at the discretion of the bank producing the statement.
- **Support for 8-digit Canadian eCheck Routing Numbers (10.5)** - The `minLength` of the `routingNum` was changed for 9 to 8.

- **Support for Visa and Discover Recurring Payments using `networkTransactionId` (10.5)** - For recurring payments involving network tokens (i.e., Apple Pay and Android Pay), Visa and Discover return a `networkTransactionId`, which the merchant must include in subsequent recurring payments as a reference to the original transaction.
- **Support for return of `eciIndicator` in Android Pay response (10.6)** - The `eciIndicator` element was added to the `androidpayResponse` element.
- **Added `orderId` to Account Updater response (10.7)** - Added `orderId` to Account Update response message, which had been removed previously in V10.
- **Added support for Card on File transactions (10.8)** - The following values were added to the `processingType` element enumerations: `initialCOF`, `merchantInitiatedCOF`, and `cardholderInitiatedCOF`.

1.1.9 Feature Additions 11.x Schema

You must include the `id` attribute all 11.x transactions. Linked transactions (i.e., transactions using the `littleTxnId` to reference a parent transaction) return either a 000 - Approved or a decline code, but you must either pick-up the Declined Transaction (SSR) report, or view the eComm iQ Declined Transaction page to verify the final disposition of any approved transactions.

The following features and capabilities were added to the 11.x schema family.

- **New Gift Card Transaction Types (11.0)** - This release introduced three new transaction types for Gift Cards: Gift Card Auth Reversal, Gift Card Capture, and Gift Card Credit. For Gift Cards, you must use these transaction types instead of Auth Reversal, Capture, and Credit respectively.
- **Support for `customIdentifier` in eCheck transactions (11.0)** - This element allows you to specify a Billing Descriptor to appear on the bank statements of the parties involved in the funds transfer. **Note:** The appearance of this field on bank statements is at the discretion of the bank producing the statement.
- **Support for SEPA (Single Euro Payments Area) Direct Debit (11.0)** - Support was added for the SEPA method of payment in Online Sale transactions. SEPA allows for the direct debit of accounts for Euro-to-Euro transactions.
- **Support for iDEAL Real-time Bank Transfer (11.0)** - Support was added for the iDEAL method of payment in Online Sale transactions. iDEAL, used predominantly in the Netherlands, allows for the direct transfer of funds from consumer accounts to merchant accounts for Euro-to-Euro transactions.
- **Support for SOFORT and Giropay Real-time Bank Transfer (11.0)** - Support was added for both the SOFORT and Giropay methods of payment in Online Sale transactions. Giropay services German consumers, and SOFORT services consumers in several countries (predominantly Germany and German speaking countries). These payment methods allow for the direct transfer of funds from consumer accounts to merchant accounts for Euro-to-Euro transactions.
- **Dynamic Payout Same Day Funding Batch Attribute (11.1)** - This flag allows Payment Facilitators using Dynamic Payout and enabled for same day funding to indicate the submitted Batch should be same day funded.
- **Support of tokenization of CVV value for eProtect users (11.1)** - Added low value token, `checkoutId`, for tokenization of CVV value when using Enterprise eProtect.
- **Added `orderId` to Account Updater response (11.2)** - Added `orderId` to Account Update response message, which had been removed previously in V10 and above.

- **Online Dynamic Payout Funding Instructions (11.3)** - Dynamic Payout Funding Instructions, previously available only as Batch transactions, are now available as Online transactions. This includes the Same Day Funding feature.
- **New transaction type - FastAccess Funding™ (11.3)** - This is a new Dynamic Payout Online transaction that move funds to a sub-merchant held debit card within 30 minutes.
- **Added support for Card on File transactions (11.4)** - The following values were added to the `processingType` element enumerations: `initialCOF`, `merchantInitiatedCOF`, and `cardholderInitiatedCOF`.

1.1.10 Feature Additions 12.x Schema

We established the 12.0 version of the API to complete the brand transition from Litle to Vantiv. As a result, virtually all of the schema changes associated with V12.0 involve the renaming of elements from `litle` to `cnp`. For example, `litleRequest` becomes `cnpRequest`. [Table 1-1](#) lists the renamed elements. In addition, the `xmlns` (namespace) changed to `www.vantivcnp.com/schema` and we removed many PayPal Credit specific elements from the schema.

TABLE 1-1 Renamed Elements

Old Element/Attribute	New Element/Attribute
<code>litleOnlineRequest</code>	<code>cnpOnlineRequest</code>
<code>litleOnlineResponse</code>	<code>cnpOnlineResponse</code>
<code>litleRequest</code>	<code>cnpRequest</code>
<code>litleResponse</code>	<code>cnpResponse</code>
<code>litleToken</code>	<code>cnpToken</code>
<code>litleTxnId</code>	<code>cnpTxnId</code>
<code>creditLitleTxnId</code>	<code>creditCnpTxnId</code>
<code>origLitleTxnId</code>	<code>origCnpTxnId</code>
<code>litleBatchId</code>	<code>cnpBatchId</code>
<code>litleSessionId</code>	<code>cnpSessionId</code>

The following features and capabilities were added to the 12.x schema family.

- **Added Debit Network Name to PINless Debit transactions (12.1)** - For merchants using our Prime PINless Debit Routing feature, this change returns the name of the Debit Network used in the transaction.
- **Added support for Card On File Visa transactions (12.1)** - We added three new enumerations to the `<processingType>` element in support of Card on File transactions. The new enums are: `initialCOF`, `merchantInitiatedCOF`, and `cardholderInitiatedCOF`.
- **Added new transaction type for HVT to LVT conversion (12.2)** - We added a new transaction type to convert a High Value Token to a Low Value Token. You can then provide the low value token to a third party service provider, who requires access to the PAN information. The third party can redeem the LVT for the PAN information via an `onlineAccountNumberAccessRequest` transaction.

- **Added new elements to support Lodging (12.2)** - We added the `lodgingInfo` element and several child elements to support Lodging transactions.
- **Enhanced Fraud Check transaction with additional elements (12.2)** - We added several elements to enhance the standalone Fraud Check transaction, allowing you to check various types of account takeover and new account creation fraud.
- **Added new elements to support Preferred Debit Network (12.3)** - For merchants using Prime Debit Routing, we added elements to support the selection of preferred debit networks.
- **(Re)Added support for Healthcare Card transactions (12.3)** - We had discontinued support for Healthcare card transactions in a previous release. Now, we re-instituted support. No new elements were added.
- **Added new element to support a correlation value returned by card brands (12.4)** - We added the `paymentAccountReferenceNumber` element to the Authorization and Sale response messages.
- **Added new element to define the type of funds disbursement (12.4)** - We added the `disbursementType` element to Fast Access Funding transaction.
- **Added new elements to support encrypted account numbers in a Register Token request (12.5)** - We added three new elements to handle encrypted account information in the Register Token request transaction.
- **Added new elements to support merchant preferences for Prime PINless Routing (12.7)** - We added several elements allowing the merchant to specify PINless network preferences in requests. We also added elements to the response messages to define the Debit network used.
- **Added new elements to support CTX information in some Batch Funding Instructions (12.7)** - We added several elements allowing a Payment Facilitator using Dynamic Payout to specify a transaction description.
- **Added new element to support Access Worldpay tokens in Account Updater requests (12.8)** - We added the `tokenURL` element to support Access Worldpay tokens.
- **Added new elements to support merchant use of Dynamic Payout (12.9)** - We added new transaction types and elements to support merchant use of Dynamic Payout and Fast Access Funding.
- **Added new elements to allow a merchant to skip using Real-Time AU (12.10)** - We added an element allowing you to turn off Real-time AU for the selected transaction. Also, added an element to the response message defining if an AU update was Real-Time or non -Real-Time.
- **Added element to allow Dynamic MCC (12.11)** - We added the `merchantCategoryCode` element to allow enabled merchants to define the MCC on a per transaction basis. (Included in the schema, but not Generally Available in this release.)
- **Added new element to support 3DS2 (12.11)** - We added the `authenticationProtocolVersion` element so that merchants can define the 3DS version used to authenticate the transaction. (Included in the schema, but not Generally Available in this release.)
- **Added a new element for Hot-Hot location (12.12)** - We added the `location` element to Online response messages, which designates which Hot-Hot location processed the online transaction.

1.2 New and Changed Elements by Schema Version

This chapter provides detailed information about changes to the structure of the cnpAPI schema, including general changes to the schema structure/format, new transaction type introduction, and new/changed elements. Each section discusses the changes between successive released versions of the schema. This allows you to select your current schema version and quickly determine the differences between that version and any higher version in terms of new elements added.

NOTE: Please refer to the latest version of the *Worldpay eComm cnpAPI Reference Guide* for detailed definitions of individual elements, as well as examples of various transaction types.

Also, there may be additional items introduced in a particular schema version that are not mentioned in the applicable section. Typically, these items have been added to the schema in anticipation of future use. For additional information concerning any of these elements, please consult your Worldpay eComm Implementation Consultant.

1.2.1 Schema Changes from V3.0 through V4.1

The table below includes elements added in schema versions 3.1 and 4.1. The changes apply to both Online and Batch transactions.

TABLE 1-2 New Elements V3.0 to V4.1

New Element	Parent of	Child of	Comments
taxExempt		enhancedData	
discountAmount		enhancedData	
shippingAmount		enhancedData	
shipFromPostalCode		enhancedData	
destinationPostalCode		enhancedData	
destinationCountryCode		enhancedData	
invoiceReferenceNumber		enhancedData	
orderDate		enhancedData	
detailedTax	taxIncludedInTotal taxAmount taxRate taxTypeIdentifier cardAcceptorTaxId	enhancedData lineItemData	

TABLE 1-2 New Elements V3.0 to V4.1 (Continued)

New Element	Parent of	Child of	Comments
lineItemData	itemSequenceNumber itemDescription productCode quantity unitOfMeasure taxAmount lineItemTotal lineItemTotalWithTax itemDiscountAmount commodityCode unitCost detailTax	enhancedData	
taxIncludedInTotal		detailedTax	
taxAmount		detailedTax lineItemData	
taxRate		detailedTax	
taxTypeIdentifier		detailedTax	
cardAceptorTaxId		detailedTax	
itemSequenceNumber		lineItemData	
itemDescription		lineItemData	
productCode		lineItemData	
quantity		lineItemData	
unitOfMeasure		lineItemData	
lineItemTotal		lineItemData	
lineItemTotalWithTax		lineItemData	
itemDiscountAmount		lineItemData	
commodityCode		lineItemData	
unitCost		lineItemData	

TABLE 1-2 New Elements V3.0 to V4.1 (Continued)

New Element	Parent of	Child of	Comments
recyclingRequest	recycleBy recycleId (added in February 2012)	authorization sale	Note: This control and its child was added to V3.1 and V4.1 in December 2011 without a revision to the schema version. If you coded to either V3.1 or V4.1 prior to December 2011, you must modify your coding to take advantage of this control.
recycleBy		recyclingRequest	Used to indicate who merchant or Worldpay) controls recycling of the transaction should it be defined. Also determines where the transaction is counted for the purposes of A/B testing.
recycleId		recyclingRequest	Can be used as an alternate to <orderId> in the recycling signature. Note: This identifier was added to V3.1 and V4.1 in February 2012 without a revision to the schema version. If you coded to either V3.1 or V4.1 prior to February 2012, you must modify your coding to take advantage of this element.
recycling	recycleEngineActive (added in February 2012)	authorizationResponse saleResponse	

TABLE 1-2 New Elements V3.0 to V4.1 (Continued)

New Element	Parent of	Child of	Comments
recycleEngineActive		recycling	Note: This flag was added to V3.1 and V4.1 in February 2012 without a revision to the schema version. If you coded to either V3.1 or V4.1 prior to February 2012, you must modify your coding to take advantage of this element.
recycling	creditLittleTxnId	voidResponse	Contains a child element providing the Vantiv transaction Id of an associated credit transaction (see below). Note: This element was added to V4.1 in January 2013 without a revision to the schema version. If you coded to V4.1 prior to January 2013, you must modify your coding to take advantage of this element.
creditLittleTxnId		recycling	The Vantiv transaction Id of the credit transaction automatically issued by the system when you use a Void transaction to halt the Recycling Engine, but the transaction is already approved and captured. (Auto-refund option must be enabled.)

1.2.2 Schema Changes in V5.1

The table below includes elements added in schema version 5.1. Version 5.1 included support for PayPal transactions.

TABLE 1-3 New Elements in V5.1

New Element	Parent of	Child of	Comments
paypal	payerId token transactionId	authorization credit sale	The parent for various PayPal elements
payerId		paypal	Defines the PayPal Payer Id
token		paypal	Defines the PayPal token
transactionId		paypal	Defines the PayPal transaction Id
paypalOrderComplete		capture sale	Used to close a PayPal order after the final Capture.
recyclingRequest	recycleBy recycleId (added in February 2012)	authorization sale	Note: This control and its child was added to V5.1 December 2011 without a revision to the schema version. If you coded to V5.1 prior to December 2011, you must modify your coding to take advantage of this control.
recycleBy		recyclingRequest	Used to indicate who merchant or Worldpay) controls recycling of the transaction should it be declined. Also determines where the transaction is counted for the purposes of A/B testing.

TABLE 1-3 New Elements in V5.1 (Continued)

New Element	Parent of	Child of	Comments
recycleId		recyclingRequest	Can be used as an alternate to <orderId> in the recycling signature. Note: This identifier was added to V4.1 in February 2012 without a revision to the schema version. If you coded to V5.1 prior to February 2012, you must modify your coding to take advantage of this element.
recycling	recycleEngineActive (added in February 2012)	authorizationResponse saleResponse	
recycleEngineActive		recycling	Note: This flag was added to V5.1 in February 2012 without a revision to the schema version. If you coded to V5.1 prior to February 2012, you must modify your coding to take advantage of this element.
recycling	creditLittleTxnId	voidResponse	Contains a child element providing the Vantiv transaction Id of an associated credit transaction (see below). Note: This element was added to V5.1 in January 2013 without a revision to the schema version. If you coded to V5.1 prior to January 2013, you must modify your coding to take advantage of this element.

TABLE 1-3 New Elements in V5.1 (Continued)

New Element	Parent of	Child of	Comments
creditLittleTxnId		recycling	The Vantiv transaction Id of the credit transaction automatically issued by the system when you use a Void transaction to halt the Recycling Engine, but the transaction is already approved and captured. (Auto-refund option must be enabled.)

Other schema changes:

- authorization, credit, and sale transactions changed to allow a choice between the card and paypal elements:.

1.2.3 Schema Changes in 6.0

There were no new elements introduced in schema version 6.0; however, Worldpay began enforcing the sequence of elements used in transactions with version 6.0.

1.2.4 Schema Changes from V6.1 through V7.0

The table below specifies elements added in schema versions 6.1, 6.2, and 7.0.

TABLE 1-4 New Elements V6.1 to V7.0

New Element	Parent of	Child of	Comments
shipToAddress	name addressLine1 addressLine2 addressLine3 city state zip country email phone	authorization captureGivenAuth sale	
billMeLaterRequest	bmlMerchantId bmlProductType itemCategoryCode termsAndConditions preapprovalNumber virtualAuthenticationKeyPresenceIndicator virtualAuthenticationKeyData authorizationSourcePlatform	authorization credit captureGivenAuth sale	Used for BML transactions
customerIpAddress		cardholderAuthentication	Added to cardholderAuthentication for BML transactions
authenticatedByMerchant		cardholderAuthentication	Added to cardholderAuthentication for BML transactions

TABLE 1-4 New Elements V6.1 to V7.0 (Continued)

New Element	Parent of	Child of	Comments
customerInfo	ssn dob customerRegistrationDate customerType incomeAmount employerName customerWorkTelephone residenceStatus yearsAtResidence yearsAtEmployer	authorization sale	Used to define customer information for BML transactions
ssn		customerInfo	Used to define customer information for BML transactions
dob		customerInfo	Used to define customer information for BML transactions
customerRegistrationDate		customerInfo	Used to define customer information for BML transactions
customerType		customerInfo	Used to define customer information for BML transactions
incomeAmount		customerInfo	Used to define customer information for BML transactions
employerName		customerInfo	Used to define customer information for BML transactions
customerWorkTelephone		customerInfo	Used to define customer information for BML transactions
residenceStatus		customerInfo	Used to define customer information for BML transactions
yearsAtResidence		customerInfo	Used to define customer information for BML transactions

TABLE 1-4 New Elements V6.1 to V7.0 (Continued)

New Element	Parent of	Child of	Comments
yearsAtEmployer		customerInfo	Used to define customer information for BML transactions
billMeLaterResponseData	bmlMerchantId creditLine addressIndicator	authorizationResponse saleResponse	The following elements are unused children of the billMeLaterResponseData element: approvedTermsCode loanToValueEstimator promotionalCodeOffer riskEstimator riskQueueAssignment
bmlMerchantId		billMeLaterResponseData	BML info
creditLine		billMeLaterResponseData	BML info
addressIndicator		billMeLaterResponseData	BML info
deliveryType		enhancedData	Enum Values: CNC DIG PHY SVC TBD
paypalOrderComplete		capture sale	Used to indicate final capture against a PayPal order.
accountInformation	type number	authorizationResponse saleResponse	
authReversal	littleTxnId amount	littleOnlineRequest batchRequest	New transaction type for Visa, MasterCard, and Discover

TABLE 1-4 New Elements V6.1 to V7.0 (Continued)

New Element	Parent of	Child of	Comments
authReversalResponse	littleTxnId orderId response responseTime message postDate (Online only)	littleOnlineResponse batceResponse	Response message for Auth reversal transactions
amexAggregatorData	sellerId sellerMerchantCategoryCode	authorization captureGivenAuth credit forceCapture sale	For use by merchant designated as an Aggregator by Amex
sellerId		amexAggregatorData	For use by merchant designated as an Aggregator by Amex
sellerMerchantCategoryCode		amexAggregatorData	For use by merchant designated as an Aggregator by Amex
allowPartialAuths		authorization sale	Used to allow authorizations for less than the requested amount.
recyclingRequest	recycleBy recycleId (added in February 2012)	authorization sale	Note: This control and its child was added in December 2011 without a revision to the schema version. If you coded to V6.2 (or any 6.x version) prior to December 2011, you must modify your coding to take advantage of this control.
recycleBy		recyclingRequest	Used to indicate who merchant or Worldpay) controls recycling of the transaction should it be declined. Also determines where the transaction is counted for the purposes of A/B testing.

TABLE 1-4 New Elements V6.1 to V7.0 (Continued)

New Element	Parent of	Child of	Comments
recycleId		recyclingRequest	Can be used as an alternate to <orderId> in the recycling signature. Note: This identifier was added to V6.2 in February 2012 without a revision to the schema version. If you coded to V6.2 prior to February 2012, you must modify your coding to take advantage of this element.
recycling	recycleEngineActive (added in February 2012)	authorizationResponse saleResponse	
recycleEngineActive		recycling	Note: This flag was added to V6.2 in February 2012 without a revision to the schema version. If you coded to V6.2 prior to February 2012, you must modify your coding to take advantage of this element.
recycling	creditLittleTxnId	voidResponse	Contains a child element providing the Worldpay transaction Id of an associated credit transaction (see below). Note: This element was added to V6.2 in January 2013 without a revision to the schema version. If you coded to V6.2 prior to January 2013, you must modify your coding to take advantage of this element.

TABLE 1-4 New Elements V6.1 to V7.0 (Continued)

New Element	Parent of	Child of	Comments
creditLittleTxnId		recycling	The Vantiv transaction Id of the credit transaction automatically issued by the system when you use a Void transaction to halt the Recycling Engine, but the transaction is already approved and captured. (Auto-refund option must be enabled.)

Other schema changes:

- enhancedData element was added to authorization request transactions (V6.1)
- numAuthReversals and authreversalAmount attributes added to batchRequest (V6.2)
- customBilling element was removed from the Capture transaction and added to the Authorization transaction (V7)
- In schema version 7 the namespace (xmlns=) changed to http://www.litle.com/schema

1.2.5 Schema Changes from V7.1 through V8.0

The table below specifies elements added in schema versions 7.1, 7.2, 7.3, and 8.0.

TABLE 1-5 New Elements V7.1 to V8.0

New Element	Parent of	Child of	Comments
url		customBilling	
enhancedAuthResponse	fundingSource affluence	authorizationResponse saleResponse	Consult your Relationship Manager before using.
fundingSource	type availableBalance	enhancedAuthResponse	Parent of Enhanced Auth information
affluence		enhancedAuthResponse	Enum Values: AFFLUENT MASS AFFLUENT
type		fundingSource	Enum Values: UNKNOWN PREPAID FSA CREDIT (not used) DEBIT (not used)
token	littleToken expDate cardValidationNum	authorization captureGivenAuth credit forceCapture sale	Parent of token information
registerTokenRequest	orderId accountNumber	littleOnlineResponse batchResponse	Request for token to replace card number

TABLE 1-5 New Elements V7.1 to V8.0 (Continued)

New Element	Parent of	Child of	Comments
registerTokenResponse	littleTxnId orderId littleToken bin type response message responseTime	littleOnlineRequest batchRequest	Response for request for token to replace card number
littleToken		registerTokenResponse	The token used to replace the card account number.
bin		registerTokenResponse tokenResponse	Provides BIN info when tokens are generated
tokenResponse	littleToken tokenResponseCode tokenMessage type bin	authorizationResponse captureGivenAuthResponse forceCaptureResponse saleResponse	Provides token for tokenized merchants submitting card number in transaction requests
healthcareIIAS	healthcareAmounts IIASFlag	authorization sale	Used to provide details of Healthcare amounts
healthcareAmounts	totalHealthcareAmount RxAmount visionAmount clinicOtherAmount dentalAmount	healthcareIIAS	Used to provide details of Healthcare amounts
IIASFlag		healthcareIIAS	Must be set to true for Healthcare transactions
totalHealthcareAmount		healthcareAmounts	Total of healthcare amounts.
RxAmount		healthcareAmounts	Prescription component of healthcare amounts.
visionAmount		healthcareAmounts	Vision component of healthcare amounts.

TABLE 1-5 New Elements V7.1 to V8.0 (Continued)

New Element	Parent of	Child of	Comments
clinicOtherAmount		healthcareAmounts	Clinic/other component of healthcare amounts.
dentalAmount		healthcareAmounts	Dental component of healthcare amounts.
firstName		billToAddress	used for eCheck Verification
middleInitial		billToAddress	used for eCheck Verification
lastName		billToAddress	used for eCheck Verification
companyName		billToAddress	used for eCheck Verification
advancedAVSResults		fraudResult	American Express AVS for email and phone
accountUpdater	originalAccountInfo newAccountInfo	echeckSalesResponse echeckCreditResponse echeckVerificationResponse	Used to provide info about automatic NOC updates
originalAccountInfo	accType accNum routingNum	accountUpdater	Used to provide info about automatic NOC updates
newAccountInfo	accType accNum routingNum	accountUpdater	Used to provide info about automatic NOC updates
merchantData	campaign affiliate merchantGroupingId	authorization captureGivenAuth credit forceCapture sale eCheckSale eCheckCredit	Note: The transaction tracking feature was added in October 2011 without a revision to the schema version. If you coded to V7.3 (or any 7.x version) prior to October 2011, you must modify your coding to take advantage of this feature.
campaign		merchantData	Used to sort transactions by marketing campaign

TABLE 1-5 New Elements V7.1 to V8.0 (Continued)

New Element	Parent of	Child of	Comments
affiliate		merchantData	Used to sort transactions by affiliate sales
merchantGroupingId		merchantData	Used to sort transactions by merchant designated values
recyclingRequest	recycleBy recycleId (added in February 2012)	authorization sale	Note: This control and its child was added in December 2011 without a revision to the schema version. If you coded to V7.3 (or any 7.x version) prior to December 2011, you must modify your coding to take advantage of this control.
recycleBy		recyclingRequest	Used to indicate who merchant or Worldpay) controls recycling of the transaction should it be declined. Also determines where the transaction is counted for the purposes of A/B testing.
recycleId		recyclingRequest	Can be used as an alternate to <orderId> in the recycling signature. Note: This identifier was added to V7.3 in February 2012 without a revision to the schema version. If you coded to V7.3 prior to February 2012, you must modify your coding to take advantage of this element.
recycling	recycleEngineActive (added in February 2012)	authorizationResponse saleResponse	

TABLE 1-5 New Elements V7.1 to V8.0 (Continued)

New Element	Parent of	Child of	Comments
recycleEngineActive		recycling	Note: This flag was added to V7.3 in February 2012 without a revision to the schema version. If you coded to V7.3 prior to February 2012, you must modify your coding to take advantage of this element.
recycling	creditLittleTxnId	voidResponse	Contains a child element providing the Vantiv transaction Id of an associated credit transaction (see below). Note: This element was added to V7.3 in January 2013 without a revision to the schema version. If you coded to V7.3 prior to January 2013, you must modify your coding to take advantage of this element.
creditLittleTxnId		recycling	The Vantiv transaction Id of the credit transaction automatically issued by the system when you use a Void transaction to halt the Recycling Engine, but the transaction is already approved and captured. (Auto-refund option must be enabled.)

Other schema changes:

- Beginning with cnpAPI schema version 7 response messages no longer include the xmlns attribute.
- Added new enumeration, FSA, as a possible response (value) for the type element, when type is a child of fundingSource.
- All parents of the token element allow a choice between either card and token, or card, token, and paypal.

1.2.6 Schema Changes from V8.1 through V8.31

The table below specifies elements added in schema versions 8.1 through 8.28.

TABLE 1-6 New Elements V8.1 to V8.31

New Element	Parent of	Child of	Comments
echeckRedeposit	littleTxnId echeckOrEcheckToken	batchRequest littleOnlineRequest	New transaction type for eCheck Redeposit attempts.
echeckRedepositResponse	littleTxnId redepositCount response responseTime message postDate (Online only) accountUpdater	batchResponse littleOnlineResponse	Response message for eCheck Redeposits
echeckOrEcheckToken		echeckCredit echeckRedeposit echeckSale echeckVerification	Allows the substitution of either the echeck or echeckToken elements
echeckVoid	littleTxnId	littleOnlineRequest	New transaction type to Void an eCheck Sale or halt attempts to auto-Redeposit
echeckVoidResponse	littleTxnId response responseTime message postDate	littleOnlineResponse	Response message for eCheck Voids
echeckToken	littleToken routingNumber accType checkNum	echeckCredit echeckRedeposit echeckSale echeckVerification	Used for eCheck Tokenization
echeckAccountSuffix		registerTokenResponse tokenResponse	last 3 digits of eCheck account - returned with the token

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
cardOrToken		accountUpdate	Allows the substitution of either the card or token elements
originalToken		accountUpdateResponse	Used for Account Updater support for tokens
updatedToken		accountUpdateResponse	Used for Account Updater support for tokens
echeckAccountSuffix		registerTokenResponse tokenResponse	Added for eCheck Tokenization
filtering	prepaid international	authorization sale	Parent of filtering switches
prepaid		filtering	Used to enable/disable Prepaid Card filtering per transaction depending upon configuration and value submitted. Enum Values: true or false
international		filtering	Used to disable International Card filtering per transaction.
reloadable		fundingSource	Indicates whether the Prepaid card is reloadable
prepaidCardType		fundingSource	Indicates the type of Prepaid card used. For example, Teen, Gift, Payroll, etc.
issureCountry		enhancedAuthResponse	Indicates the country of the Issuing bank.
cardProductType		enhancedAuthResponse	Indicates the type of card. Enum Values: UNKNOWN COMMERCIAL CONSUMER

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
paypage	paypageRegistrationId expDate cardValidationNum type	authorization sale The following added in V8.7: captureGivenAuth credit forceCapture	Used to submit the Pay Page Registration ID with the Authorization or Sale transaction. The response message contains the token associated with the submitted ID.
paypageRegistrationId		paypage registerTokenRequest	Generated by interaction with the Worldpay eProtect and used as a substitute for the token in the initial Authorization or Sale transaction. You can also use this element in a Register Token request to obtain a token in advance of submitting an Authorization or Sale transaction.
accountUpdater Note: This element already existed as a child of the eCheck response messages. New parents and children are in bold type.	originalAccountInfo newAccountInfo extendedCardResponse newCardInfo newCardTokenInfo newTokenInfo originalCardInfo originalCardTokenInfo originalTokenInfo	echeckSalesResponse echeckCreditResponse echeckVerificationResponse authorizationResponse saleResponse captureResponse forceCaptureResponse	Used to provide info about automatic NOC updates. (New) Used to provide updated card/token numbers in response messages - associated with the Automatic Account Updater service.
extendedCardResponse	code message	accountUpdater	
code		extendedCardResponse	Extended Response Code returned with accountUpdater information, if applicable. Value is either 501 (Account was closed.) or 504 (Contact the cardholder for updated information.)

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
newCardInfo	type number expDate	accountUpdater	Contains child elements providing the updated information for the submitted card.
newCardTokenInfo	littleToken type expDate bin	accountUpdater	Contains child elements providing the updated token information for the submitted token.
newTokenInfo	accType littleToken routingNum	accountUpdater	Contains child elements providing the updated token information for eCheck transactions.
originalCardInfo	type number expDate	accountUpdater	Contains child elements providing the original information for the updated card.
originalCardTokenInfo	littleToken type expDate bin	accountUpdater	Contains child elements providing the original token information for the updated token.
originalTokenInfo	accType littleToken routingNum	accountUpdater	Contains child elements providing the updated token information for eCheck transactions.
recycling	recycleAdvice recycleEngineActive	authorizationResponse saleResponse	
recycleAdvice	nextRecycleTime recycleAdviceEnd	recycling	
nextRecycleTime		recycleAdvice	Provides the recommended date/time to recycle the declined Authorization/Sale.
recycleAdviceEnd		recycleAdvice	Signifies the end of the recycling advice.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
merchantData	campaign affiliate merchantGroupingId	authorization captureGivenAuth credit forceCapture sale eCheckSale eCheckCredit	
campaign		merchantData	Used to sort transactions by marketing campaign
affiliate		merchantData	Used to sort transactions by affiliate sales
merchantGroupingId		merchantData	Used to sort transactions by merchant designated values
taxType		authorization captureGivenAuth credit forceCapture sale	Used by MCC9311 merchants to designate Tax Billing or Convenience Fee
actionReason		authReversal	Only allowed value: SUSPECT_FRAUD
recyclingRequest	recycleBy recycleId	authorization sale	
recycleBy		recyclingRequest	Used to indicate who merchant or Worldpay) controls recycling of the transaction should it be declined. Also determines where the transaction is counted for the purposes of A/B testing.
recycleId		recyclingRequest	Can be used as an alternate to <orderId> in the recycling signature.
recycleEngineActive		recycling	

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
actionReason		credit	<p>Only allowed value: SUSPECT_FRAUD</p> <p>When you include this optional element in an authReversal transaction, the information will be forwarded to MasterCard as part of the MasterCard eCommerce Fraud Alert program.</p> <p>When you include this optional element in an credit transaction, the Worldpay eComm system uses the information to track potentially fraudulent transactions for future analysis</p>
fraudFilterOverride		authorization sale	<p>Set to true to disable all filtering for the submitted transaction. This setting take precedence over all other filter override settings.</p> <p>NOTE: This element is available only if you are using cnpAPI schema version 8.13 or above.</p>
updateCardValidationNumOnToken	littleToken cardValidationNum orderId	littleOnlineRequest batchrequest	The parent element for the transaction type used to update a CVV2/CVC2/CID code stored temporarily on the Worldpay eComm platform.
updateCardValidationNumOnTokenresponse	littleTxnId response message responseTime orderId	littleOnlineResponse batchResponse	The parent element for the Worldpay response to updateCardValidationNumOnToken transactions.
merchantData	campaign affiliate merchantGroupingId	eCheckVerification eCheckRedeposit	The merchantData element was already a child of a number of transaction types (see merchantData), but was added to these eCheck transactions in V8.15.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
recycling	creditLittleTxnId	voidResponse	Contains a child element providing the Vantiv transaction Id of an associated credit transaction (see below).
creditLittleTxnId		recycling	The Vantiv transaction Id of the credit transaction automatically issued by the system when you use a Void transaction to halt the Recycling Engine, but the transaction is already approved and captured. (Auto-refund option must be enabled.)
surchargeAmount		authorization authReversal capture captureGivenAuth credit forceCapture sale	Use of the surchargeAmount element applies to Visa or MasterCard credit card payments only. Also, you are required to notify the card networks and Worldpay of your intent to applying surcharges at least 30 days prior to implementing the surcharges. Please consult your Worldpay Relationship Manager if you have additional questions.
terminalId		pos	Optional field for inclusion of POS Terminal Id.
debtRepayment		authorization captureGivenAuth forceCapture sale	The debtRepayment element was added to the Authorization, Force Capture, Capture Given Auth, and Sale transactions. The new element should be set to true for Visa transaction that are debt repayments. The merchant must be either MCC 6012 or 6051.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
activate	orderId amount orderSource card or virtualGiftCard	littleOnlineRequest batchrequest	The parent for the transaction type that activates a Private Label Gift Card.
activateResponse	littleTxnId orderId response responseTime postDate (online only) message fraudResult giftCardResponse virtualGiftCardResponse	littleOnlineResponse batchResponse	The parent of a response message for an activate transaction.
activateReversal	littleTxnId	littleOnlineRequest batchrequest	The parent for the transaction type that reverses the activation of a Private Label Gift Card. This transaction type is Online only.
activateReversalResponse	littleTxnId orderId response responseTime postDate (online only) message giftCardResponse	littleOnlineResponse batchResponse	The parent of a response message for an activateReversal transaction.
balanceInquiry	orderId orderSource card	littleOnlineRequest batchrequest	The parent for the transaction type that queries the available balance of a Private Label Gift Card.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
balanceInquiryResponse	littleTxnId orderId response responseTime postDate (online only) message fraudResult giftCardResponse	littleOnlineResponse batchResponse	The parent of a response message for an balanceInquiry transaction.
deactivate	orderId orderSource card	littleOnlineRequest batchrequest	The parent for the transaction type that deactivates a Private Label Gift Card.
deactivateResponse	littleTxnId orderId response responseTime postDate (online only) message fraudResult giftCardResponse	littleOnlineResponse batchResponse	The parent of a response message for an deactivate transaction.
deactivateReversal	littleTxnId	littleOnlineRequest batchrequest	The parent for the transaction type that reverses the deactivation of a Private Label Gift Card. This transaction type is Online only.
deactivateReversalResponse	littleTxnId orderId response responseTime postDate (online only) message giftCardResponse	littleOnlineResponse batchResponse	The parent of a response message for an deactivateReversal transaction.
load	orderId amount orderSource card	littleOnlineRequest batchrequest	The parent for the transaction type that adds funds to a Private Label Gift Card.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
loadResponse	littleTxnId orderId response responseTime postDate (online only) message fraudResult giftCardResponse	littleOnlineResponse batchResponse	The parent of a response message for a load transaction.
loadReversal	littleTxnId	littleOnlineRequest batchrequest	The parent for the transaction type that reverses the loading of a Private Label Gift Card. This transaction type is Online only.
loadReversalResponse	littleTxnId orderId response responseTime postDate (online only) message giftCardResponse	littleOnlineResponse batchResponse	The parent of a response message for a loadReversal transaction.
unload	orderId amount orderSource card	littleOnlineRequest batchrequest	The parent for the transaction type that removes funds from a Private Label Gift Card.
unloadResponse	littleTxnId orderId response responseTime postDate (online only) message fraudResult giftCardResponse	littleOnlineResponse batchResponse	The parent of a response message for an unload transaction.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
unloadReversal	littleTxnId	littleOnlineRequest batchrequest	The parent for the transaction type that reverses the unloading of a Private Label Gift Card. This transaction type is Online only.
unloadReversalResponse	littleTxnId orderId response responseTime postDate (online only) message giftCardResponse	littleOnlineResponse batchResponse	The parent of a response message for an unloadReversal transaction.
virtualGiftCard	accountNumberLength giftCardBin	activate	Parent of child elements defining the Virtual Gift Card BIN and number length.
accountNumberLength		virtualGiftCard	Defines the length of the Virtual Gift Card number. The value must be an integer between 13 and 25.
giftCardBin		virtualGiftCard	Defines the BIN of the Virtual Gift Card. The value cannot exceed 10 digits.
virtualGiftCardResponse	accountNumber cardValidationNumber	activateResponse	Parent of child elements defining the Virtual Gift Card account number and validation number.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
giftCardResponse	availableBalance beginningBalance endingBalance cashBackAmount	activateResponse deactivateResponse authorizationResponse authReversalResponse balanceInquiryResponse captureGivenAuthResponse captureResponse creditResponse deactivateResponse deactivateReversalResponse depositReversalResponse forceCaptureResponse loadResponse loadReversalResponse refundReversalResponse saleResponse unloadResponse unloadReversalResponse	Provides details about the beginning, ending, and available balance on a Gift Card, as well as the cash back amount, if applicable.
beginningBalance		giftCardResponse	Defines the funds available on the Private Label Gift Card prior to the transaction.
endingBalance		giftCardResponse	Defines the funds available on the Private Label Gift Card after the transaction.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
cashBackAmount		giftCardResponse	Defines the funds returned to the user in the form of cash.
createPlan	planCode name description intervalType amount numberOfPayments trialNumberOfIntervals trialIntervalType active	littleOnlineRequest batchrequest	The parent for the transaction type that creates payment plans.
createPlanResponse	littleTxnId response message responseTime planCode	littleOnlineResponse batchResponse	The parent of a response message for an createPlan transaction.
updatePlan	planCode active	littleOnlineRequest batchrequest	The parent for the transaction type that you use to activate/defective a Plan. Deactivating a Plan has no effect on existing Subscription that use the Plan, but prevents the use of the Plan with new subscriptions.
updatePlanResponse	littleTxnId response message responseTime planCode	littleOnlineResponse batchResponse	The parent of a response message for an updatePlan transaction.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
updateSubscription	subscriptionId planCode billToAddress card, paypage, or token billingDate createDiscount updateDiscount deleteDiscount createAddOn updateAddOn deleteAddOn	littleOnlineRequest batchrequest	The parent for the transaction that updates the subscription information associated with a recurring payment. Using this transaction type you can change the Plan, card, billing information, and/or billing date. You can also create, update, or delete a Discount and/or an Add On.
updateSubscriptionResponse	littleTxnId response message responseTime subscriptionCode tokenResponse	littleOnlineResponse batchResponse	The parent of a response message for an updateSubscription transaction.
cancelSubscription	subscriptionId	littleOnlineRequest batchrequest	The parent for the transaction that cancels a Subscription.
cancelSubscriptionResponse	subscriptionId littleTxnId response message responseTime	littleOnlineResponse batchResponse	The parent of a response message for an cancelSubscription transaction.
recurringRequest	subscription	authorization sale	The parent of several child elements that define the number of payments and plan type of recurring transaction to be handled by the Worldpay Recurring Engine.
recurringResponse	subscriptionId responseCode responseMessage	authorizationResponse saleResponse	The parent element providing information in response to a recurringRequest.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
responseCode		recurringResponse	A response code related to a recurring request.
responseMessage		recurringResponse	The text message associated with the response code.
subscription	planCode numberOfPayments startDate amount	recurringRequest	The parent of several child elements that define the number of payments and plan type of recurring transaction to be handled by the Worldpay Recurring Engine.
subscriptionId		recurringResponse cancelSubscription cancelSubscriptionResponse updateSubscription updateSubscriptionResponse	A Worldpay assigned identifier of the created Subscription.
planCode		subscription updateSubscription createPlan updatePlan updatePlanResponse	A merchant assigned code for a particular Plan.
active		createPlan updatePlan	A flag to activate or deactivate a Plan. Deactivating a Plan has no effect on existing Subscription that use the Plan, but prevents the use of the Plan with new subscriptions. Valid values are true or false.
billingDate		updateSubscription	Used to define a new date for the recurring billing when the scheduled date need to be changed.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
createDiscount	discountCode name amount startDate endDate	subscription updateSubscription	The parent element for elements that define a new Discount applied to a Subscription.
updateDiscount	discountCode name amount startDate endDate	updateSubscription	The parent element for elements that define updates to an existing Discount applied to a Subscription.
deleteDiscount	discountCode	updateSubscription	The parent element used to delete a Discount associated with a Subscription.
createAddOn	addOnCode name amount startDate endDate	subscription updateSubscription	The parent element for elements that define a new Add On applied to a Subscription.
updateAddOn	addOnCode name amount startDate endDate	updateSubscription	The parent element for elements that define updates to an existing Add On applied to a Subscription.
deleteAddOn	addOnCode	updateSubscription	The parent element used to delete an Add On associated with a Subscription.
advancedFraudChecks	threatMetrixSessionId	authorization sale	Parent of the threatMetrixSessionId element
threatMetrixSessionId		advancedFraudChecks	A unique value assigned by the merchant used to retrieve the data analysis results from by ThreatMetrix.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
advancedFraudResults	deviceReviewStatus deviceReputationScore	fraudResults	The parent of elements that provide the results of the ThreatMetrix analysis.
deviceReviewStatus		advancedFraudResults	The status resulting from the analysis of the data collected by ThreatMetrix compared to the threshold settings of the merchant profile. Possible values are: pass, fail, review, and unavailable.
deviceReputationScore		advancedFraudResults	The score resulting from a comparison of the collected data against the threshold settings of the merchant profile. Valid values are between -100 and 100.
catLevel		pos	Used only for CAT transactions, the value must be: self service .
triggeredRule		advancedFraudResults	A triggered rule is one where the threshold is exceeded. The element can appear multiple times in the response, once for each triggered rule from the ThreatMetrix policy.
fraudCheck	advancedFraudChecks		Allows you to retrieve the Advanced Fraud results without introducing a Authorization or Sale transactions
mpos	ksn formatId encryptedTrack track1Status track2Status	authorization captureGivenAuth credit forceCapture registerTokenRequest sale	Parent element for information related to Mobile POS transactions.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
ksn		mpos	Defines the key serial number returned from the encrypting device.
formatId		mpos	Define the format of the encrypted track returned from the encrypting device.
encryptedTrack		mpos	The encrypted track data.
track1Status		mpos	Indicates if the Mobile POS device read the track 1 data.
track2Status		mpos	Indicates if the Mobile POS device read the track 1 data.
wallet	walletSourceType walletSourceTypeId	authorization sale	Used to support MasterPass transactions.
walletSourceType		wallet	Defines the source of the transaction information. The only allowed value is MasterPass .
walletSourceTypeId		wallet	The Id value returned from the MasterPass service.
secondaryAmount		authorization capture credit captureGivenAuth echeckCredit echeckSale forceCapture sale	Defines the principal portion of the total amount when a convenience fee applied to the transaction by the merchant. for example, if the total charge is \$105, with the principal amount being \$100 and the convenience fee being \$5, you must use \$100 as the value for the secondaryAmount element. Supply the value in cents without a decimal point. For example, a value of 400 signifies \$4.00.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
applepay	data header signature version	authorization sale registerTokenRequest	Used, when the merchant does not decrypt the PKPaymentToken, to designate Apple Pay as the method of payment and supply the components of the PKPaymentToken.
data		applepay	The payment data dictionary, BASE64 encoded string from the PKPaymentToken.
header	applicationData ephemeralPublicKey publicKeyHash transactionId	applepay	
applicationData	header		Provides the SHA-256 hash, hex encoded string of the original PKPaymentRequest of the Apple Pay transaction.
ephemeralPublicKey	header		Provides the BASE64 Encoded string of the ephemeral public key bytes from the Apple Pay transaction.
publicKeyHash	header		Provides the BASE64 Encoded string that is a hash of the merchant's certificate public key bytes associated with the Apple Pay transaction.
transactionId	header		Provides the hexadecimal transaction identifier generated on the device for an Apple Pay transaction.
signature		applepay	The BASE64 encoded string signature of the payment and header data from the PKPaymentToken.
version		applepay	Provides version information about the payment token.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
applepayResponse	applicationPrimaryAccountNumber applicationExpirationDate currencyCode transactionAmount cardholderName deviceManufacturerIdentifier paymentDataType onlinePaymentCryptogram eciIndicator	authorizationResponse saleResponse registerTokenResponse	Includes information about the Apple Pay transaction.
applicationPrimaryAccountNumber		applepayResponse	Defines the primary account number associated with the application.
applicationExpirationDate		applepayResponse	Defines expiration date of the application primary account number.
currencyCode		applepayResponse	The 3-character code for the currency used in the transaction.
transactionAmount		applepayResponse	The amount of the transaction.
cardholderName		applepayResponse	The name of the cardholder.
deviceManufacturerIdentifier		applepayResponse	Defines the manufacturer of the device originating the transaction.
paymentDataType		applepayResponse	Specifies the data type of the payment data associated with an Apple Pay transaction.
onlinePaymentCryptogram		applepayResponse	Specifies the BASE64 Encoded signature cryptogram associated with the Apple Pay transaction.

TABLE 1-6 New Elements V8.1 to V8.31 (Continued)

New Element	Parent of	Child of	Comments
eciIndicator		applepayResponse	Specifies electronic commerce indicator associated with an Apple Pay/Google Pay transaction.
processingType		authorization captureGivenAuth forceCapture sale fraudCheck	You use this element to define a Visa transaction is intended to fund a host-based prepaid product, a brokerage account, or an escrow account. Other enum values used for card on file transactions.
networkTransactionId		authorizationResponse saleResponse	Returned in response messages for Visa, MasterCard, and Discover transactions. Store the value to use in later recurring, installment, or card on file transactions.
originalNetworkTransactionId		authorization captureGivenAuth sale	For Visa and Discover, include this element for recurring, installment, and card on file (after initial) transactions.
originalTransactionAmount		authorization captureGivenAuth sale	For Discover, include this element for recurring payments (after initial) involving network tokens. Note: Not used at this time.

Other schema changes:

- If you are enabled for American Express Advanced AVS, you can use the `customerIpAddress` element (child of `cardholderAuthentication` element) to submit the customer IP Address. At this time, American Express does not validate the IP Address.
- Merchant initiate Authorization Reversals are supported for American Express transactions.
- Three new country codes were added to the list of enumerations for the `country` element. The new codes are: BQ (Bonaire, Saint Eustatius and Saba), CW (Curacao), and SX (Dutch part of Sint Maarten).
- The `redepositCount` element was removed from the `echeckRedepositResponse`. You can determine the redeposit count via the User Interface. This element was in schema version 8.1 only. It is not listed in the table above.
- New enumeration value, `recurringtel`, added to the `orderSource` element. This enumeration is used only for eCheck recurring transactions initiated by telephone.

- The maxDigits for amount element changed from 8 to 12
- The cardNumValidation element was added to the Register Token Request transaction (registerTokenRequest).
- For CAT (Cardholder Activated Terminal) transactions, the capability element must be set to **magstripe**, the cardholderId element must be set to **nopin**, and the catLevel element must be set to **self service**.
- New enumeration for <orderSource>, echeckppd. Use this value for eCheck PPD transactions (Prearranged Payment and Deposit Entries). This type of transaction occurs when a merchants receives a written authorization, including a voided paper check, from a consumer so that the merchant can debit the consumer account. These transactions can be single entry or recurring debits to a consumer's account.
- New enumeration for <orderSource>, applepay. Use this value for Apple Pay transactions.
- Change in maxLength of the authenticationValue element - from 32 to 56 characters.
- New enumerations added to the processingType element to support recurring and installment card on file transactions. The new enumerations are: **initialRecurring**, and **initialInstallment**.
- New enumerations added to the processingType element to support card on file transactions. The new enumerations are: **initialCOF**, **merchantInitiatedCOF**, and **cardholderInitiatedCOF**.

1.2.7 Schema changes between V9.0 through V9.14

The table below includes elements added in schema version 9.x.

NOTE: Schema version 9.0 was released at the same time as version 8.27. Changes made in version 8.28 were also made in version 9.1. Also, several feature developed in the V10.x, 11.x, and 12.x streams were back ported to 9.x versions.

Version 9.5 was never made generally available.

TABLE 1-7 New Elements in V9.0 to 9.14

New Element	Parent of	Child of	Comments
payFacCredit	fundingSubmerchantId fundsTransferId amount	batchRequest	The parent element for the transaction type that a Payment Facilitator uses to distribute funds to themselves (i.e., from the PayFac Settlement Account to the PayFac Operating Account).

TABLE 1-7 New Elements in V9.0 to 9.14 (Continued)

New Element	Parent of	Child of	Comments
payFacDebit	fundingSubmerchant Id fundsTransferId amount	batchRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the PayFac Operating Account back to the PayFac Settlement Account.
submerchantCredit	fundingSubmerchant Id submerchantName fundsTransferId amount accountInfo	batchRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the PayFac Settlement Account to the Sub-merchant Account.
submerchantDebit	fundingSubmerchant Id submerchantName fundsTransferId amount accountInfo	batchRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the Sub-merchant Account to the PayFac Settlement Account.
reserveCredit	fundingSubmerchant Id fundsTransferId amount	batchRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the PayFac Settlement Account to the PayFac Reserve Account.
reserveDebit	fundingSubmerchant Id fundsTransferId amount	batchRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the PayFac Reserve Account to the PayFac Settlement Account.
fundingSubmerchant Id		payFacCredit payFacDebit submerchantCredit submerchantDebit reserveCredit reserveDebit	This specifies the identifier of the sub-merchant whose funds are moved by the instruction.

TABLE 1-7 New Elements in V9.0 to 9.14 (Continued)

New Element	Parent of	Child of	Comments
fundsTransferId		payFacCredit payFacDebit submerchantCredit submerchantDebit reserveCredit reserveDebit	This specifies the Payment Facilitator assigned identifier for the transaction. You must use unique values for each transaction across your entire organization.
submerchantName		submerchantCredit submerchantDebit	This specifies the name of the Sub-merchant.
payFacCreditResponse	littleTxnId fundsTransferId response responseTime message	batchResponse	The parent element for information returned to you in response to a payFacCredit transaction.
payFacDebitResponse	littleTxnId fundsTransferId response responseTime message	batchResponse	The parent element for information returned to you in response to a payFacDebit transaction.
submerchantCreditResponse	littleTxnId fundsTransferId response responseTime message	batchResponse	The parent element for information returned to you in response to a submerchantCredit transaction.
submerchantDebitResponse	littleTxnId fundsTransferId response responseTime message	batchResponse	The parent element for information returned to you in response to a submerchantDebit transaction.
reserveCreditResponse	littleTxnId fundsTransferId response responseTime message	batchResponse	The parent element for information returned to you in response to a reserveCredit transaction.

TABLE 1-7 New Elements in V9.0 to 9.14 (Continued)

New Element	Parent of	Child of	Comments
reserveDebitResponse	littleTxnId fundsTransferId response responseTime message	batchResponse	The parent element for information returned to you in response to a reserveDebit transaction.
echeckPreNoteCredit	orderId orderSource billToAddress echeck merchantData	batchRequest	Use this transaction type to preform an eCheck Prenotification, when the subsequent eCheck transaction will be an eCheck Credit transaction.
echeckPreNoteSale	orderId orderSource billToAddress echeck merchantData	batchRequest	Use this transaction type to preform an eCheck Prenotification, when the subsequent eCheck transaction will be an eCheck Sale transaction.
echeckPreNoteCreditResponse	littleTxnId orderId response responseTime message	batchResponse	This is the parent of the response message to an echeckPreNoteCredit transaction.
echeckPreNoteSaleResponse	littleTxnId orderId response responseTime message	batchResponse	This is the parent of the response message to an echeckPreNoteSale transaction.
physicalCheckCredit	fundingSubmerchantId fundsTransferId amount	batchRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the PayFac Settlement Account to a third party that issues physical checks on behalf of the Payment Facilitator.

TABLE 1-7 New Elements in V9.0 to 9.14 (Continued)

New Element	Parent of	Child of	Comments
physicalCheckCreditResponse	littleTxnId fundsTransferId response responseTime message	batchResponse	The parent element for information returned to you in response to a physicalCheckCredit transaction.
physicalCheckDebit	fundingSubmerchantId fundsTransferId amount	batchRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from a third party who issues physical checks on the Payment Facilitator's behalf to the PayFac Settlement Account.
physicalCheckDebitResponse	littleTxnId fundsTransferId response responseTime message	batchResponse	The parent element for information returned to you in response to a physicalCheckDebit transaction.
vendorCredit	accountInfo fundingSubmerchantId fundsTransferId amount vendorName	batchRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the PayFac Settlement Account to a Vendor account.
vendorCreditResponse	littleTxnId fundsTransferId response responseTime message	batchResponse	The parent element for information returned to you in response to a vendorCredit transaction.
vendorDebit	accountInfo fundingSubmerchantId fundsTransferId amount vendorName	batchRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from a Vendor account to the PayFac Settlement Account.

TABLE 1-7 New Elements in V9.0 to 9.14 (Continued)

New Element	Parent of	Child of	Comments
vendorDebitResponse	littleTxnId fundsTransferId response responseTime message	batchResponse	The parent element for information returned to you in response to a vendorDebit transaction.
vendorName		vendorCredit vendorDebit	Specifies the name of the vendor involved in the funding instructions
applepay		authorization sale registerTokenRequest	Used to designate Apple Pay as the method of payment.
applepayResponse	applicationPrimaryAccountNumber applicationExpirationDate currencyCode transactionAmount cardholderName deviceManufacturerIdentifier paymentDataType onlinePaymentCryptogram eciIndicator	authorizationResponse saleResponse registerTokenResponse	Includes information about the Apple Pay transaction.
applicationPrimaryAccountNumber		applepayResponse	Defines the primary account number associated with the application.
applicationExpirationDate		applepayResponse	Defines expiration date of the application primary account number.
currencyCode		applepayResponse	The 3-character code for the currency used in the transaction.
transactionAmount		applepayResponse	The amount of the transaction.
cardholderName		applepayResponse	The name of the cardholder.

TABLE 1-7 New Elements in V9.0 to 9.14 (Continued)

New Element	Parent of	Child of	Comments
deviceManufacturerIdentifier		applepayResponse	Defines the manufacturer of the device originating the transaction.
paymentDataType		applepayResponse	Specifies the data type of the payment data associated with an Apple Pay transaction.
onlinePaymentCryptogram		applepayResponse	Specifies the BASE64 Encoded signature cryptogram associated with the Apple Pay transaction.
eciIndicator		applepayResponse	Specifies electronic commerce indicator associated with an Apple Pay/Google Pay transaction.
secondaryAmount		authorization capture credit captureGivenAuth echeckCredit echeckSale forceCapture sale	Defines the principal portion of the total amount when a convenience fee applied to the transaction by the merchant. for example, if the total charge is \$105, with the principal amount being \$100 and the convenience fee being \$5, you must use \$100 as the value for the secondaryAmount element. Supply the value in cents without a decimal point. For example, a value of 400 signifies \$4.00.

TABLE 1-7 New Elements in V9.0 to 9.14 (Continued)

New Element	Parent of	Child of	Comments
customAttribute1 customAttribute2 customAttribute3 customAttribute4 customAttribute5		advancedFraudChecks	The customAttribute1 through customAttribute5 elements are an optional children of the advancedFraudChecks element. These elements allow users of Advanced Fraud Tools with self-serve rules to submit additional custom data to ThreatMetrix for inclusion in the fraud evaluation process. For example, if you assigned a certain attribute to your customers for segmentation purposes, you might wish to submit the assigned value and also establish a ThreatMetrix rule so the value was included in the evaluation.
ccdPaymentInformation		accountInfo echeck	This element is intended for use by Payment Facilitators using Instruction Based Dynamic Payout to submit a description of the transaction. The description will appear in the extended detail section of the receiver's bank statement, if that section is supported by the receiver's bank.
cardSuffix		authorizationResponse saleResponse	It provides the last four digits of the actual PAN for Apple Pay and Android Pay transactions, when the underlying card is either Visa or MasterCard.
processingType		authorization captureGivenAuth forceCapture sale	You use this element to define a Visa transaction is intended to fund a host-based prepaid product, a brokerage account, or an escrow account. Other enum values used for card on file transactions.

TABLE 1-7 New Elements in V9.0 to 9.14 (Continued)

New Element	Parent of	Child of	Comments
adroidpayResponse	cryptogram expMonth expYear	authorizationResponse registerTokenResponse saleResponse	The adroidpayResponse element is an optional child of several transaction types and is returned in response messages, when the orderSource in the request is androidpay.
cryptogram		adroidpayResponse	The cryptogram element is an optional child of the adroidpayResponse element and provides the BASE64 Encoded signature cryptogram associated with the Android Pay transaction.
expMonth		adroidpayResponse	The expMonth element is an optional child of the adroidpayResponse element, which specifies the month of expiration of the network token (format: mm).
expYear		adroidpayResponse	The expYear element is an optional child of the adroidpayResponse element, which specifies the year of expiration of the network token (format: yyyy).
pin		activateReversal capture card credit deactivateReversal depositReversal loadReversal refundReversal unloadReversal virtualGiftCardResponse	The pin element is an optional child of the several transaction types, as well as the card element. It only applies to transactions involving closed-loop Gift Cards and defines the pin number associated with the Gift Card.
eciIndicator		adroidpayResponse applepayResponse	This element was added to the adroidpayResponse element. It was already a child of applepayResponse

TABLE 1-7 New Elements in V9.0 to 9.14 (Continued)

New Element	Parent of	Child of	Comments
androidpayResponse	cryptogram expMonth expYear eciIndicator		Added eciIndicator.
sepaDirectDebit	iban mandateProvider sequenceType mandateReference mandateUrl mandateSignatureDate preferredLanguage	sale (Online only)	This new method of payment allows transactions using the Single Euro Payments Area Direct Debit network.
iban		sepaDirectDebit	The International Bank Account Number of the consumer.
mandateProvider		sepaDirectDebit	Defines whether the merchant or Worldpay supplies the mandate.
sequenceType		sepaDirectDebit	This element defines the purchase in terms of a one-time buy or a member of a recurring stream of debits. Attributes are: OneTime, FirstRecurring, SubsequentRecurring, and FinalRecurring.
mandateReference		sepaDirectDebit, sepaDirectDebitResponse	You use this element for recurring payments (after the initial transaction) to provide the reference number that links subsequent payments in a recurring stream to the mandate agreed to at the time of the initial payment. Worldpay returns this value in the sepaDirectDebitResponse associated with the initial payment.

TABLE 1-7 New Elements in V9.0 to 9.14 (Continued)

New Element	Parent of	Child of	Comments
mandateUrl		sepaDirectDebit	This element defines the URL of the mandate to which the consumer agreed, allowing the merchant to debit their account. Although optional, you should always provide this information when the value for the mandateProvider element is Merchant.
mandateSignatureDate		sepaDirectDebit	This element defines the date the consumer agreed to the mandate allowing the merchant to debit their account. Although optional, you should always provide this information when the value for the mandateProvider element is Merchant.
preferredLanguage		sepaDirectDebit ideal giropay sofort	This defines the language in which the merchant prefers the mandate to appear. While the merchant could be able to select any language, the mandate may not be available in the selected language. If the selected language is not available, the mandate appears in English. If you do not include this element, the preferred language defaults to the language indicated by the country of the IBAN, unless it is not available, in which case the language defaults to English.
sepaDirectDebitResponse	mandateReference redirectUrl redirectToken	saleResponse	This element, returned for sepaDirectDebit transactions, contains child elements you should save for future reference.

TABLE 1-7 New Elements in V9.0 to 9.14 (Continued)

New Element	Parent of	Child of	Comments
redirectUrl		sepaDirectDebitResponse idealResponse giropayResponse sofortResponse	This element defines the URL that hosts the mandate, when Worldpay supplies the mandate. If you supply the mandate (<mandateProvider>Merchant</mandateProvider>), this element will not appear in the response.
redirectToken		sepaDirectDebitResponse idealResponse giropayResponse sofortResponse	This element defines a value you can use to verify the approval of the Mandate by the consumer.
ideal	preferredLanguage	sale	This new method of payment allows transactions using the iDEAL Real-time Bank Transfers.
idealResponse	paymentPurpose redirectUrl redirectToken	saleResponse	This element, returned for ideal transactions, contains child elements you should save for future reference.
paymentPurpose		idealResponse giropayResponse sofortResponse	Specifies information (equivalent of Bill Descriptor for a credit card transaction) that appears on the consumer bank statement along with a reference string representing the transaction.
giropay	preferredLanguage	sale	This new method of payment allows transactions using the Giropay Real-time Bank Transfers.
giropayResponse	paymentPurpose redirectUrl redirectToken	saleResponse	This element, returned for giropay transactions, contains child elements you should save for future reference.
sofort	preferredLanguage	sale	This new method of payment allows transactions using the Sofort Real-time Bank Transfers

TABLE 1-7 New Elements in V9.0 to 9.14 (Continued)

New Element	Parent of	Child of	Comments
sofortResponse	paymentPurpose redirectUrl redirectToken	saleResponse	This element, returned for sofort transactions, contains child elements you should save for future reference.

Other schema changes:

- New enumeration for <orderSource>, applepay. Use this value for Apple Pay transactions.
- Change in maxLength of the authenticationValue element - from 32 to 56 characters.
- New enumeration for <orderSource>, androidpay. Use this value for Android Pay transactions.
- New enumeration for <walletSourceType>, VisaCheckout. Use this value for transactions involving the Visa Checkout service.
- The minLength for routingNum changed from 9 to 8 characters to accommodate some Canadian routing numbers.
- The version element, a child of applepay changed from 20 characters to 10 characters.
- New enumerations added to the processingType element to support recurring and installment card on file transactions. The new enumerations are: **initialRecurring**, and **initialInstallment**.
- New enumerations added to the processingType element to support card on file transactions. The new enumerations are: **initialCOF**, **merchantInitiatedCOF**, and **cardholderInitiatedCOF**.

1.2.8 Schema Changes in V10.0 to 10.8

IMPORTANT: When upgrading, all merchants using V9.x or below should upgrade to V11.x, skipping the V10.x family of releases.

The table below includes elements added in schema versions 10.0 through 10.8.

TABLE 1-8 New Elements in V10.0 through V10.8

New Element	Parent of	Child of	Comments
queryTransaction	origId origActionType origLittleTxnId origOrderId origAccountNumber	littleOnlineRequest	You use this transaction type to determine the status of a previously submitted transaction. You can submit this element only as an Online transaction.

TABLE 1-8 New Elements in V10.0 through V10.8 (Continued)

New Element	Parent of	Child of	Comments
origId		queryTransaction	The origId element is a required child of the queryTransaction element and defines the id attribute used in the original transaction.
origActionType		queryTransaction	The origActionType element is a required child of the queryTransaction element and defines the transaction type of original transaction. Please refer to the <i>Worldpay eComm cnpAPI Reference Guide</i> for a list of the allowed values.
origLittleTxnId		queryTransaction	The origLittleTxnId element is an optional child of the queryTransaction element and defines the value of the littleTxnId element assigned to the original transaction and returned in the response message.
origOrderId		queryTransaction	The origOrderId element is an optional child of the queryTransaction element and defines the merchant-assigned value for the orderId element submitted in the original transaction.
origAccountNumber		queryTransaction	The origAccountNumber element is an optional child of the queryTransaction element and defines the account number of the credit/debit/gift card used in the original transaction.
queryTransactionResponse	response responseTime message matchCount results_Max10	littleOnlineResponse	The parent element for the response to queryTransaction requests.

TABLE 1-8 New Elements in V10.0 through V10.8 (Continued)

New Element	Parent of	Child of	Comments
matchCount		queryTransactionResponse	The matchCount element is a required child of the queryTransactionResponse element and defines the number of found transactions that matched the criteria submitted in the queryTransaction.
results_Max10	activateResponse activateReversalResponse authorizationResponse captureResponse creditResponse deactivateResponse depositReversalResponse echeckCreditResponse echeckSalesResponse loadResponse loadReversalResponse refundReversalResponse saleResponse unloadResponse unloadReversalResponse voidResponse queryTransactionUnavailableResponse	queryTransactionResponse	<p>The results_Max10 element is a required child of the queryTransactionResponse. Any original transaction responses that match the criteria submitted in the queryTransaction appear as children of this element in the response. The system can return a maximum of ten responses as children of the results_Max10 element. The value for the matchCount element reflects the number of found transactions.</p> <p>If the system does not find any transactions matching the query criteria, the results_Max10 element will be empty.</p> <p>If the query results is a response code of 152 - Transaction found, but response not yet available, the results_Max10 element will contain at least one queryTransactionUnavailableResponse child and may contain other found responses.</p>
cardSuffix		authorizationResponse saleResponse	It provides the last four digits of the actual PAN for Apple Pay and Android Pay transactions, when the underlying card is either Visa or MasterCard.

TABLE 1-8 New Elements in V10.0 through V10.8 (Continued)

New Element	Parent of	Child of	Comments
processingType		authorization captureGivenAuth forceCapture sale	You use this element to define a Visa transaction is intended to fund a host-based prepaid product, a brokerage account, or an escrow account.
androidpayResponse	cryptogram expMonth expYear	authorizationResponse registerTokenResponse saleResponse	The androidpayResponse element is an optional child of several transaction types and is returned in response messages, when the orderSource in the request is androidpay.
cryptogram		androidpayResponse	The cryptogram element is an optional child of the androidpayResponse element and provides the BASE64 Encoded signature cryptogram associated with the Android Pay transaction.
expMonth		androidpayResponse	The expMonth element is an optional child of the androidpayResponse element, which specifies the month of expiration of the network token (format: mm).
expYear		androidpayResponse	The expYear element is an optional child of the androidpayResponse element, which specifies the year of expiration of the network token (format: yyyy).

TABLE 1-8 New Elements in V10.0 through V10.8 (Continued)

New Element	Parent of	Child of	Comments
customIdendifier		payFacCredit payFacDebit physicalCheckCredit physicalCheckDebit submerchantCredit submerchantDebit reserveCredit reserveDebit VendorCredit VendorDebit	Payment Facilitators can use this element to specify a Billing Descriptor to appear on the bank statements of the parties involved in the funds transfer. The information you provide in this element populates the Individual ID field of the ACH Record. The use of this field and its appearance on bank statements is at the discretion of the bank producing the statement.
networkResponse	endpoint networkField	enhancedAuthResponse	Child elements provide a number of data points returned by the card networks in their ISO 8583 response messages.
endpoint		networkResponse	It defines the card network acting as an endpoint for the submitted transaction.
networkField	fieldValue networkSubField	networkResponse	Its attributes and child elements define the Field Number, Field Name, (Raw) Field Value, as well as any Sub-fields, if applicable. Attributes are <code>fieldName</code> and <code>fieldNumber</code> .
fieldValue		networkField networkSubField	This element provides the raw data for the designated field, extracted from the network ISO 8583 response message.
networkSubField	fieldValue	networkField	This element provides the raw subfield data returned by the card networks in their ISO 8583 response messages. Attribute is <code>fieldNumber</code> .

TABLE 1-8 New Elements in V10.0 through V10.8 (Continued)

New Element	Parent of	Child of	Comments
fundingInstructionVoid	littleTxnId	batchRequest	A transaction type that allows you to void an unsettled Dynamic Payout Funding Instruction.
fundingInstructionVoidResponse	littleTxnId fundsTransferId response responseTime message	batchResponse	The response message to a fundingInstructionVoid request.
sepaDirectDebit	iban mandateProvider sequenceType mandateReference mandateUrl mandateSignatureDate preferredLanguage	sale (Online only)	This new method of payment allows transactions using the Single Euro Payments Area Direct Debit network.
iban		sepaDirectDebit	The International Bank Account Number of the consumer.
mandateProvider		sepaDirectDebit	Defines whether the merchant or Worldpay supplies the mandate.
sequenceType		sepaDirectDebit	This element defines the purchase in terms of a one-time buy or a member of a recurring stream of debits. Attributes are: OneTime, FirstRecurring, SubsequentRecurring, and FinalRecurring.

TABLE 1-8 New Elements in V10.0 through V10.8 (Continued)

New Element	Parent of	Child of	Comments
mandateReference		sepaDirectDebit, sepaDirectDebitResponse	You use this element for recurring payments (after the initial transaction) to provide the reference number that links subsequent payments in a recurring stream to the mandate agreed to at the time of the initial payment. Worldpay returns this value in the sepaDirectDebitResponse associated with the initial payment.
mandateUrl		sepaDirectDebit	This element defines the URL of the mandate to which the consumer agreed, allowing the merchant to debit their account. Although optional, you should always provide this information when the value for the mandateProvider element is Merchant.
mandateSignatureDate		sepaDirectDebit	This element defines the date the consumer agreed to the mandate allowing the merchant to debit their account. Although optional, you should always provide this information when the value for the mandateProvider element is Merchant.

TABLE 1-8 New Elements in V10.0 through V10.8 (Continued)

New Element	Parent of	Child of	Comments
preferredLanguage		sepaDirectDebit	This defines the language in which the merchant prefers the mandate to appear. While the merchant could be able to select any language, the mandate may not be available in the selected language. If the selected language is not available, the mandate appears in English. If you do not include this element, the preferred language defaults to the language indicated by the country of the IBAN, unless it is not available, in which case the language defaults to English.
sepaDirectDebitResponse	mandateReference rediredtUrl redirectToken	saleResponse	This element, returned for sepaDirectDebit transactions, contains child elements you should save for future reference.
rediredtUrl		sepaDirectDebitResponse	This element defines the URL that hosts the mandate, when Worldpay supplies the mandate. If you supply the mandate (<mandateProvider>Merchant</mandateProvider>), this element will not appear in the response.
redirectToken		sepaDirectDebitResponse	This element defines a value you can use to verify the approval of the Mandate by the consumer.
networkTransactionId		authorizationResponse saleResponse	Returned in response messages for Visa, MasterCard, and Discover transactions. Store the value to use in later recurring, installment, or card on file transactions.

TABLE 1-8 New Elements in V10.0 through V10.8 (Continued)

New Element	Parent of	Child of	Comments
originalNetworkTransactionId		authorization captureGivenAuth sale	For Visa and Discover, include this element for recurring, installment, and card on file (after initial) transactions.
originalTransactionAmount		authorization captureGivenAuth sale	For Discover, include this element for recurring payments (after initial) involving network tokens. Note: Not used at this time.
eciIndicator		androidpayResponse applepayResponse	This element was added to the androidpayResponse element. It was already a child of applepayResponse
orderId		accountUpdateResponse	This element, which was removed in V10.0, has been added back to the response message.

Other schema changes:

- The `id` attribute, which was optional, is now required.
- The `duplicate` attribute, used to indicate a duplicate Online transaction, has been removed. If the system determines a transaction to be a duplicate, The duplicate transactions appears in the Declined Transaction report with a Response Reason Code of 251 - Duplicate Transaction. You can access this report in Worldpay eComm iQ or via the Worldpay eComm Secure Scheduled Report.s The iQ version provides information in near real-time, while the SSR version runs daily, providing information for the transactions submitted the previous day.
- The `orderId` element has been removed from all response messages EXCEPT the Authorization Response and the Sale Response.
- There is a new (Online only) transaction type: `queryTransaction`. The Status Query Transaction allows you to verify that an Online transaction submitted within the prior six hours exists in the system. The response will be one of the following:
 - A single transaction matching the search criteria
 - Multiple transactions matching the search criteria
 - Empty results, if no transactions matched the criteria
 - A limited response, if a transaction was found, but processing was not complete

As search criteria, you must submit, at a minimum, the `id` (`id` attribute) and transaction type (i.e., authorization, deposit, void, etc.) of the original transaction, but to narrow the search, you can also include the transaction `id`, order `id`, and the account number (credit, debit, or gift card) from the original transaction. The response message contains one of four response codes, 150 through 153

(see Payment Transaction Response Codes in the *Worldpay eComm cnpAPI Reference Guide*), and the results for the search.

NOTE: Aside from the structural differences noted above, please note that most transactions will return a Reason Code of 001 - Transaction Received in the response messages. You will need to pick-up the Declined Transaction Report from SSR, to determine the transactions declined the previous day. This report is also available in Worldpay eComm iQ.

- Added new Response Codes, 901 through 905, associated with the SEPA Direct Debit method of payment.
- A new enum, **VisaCheckout**, was added to the `walletSourceType` element for use when the transaction involves Visa Checkout.
- A new enum, **androidpay**, was added to the `orderSource` element for use when the transaction involves Android Pay.
- Add two new enumerations for `processingType` element: **initialRecurring** and **initialInstallment**. The new enumerations are related to the use of `networkTransactionId`, `originalNetworkTransactionId` and `originalTransactionAmount` elements for Visa transaction involving network tokens.
- New enumerations added to the `processingType` element to support card on file transactions. The new enumerations are: **initialCOF**, **merchantInitiatedCOF**, and **cardholderInitiatedCOF**.
- The `minLength` for `routingNum` changed from 9 to 8 characters to accommodate some Canadian routing numbers.

1.2.9 Schema Changes in V11.0 through V11.4

The V11.x schema include all functionality available in V10.x, as well as several features/capabilities added to V9.x, but not V10.x (e.g., ideal and giro pay).

For all 11.x family of schema, the `id` attribute is required. Linked transactions (i.e., transactions that use the `littleTxnId` to reference the parent transaction) no longer return a response code of 001 - Transaction Received in the XML response message, as they did in V10.x. You receive either a 000 - Approved or a decline code, but you must still either pick-up the Declined Transaction SSR report, or view the Declined transaction report in the eComm iQ to determine the final disposition of the approved transactions.

The table below includes elements added in schema version 11.0.

TABLE 1-9 New Elements in V11.0 through V11.4

New Element	Parent of	Child of	Comments
giftCardAuthReversal	card originalRefCode originalAmount originalTxnTime originalSystemTraceId originalSequenceNumber littleTxnId	littleOnlineRequest batchRequest	Used for Gift Card Auth Reversals
originalRefCode		activateReversal deactivateReversal depositReversal giftCardAuthReversal giftCardCapture loadReversal refundReversal unloadReversal	Used to link reversal or capture transaction to original Gift Card transaction.
originalAmount		activateReversal deactivateReversal depositReversal giftCardAuthReversal giftCardCapture loadReversal refundReversal unloadReversal	Used to link reversal or capture transaction to original Gift Card transaction.

TABLE 1-9 New Elements in V11.0 through V11.4 (Continued)

New Element	Parent of	Child of	Comments
originalTxnTime		activateReversal deactivateReversal depositReversal giftCardAuthReversal giftCardCapture loadReversal refundReversal unloadReversal	Used to link reversal or capture transaction to original Gift Card transaction.
originalSystemTraceId		activateReversal deactivateReversal depositReversal giftCardAuthReversal loadReversal refundReversal unloadReversal	Used to link reversal transaction to original Gift Card transaction.
originalSequenceNumber		activateReversal deactivateReversal depositReversal giftCardAuthReversal loadReversal refundReversal unloadReversal	Used to link reversal or capture transaction to original Gift Card transaction.
giftCardAuthReversalResponse	littleTxnId response responseTime message giftCardResponse postDate	littleOnlineResponse batchResponse	Response to a giftCardAuthReversal transaction.

TABLE 1-9 New Elements in V11.0 through V11.4 (Continued)

New Element	Parent of	Child of	Comments
giftCardCapture	card captureAmount originalRefCode originalAmount originalTxnTime littleTxnId	littleOnlineRequest batchRequest	Used for Gift Card Captures
captureAmount		giftCardCapture	Specifies the amount to capture.
giftCardCaptureResponse	littleTxnId response responseTime message giftCardResponse postDate fraudResult	littleOnlineResponse batchResponse	Response to a giftCardCapture transaction.
giftCardCredit	card creditAmount littleTxnId orderSource orderId	littleOnlineRequest batchRequest	Used for Gift Card Credits
captureCredit		giftCardCredit	Specifies the amount to credit.
giftCardCreditResponse	littleTxnId response responseTime message giftCardResponse postDate fraudResult	littleOnlineResponse batchResponse	Response to a giftCardCredit transaction.

TABLE 1-9 New Elements in V11.0 through V11.4 (Continued)

New Element	Parent of	Child of	Comments
giftCardResponse	availableBalance refCode systemTraceId sequenceNumber beginningBalance endingBalance cashBackAmount Note: Although shown in the schema, beginningBalance, endingBalance, and cashBackAmount are not supported currently.	activateResponse deactivateResponse authorizationResponse giftCardAuthReversalResponse balanceInquiryResponse captureGivenAuthResponse giftCardCaptureResponse giftCardCreditResponse deactivateResponse deactivateReversalResponse depositReversalResponse forceCaptureResponse loadResponse loadReversalResponse refundReversalResponse saleResponse unloadResponse unloadReversalResponse	Provides details about the beginning, ending, and available balance on a Gift Card, as well as the cash back amount, if applicable. Note: this element already existed in the schema. In this release, refCode, systemTraceId, and sequenceNumber were added.
refCode		giftCardResponse	Specifies the authorization code of the gift Card transaction.
systemTraceId		giftCardResponse	Specifies a Worldpay generated identifier associated with the transaction in our systems. Retain for possible use in reversal transactions.

TABLE 1-9 New Elements in V11.0 through V11.4 (Continued)

New Element	Parent of	Child of	Comments
sequenceNumber		giftCardResponse	Specifies a Worldpay generated sequence number associated with the transaction in our systems. Retain for possible use in reversal transactions.
checkoutId		token	Specifies a low value token, replacing the CVV value.
sameDayFunding (attribute)		batchRequest	New attribute (boolean) for use by Payment Facilitators using Dynamic Payout and enabled for Same Day Funding. A value of True indicates the desire for same day funding of the funding instructions in the Batch.
orderId		accountUpdateResponse	This element, which was removed in V10.0 and above, has been added back to the response message.
sameDayFunding (attribute)		littleOnlineRequest	New attribute (boolean) for use by Payment Facilitators using Dynamic Payout and enabled for Same Day Funding. A value of True indicates the desire for same day funding of the funding instruction.
payFacCredit	fundingSubmerchantId fundsTransferId amount	littleOnlineRequest	The parent element for the transaction type that a Payment Facilitator uses to distribute funds to themselves (i.e., from the PayFac Settlement Account to the PayFac Operating Account).

TABLE 1-9 New Elements in V11.0 through V11.4 (Continued)

New Element	Parent of	Child of	Comments
payFacDebit	fundingSubmerchant Id fundsTransferId amount	littleOnlineRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the PayFac Operating Account back to the PayFac Settlement Account.
submerchantCredit	fundingSubmerchant Id submerchantName fundsTransferId amount accountInfo customIdentifier	littleOnlineRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the PayFac Settlement Account to the Sub-merchant Account.
submerchantDebit	fundingSubmerchant Id submerchantName fundsTransferId amount accountInfo customIdentifier	littleOnlineRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the Sub-merchant Account to the PayFac Settlement Account.
reserveCredit	fundingSubmerchant Id fundsTransferId amount	littleOnlineRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the PayFac Settlement Account to the PayFac Reserve Account.
reserveDebit	fundingSubmerchant Id fundsTransferId amount	littleOnlineRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the PayFac Reserve Account to the PayFac Settlement Account.

TABLE 1-9 New Elements in V11.0 through V11.4 (Continued)

New Element	Parent of	Child of	Comments
payFacCreditResponse	littleTxnId fundsTransferId response responseTime postDate message	littleOnlineResponse	The parent element for information returned to you in response to a payFacCredit transaction.
payFacDebitResponse	littleTxnId fundsTransferId response responseTime postDate message	littleOnlineResponse	The parent element for information returned to you in response to a payFacDebit transaction.
submerchantCreditResponse	littleTxnId fundsTransferId response postDate responseTime message	littleOnlineResponse	The parent element for information returned to you in response to a submerchantCredit transaction.
submerchantDebitResponse	littleTxnId fundsTransferId response responseTime postDate message	littleOnlineResponse	The parent element for information returned to you in response to a submerchantDebit transaction.
reserveCreditResponse	littleTxnId fundsTransferId response responseTime postDate message	littleOnlineResponse	The parent element for information returned to you in response to a reserveCredit transaction.

TABLE 1-9 New Elements in V11.0 through V11.4 (Continued)

New Element	Parent of	Child of	Comments
reserveDebitResponse	littleTxnId fundsTransferId response responseTime postDate message	littleOnlineResponse	The parent element for information returned to you in response to a reserveDebit transaction.
physicalCheckCredit	fundingSubmerchantId fundsTransferId amount	littleOnlineRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the PayFac Settlement Account to a third party that issues physical checks on behalf of the Payment Facilitator.
physicalCheckCreditResponse	littleTxnId fundsTransferId response responseTime postDate message	littleOnlineResponse	The parent element for information returned to you in response to a physicalCheckCredit transaction.
physicalCheckDebit	fundingSubmerchantId fundsTransferId amount	littleOnlineRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from a third party who issues physical checks on the Payment Facilitator's behalf to the PayFac Settlement Account.
physicalCheckDebitResponse	littleTxnId fundsTransferId response responseTime postDate message	littleOnlineResponse	The parent element for information returned to you in response to a physicalCheckDebit transaction.

TABLE 1-9 New Elements in V11.0 through V11.4 (Continued)

New Element	Parent of	Child of	Comments
vendorCredit	accountInfo fundingSubmerchantId fundsTransferId amount vendorName	litleOnlineRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from the PayFac Settlement Account to a Vendor account.
vendorCreditResponse	litleTxnId fundsTransferId response responseTime postDate message	litleOnlineResponse	The parent element for information returned to you in response to a vendorCredit transaction.
vendorDebit	accountInfo fundingSubmerchantId fundsTransferId amount vendorName	litleOnlineRequest	The parent element for the transaction type that a Payment Facilitator uses to move funds from a Vendor account to the PayFac Settlement Account.
vendorDebitResponse	litleTxnId fundsTransferId response responseTime postDate message	litleOnlineResponse	The parent element for information returned to you in response to a vendorDebit transaction.
fundingInstructionVoid	litleTxnId	litleOnlineRequest	A transaction type that allows you to void an unsettled Dynamic Payout Funding Instruction.
fundingInstructionVoidResponse	litleTxnId fundsTransferId response responseTime postDate message	litleOnlineResponse	The response message to a fundingInstructionVoid request.

TABLE 1-9 New Elements in V11.0 through V11.4 (Continued)

New Element	Parent of	Child of	Comments
fastAccessFunding	fundingSubmerchantId submerchantName fundsTransferId amount (choice) card, token, or paypage	litleOnlineRequest	A Dynamic Payout transaction type that allows funds transfer to certain debit cards within 30 minutes.
fastAccessFundingResponse	litleTxnId fundsTransferId response responseTime postDate message tokenResponse (if applicable)	litleOnlineResponse	The response message to a fastAccessFunding request.

- The max length of the id attribute changed from 25 characters to 36 characters.
- The version element, a child of appleyay changed from 20 characters to 10 characters.
- Dynamic Payout Funding Instructions, which were Batch only, are now available as Online transactions.
- New enumerations added to the processingType element to support recurring and installment card on file transactions. The new enumerations are: **initialRecurring**, and **initialInstallment**.
- New enumerations added to the processingType element to support card on file transactions. The new enumerations are: **initialCOF**, **merchantInitiatedCOF**, and **cardholderInitiatedCOF**.

1.2.10 Schema Changes in V12.0 through V12.12

The table below includes elements added in schema versions 12.0 through 12.12.

TABLE 1-10 New Elements in V12.0 through V12.12

New Element	Parent of	Child of	Comments
pinlessDebitResponse	networkName	sale	

TABLE 1-10 New Elements in V12.0 through V12.12 (Continued)

New Element	Parent of	Child of	Comments
networkName		pinlessDebitResponse	The networkName element defines the Debit Network through which Worldpay processed the transaction. This element appears only if you use the Worldpay Prime PINless Debit service and Worldpay routed the transaction through a Debit Network for approval.
pinlessDebitRequest	routingPreference preferredDebitNetworks	sale	You can use this element up to 12 times in a transaction to designate a list of preferred debit networks in priority order. The use of this element applies only to merchants using the Prime - PINless Debit Routing service.
routingPreference		pinlessDebitRequest	<p>Defines the merchant preference for the routing of this transaction. Possible values are:</p> <ul style="list-style-type: none"> • pinlessDebitOnly • signatureOnly • regular <p>The use of this element applies only to merchants using the Prime - PINless Debit Routing service.</p>

TABLE 1-10 New Elements in V12.0 through V12.12 (Continued)

New Element	Parent of	Child of	Comments
preferredDebitNetworks	debitNetworkName	pinlessDebitRequest	Contains a repeatable child element (up to 12 times) that allows you to specify the preferred debit network or networks for processing this transaction. The use of this element applies only to merchants using the Prime - PINless Debit Routing service.
debitNetworkName		preferredDebitNetworks	The name(s) of the preferred debit network(s). You can include up to 12 names.
accountRangeId		registerTokenResponse enhancedAuthResponse	A Worldpay assigned value representing the account range of the card used in the transaction.
paymentAccountReferenceNumber		authorizationResponse saleResponse	The value, assigned by the card network, is a constant correlation value that represents the cardholder account regardless of updated account numbers or reissued cards. Worldpay always returns the value, when the applicable card network makes it available.
eventType		fraudCheck	Defines the type of event occurring. Enum values are: <ul style="list-style-type: none"> • payment • login • account_creation • details_changes
accountLogin		fraudCheck	Define the account login name.

TABLE 1-10 New Elements in V12.0 through V12.12 (Continued)

New Element	Parent of	Child of	Comments
accountPasshash		fraudCheck	Defines the SHA-2 hash of the password in hexadecimal format. Depending on the hash algorithm, the value must be either 128, 96, 64, or 56 characters.
disbursementType		fastAccessFunding	Describes the funds disbursement associated with the transaction. If you do not include this element, the value defaults to VMD, Merchant Disbursement. See the cnpAPI Guide for a complete list of enum values.
translateToLowValueTokenRequest	orderId token	cnpOnlineRequest batchRequest	A transaction type used to generate a low value token for a submitted high value token.
translateToLowValueTokenResponse	orderId paypageRegistrationId response message responseTime	cnpOnlineResponse batchResponse	Response message for a translateToLowValueTokenRequest.

TABLE 1-10 New Elements in V12.0 through V12.12 (Continued)

New Element	Parent of	Child of	Comments
lodgingInfo	hotelFolioNumber checkInDate checkOutDate duration customerServicePhone programCode roomRate roomTax numAdults propertyLocalPhone fireSafetyIndicator lodgingCharge	authorization capture captureGivenAuth credit forceCapture sale	Defines a number of lodging related data points that, when submitted, can result in a more favorable interchange rate.
hotelFolioNumber		lodgingInfo	Defines customer folio number from your system.
checkInDate		lodgingInfo	The date the customer checked in.
checkOutDate		lodgingInfo	The date the customer checked out.
duration		lodgingInfo	Defines the number of nights the guest stays (or plans to stay) at the facility. Note: For Discover it is: # nights * # rooms.
customerServicePhone		lodgingInfo	Defines customer service number of the facility
programCode		lodgingInfo	Enum values: <ul style="list-style-type: none"> • LODGING • NOSHOW • ADVANCED DEPOSIT
roomRate		lodgingInfo	Defines the per day room charges exclusive of any taxes and fees.

TABLE 1-10 New Elements in V12.0 through V12.12 (Continued)

New Element	Parent of	Child of	Comments
roomTax		lodgingInfo	Defines the per day room tax.
numAdults		lodgingInfo	Defines the total number of adult guests staying (or planning to stay) at the facility (i.e., all booked rooms).
propertyLocalPhone		lodgingInfo	Defines local phone number of the facility. For a MasterCard transaction, you must include a value for this element to achieve better interchange rates.
fireSafetyIndicator		lodgingInfo	Defines whether or not the facility conforms to the requirements of the Hotel and Motel Fire Safety Act of 1990, or similar legislation.
lodgingCharge	name	lodgingInfo	Through its child element, defines the type of additional charges associated with the stay of the guest. You can include this element a maximum of six times in a transaction.
name		lodgingCharge	Defines the type of additional charges associated with the stay of the guest. Enum values are: <ul style="list-style-type: none"> • RESTAURANT • GIFTSHOP • MINIBAR • TELEPHONE • LAUNDRY • OTHER

TABLE 1-10 New Elements in V12.0 through V12.12 (Continued)

New Element	Parent of	Child of	Comments
encryptionKeyId		registerTokenRequest	The Id of the encryption key used to encrypt the account number and/or validation number.
encryptedAccountNumber		registerTokenRequest	The encrypted account number.
encryptedCardValidationNum		registerTokenRequest	The encrypted card validation number.
ctxPaymentInformation (Batch transactions only)	ctxPaymentDetail	accountInfo	You can use this element to submit a description of certain Instruction Based Dynamic Payout transactions (Sub-merchant Debit/Credit or Vendor Debit/Credit). You define the content using the ctxPaymentDetail child element. The information appears in the extended detail section of the receiver's bank statement, if supported by the receiving bank.
ctxPaymentDetail		ctxPaymentInformation	The description of the Sub-merchant Debit/Credit or Vendor Debit/Credit transaction. The information appears in the extended detail section of the receiver's bank statement, if supported by the receiving bank.

TABLE 1-10 New Elements in V12.0 through V12.12 (Continued)

New Element	Parent of	Child of	Comments
tokenUrl		token, updatedToken, originalToken	You use it to submit the token URL value when submitting an Account Updater request (Batch only) via Access Worldpay. This value must use the following pattern: http.?:/*.*
fundingCustomerId		fastAccessFunding, physicalCheckCredit, physicalCheckDebit, reserveCredit, reserveDebit	Added to all merchant use of Dynamic Payout.
customerCredit	fundingCustomerId, customerName, fundsTransferId, amount, accountInfo, customIdentifier	batchRequest	New transaction type for merchants using Dynamic Payout.
customerCreditResponse	cnpTxnId, fundsTransferId, response, responseTime (Online only), postDate, message	batchResponse	New transaction type for merchants using Dynamic Payout.
customerDebit	fundingCustomerId, customerName, fundsTransferId, amount, accountInfo, customIdentifier	batchRequest	New transaction type for merchants using Dynamic Payout.
customerDebitResponse	cnpTxnId, fundsTransferId, response, responseTime (Online only), postDate, message	batchResponse	New transaction type for merchants using Dynamic Payout.
payoutOrgCredit	fundingCustomerId, fundsTransferId, amount	batchRequest, cnpOnlineRequest	New transaction type for merchants using Dynamic Payout.
payoutOrgCreditResponse	cnpTxnId, fundsTransferId, response, responseTime (Online only), postDate, message	batchResponse, cnpOnlineResponse	New transaction type for merchants using Dynamic Payout.

TABLE 1-10 New Elements in V12.0 through V12.12 (Continued)

New Element	Parent of	Child of	Comments
payoutOrgDebit	fundingCustomerId, fundsTransferId, amount	batchRequest, cnpOnlineRequest	New transaction type for merchants using Dynamic Payout.
payoutOrgDebitResponse	cnpTxnId, fundsTransferId, response, responseTime (Online only), postDate, message	batchResponse, cnpOnlineResponse	New transaction type for merchants using Dynamic Payout.
skipRealtimeAU		authorization, sale	Setting this element to true allows you to skip any real-time account updates on the submitted transaction.
accountUpdateSource		accountUpdater	Used to indicate if the source of the update information is real-time (R) or non-real-time update from cache (N).
authenticationProtocolVersion		cardholderAuthentication	Used to indicate if the authentication used 3DS1 or 3DS2.
merchantCategoryCode		authorization, captureGivenAuth, credit, forceCapture, sale	Used to dynamically set the MCC on a per transaction basis.
locaton		cnpOnlineResponse	Provides the processing location for merchants using Hot-Hot.

- New enumerations added to the processingType element to support recurring and installment card on file transactions. The new enumerations are: **initialRecurring**, and **initialInstallment**.
- New enumerations added to the processingType element to support card on file transactions. The new enumerations are: **initialCOF**, **merchantInitiatedCOF**, and **cardholderInitiatedCOF**.
- The Submerchant Credit/Debit and Vendor Credit/Debit transactions moved from the cnpTransaction schema to both the cnpOnline and cnpBatch transaction schema files. This was done to accommodate the use of the ctxPaymentInformation element, which is Batch only.
- To accommodate 3DS2, the authenticationTransactionId changed from a Base 64 encoded item to a string. Also, the maxLength changed from 28 to 36.