Vantiv
PayPal Integration Guide

September 2014

XML Release: 8.27

Document Version: 4.0

Vantiv PayPal Integration Guide Document Version: 4.0

CONTENTS

About This Guide

This guide describes how to integrate PayPal as a payment method with your Vantiv implementation.

Intended Audience

This document is intended for technical personnel who will be setting up and maintaining your payment processing system.

This document assumes the following:

- You are planning to or are already processing with Vantiv
- You understand PayPal basics, and you are able to plan and code your own merchant-level PayPal requirements such as UI modifications, shopping carts, etc. For information about PayPal transaction processing, API structuring, etc., see the documents listed in "PayPal Technical Documentation" on page vii.

Revision History

This document has been revised as follows:

TABLE 1 Document Revision History

Doc. Version	Description	Location(s)
1.0	Initial version	All
2.0	Added a diagram and topic on "Closing a PayPal Order"	Page 14
2.2	Reformatted and restructured entire guide; added new chapter containing PayPal XML elements, removed Chapter on PayPal Service Marks; added more XML examples.	All
3.0	Complete Revision	All

TABLE 1 Document Revision History (Continued)

Doc. Version	Description	Location(s)
3.1	Removed namespace (xmlns) attribute from all Response examples. This hasn't been used since schema version 7.0.	Chapter 3
3.2	Added new response codes (613-628) to reflect changes in LitleXML schema version 8.6.	Appendix A
3.3	Added information on a new response code (629) that was left out of the previous document version.	Appendix A
3.4	Changed 'Relationship Manager' references to 'Customer Experience Manager;' updated some links to PayPal documentation; added information on where to find the PayPal Acceptable Use Policy.	All
4.0	Re-branded the entire guide to reflect the Litle-Vantiv merger.	All
	Updated to LitleXML 8.27.	Chapter 3 and 4

Document Structure

This manual contains the following sections:

Chapter 1, "Introduction"

This chapter provides an overview of PayPal and describes the necessary steps to prepare for PayPal processing.

Chapter 2, "PayPal and LitleXML Transaction Flows"

This chapter describes the PayPal API and LitleXML transactions flows.

Chapter 3, "LitleXML PayPal Transaction Examples"

This chapter contains examples of how to structure LitleXML requests for PayPal transactions.

Chapter 4, "LitleXML PayPal Elements"

This chapter provides definitions for the elements used in the LitleXML for PayPal Transactions.

Appendix A, "PayPal Response Codes"

This appendix contains PayPal response codes and their associated messages.

Documentation Set

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

- *Vantiv LitleXML Reference Guide*
- *Vantiv Chargeback API Reference Guide*
- *Vantiv Chargeback Process Guide*
- *Vantiv PayPal Credit Integration Guide*
- *Vantiv PayFac API Reference Guide*
- *Vantiv PayFac Portal User Guide*
- *Vantiv PayPage Integration Guide*
- *Vantiv LitleXML Differences Guide*
- *Vantiv Scheduled Secure Reports Reference Guide*
- *Vantiv Chargeback XML and Support Documentation API Reference Guide* **(Legacy)**
- *Vantiv Virtual Terminal User Guide* **(Legacy)**

PayPal Technical Documentation

See the following PayPal Technical documents for information on integrating PayPal.

- *PayPal Express Checkout Integration Guide:*

https://www.x.com/sites/default/files/pp_expresscheckout_integrationguide.pdf

- *PayPal Express Checkout User Interface Standards:*

https://cms.paypal.com/cms_content/US/en_US/files/developer/PP_ECPlacement_Guide.pdf

- *PayPal Billing Agreement APIs for Reference Transactions:*

https://cms.paypal.com/cms_content/US/en_US/files/developer/PP_LRD_BillingAgreementAPI.pdf

- *PayPal SOAP API Developer Reference:*

https://www.x.com/sites/default/files/pp_expresscheckout_integrationguide.pdf

- *PayPal Name-Value Pair API Developer Guide:*

https://www.x.com/sites/default/files/pp_nvpapi_developerguide.pdf

- *PayPal Sandbox User Guide:*

https://www.x.com/sites/default/files/pp_sandbox_userguide.pdf

- *Requesting an API Certificate:*

https://cms.paypal.com/us/cgi-bin/?cmd=_render-content&content_ID=developer/apicertificates

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: • 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.
Italicized text	Italic type in text indicates the name of referenced external document.
blue text	Blue text indicates either a hypertext link or an element name (in XML examples).
`monospaced text`	Used in code examples and elsewhere to designate field/element names.

Contact Information

This section provides contact information for organizations within Vantiv.

Implementation - For certification and technical issues concerning your implementation of LitleXML. You can call your assigned Vantiv Implementation Consultant or e-mail to the address below.

Implementation Department Contact Information

E-mail	implementation@litle.com
Hours Available	Monday – Friday, 8:30 a.m.–5:30 p.m. EST

Technical Support - For technical issues such as file transmission errors, e-mail Technical Support. A Technical Support Representative will contact you within 15 minutes to resolve the problem.

Technical Support Contact Information

E-mail	support@litle.com
Hours Available	24/7 (seven days a week, 24 hours a day)

Account Management - For non-technical issues, including questions concerning the user interface, help with passwords, modifying merchant details, and changes to user account permissions, contact the Account Management Department.

Account Management Contact Information

Telephone	978-275-6500 (option 3)
E-mail	customerservice@litle.com
Hours Available	Monday – Friday, 8:30 a.m.–5:30 p.m. EST

Chargebacks - For business-related issues, including questions regarding financial transactions and documentation regarding chargeback cases, contact the Chargebacks Department.

Chargebacks Department Contact Information

Telephone	978-275-6500 (option 4)
E-mail	chargebacks@litle.com
Hours Available	Monday – Friday, 8:30 a.m.–5:30 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.

Technical Publications Contact Information

E-mail	TechPubs@litle.com

1

INTRODUCTION

This chapter introduces PayPal, an alternative payment method, and describes how to integrate PayPal payments along with your Vantiv transactions. This chapter contains the following sections:

1.1 PayPal Overview

PayPal is an alternative payment option optimized for Internet merchants that you can offer customers during the order process. At checkout, customers authenticate themselves with PayPal using their PayPal login and password, review the order details on PayPal, and confirm the order. Upon order confirmation, the customer is brought back to your site, and you can then authorize and capture the transaction directly with Vantiv (similar to credit card Authorization and Capture transactions).

Currently, Vantiv supports PayPal transactions that originate and settle in US dollars. Note that you can still process international transactions as long as they price and settle in USD. Both recurring and one-time payments are supported.

Vantiv supports PayPal transactions by means of the LitleXML format only, using either batch or online processing. The following transaction types are supported:

- Authorization
- Authorization Reversal
- Sale
- Credit (for Vantiv-processed transactions)
- Capture
- Void (online only)

For the structure and examples of these transactions, see Chapter 3, "LitleXML PayPal Transaction Examples".

NOTE: Credit transactions against non-VantivVantivprocessed transactions are not supported for PayPal. If you need to refund non-Vantiv processed transactions and have not maintained a temporary relationship with your former processor for this purpose, see your Customer Experience Manager for alternative options.

1.2 Using the PayPal API with LitleXML Transactions

In general terms, when a consumer chooses PayPal as a payment type, you send PayPal API calls to PayPal and receive responses. Using some of the values collected in one or more PayPal response (`TRANSACTIONID`, `PAYERID`, `TOKEN`, and `BILLINGAGREEMENTID`), you send the appropriate LitleXML transaction.The type of PayPal API and Vantiv transaction differs depending upon whether physical goods are shipped and/or recurring payments are necessary (e.g. for a service or subscription).

There are two interfaces to the PayPal API. You can use either interface:

- **Name-Value Pair (NVP) Interface** - Requests and responses are sent using simple HTTP. This interface is better for those who prefer more lightweight, script-based development.
- **Simple Object Access Protocol (SOAP) Interface** - Requests and responses are sent using SOAP. This interface is better for those who prefer object-oriented development.

VantivVantivsupports the use of the **PayPal ExpressCheckout API** and the **PayPal Billing Agreement API** using either of these interfaces.

See Chapter 2, "PayPal and LitleXML Transaction Flows" for expanded descriptions of PayPal APIs and details on processing flows for each transaction scenario. See Chapter 3, "LitleXML PayPal Transaction Examples" for information on structuring LitleXML transactions for PayPal.

1.2.1 PayPal Credentials

To use the PayPal APIs, you need a set of API credentials to identify your organization to PayPal. API credentials consist of an API username, password, and an API SSL client-side certificate. The Vantiv Implementation team will set up API accounts and credentials for production purposes. After the credential setup is complete, the Vantiv Implementation team will provide you with the following security credentials. Add these required parameters to every request sent to the PayPal API endpoint:

```
USER=API username
PWD=API password
VERSION=API version
SUBJECT=Authorizing account e-mail address
```

NOTE: **Use the security credentials provided by Vantiv for live processing only. You must set up and use separate credentials when testing your API operations. Follow the steps outlined on this PayPal web site to request an API Certificate for testing purposes:**

https://cms.paypal.com/us/cgi-bin/?cmd=_render-content&content_ID=developer/apicertificates

1.2.1.1 Converting Certificate Files

PayPal provides the API Certificate in Privacy Enhanced Mail (PEM) format, an encryption method used to hold digital certificates. You must convert the PEM files, for both production and testing, to PKCS12 (.p12) format using OpenSSL. Follow the steps below provided by PayPal Merchant Technical Services.

To convert PEM format certificates to PKCS12 format:

1. Download and use the Win32 OpenSSL installer found here:

   https://ppmts.custhelp.com/cgi-bin/ppdts.cfg/php/enduser/std_adp.php?p_faqid=66
2. Copy your certificate to your bin folder (for example, C:\openssl\bin).
3. Open a Microsoft MS-DOS command prompt and navigate to the bin folder:

   ```
   CD C:\openssl\bin
   ```
4. Run the following command:

   ```
   openssl pkcs12 -export -inkey cert_key_pem.txt -in cert_key_pem.txt -out
   cert_key.p12
   ```

For further information on this process, see the following PayPal Merchant Services article:

https://ppmts.custhelp.com/cgi-bin/ppdts.cfg/php/enduser/std_adp.php?p_faqid=37

1.2.2 PayPal Server Endpoints

Use the endpoint URLs listed in Table 1-1 when executing PayPal API operations.

TABLE 1-1 PayPal Server Endpoints

API Interface Type	Server Type	Endpoint
Name-Value Pair (NVP)	Testing (Sandbox)	https://api.sandbox.paypal.com/nvp
	Live Production	https://api.paypal.com/nvp
SOAP	Testing (Sandbox)	https://api.sandbox.paypal.com/2.0/
	Live Production	https://api.paypal.com/2.0/

1.3 PayPal Transaction Processing

When your customer confirms an order on your site, the PayPal *honor* period begins. The honor period is defined as the length of time (three days, by default) that PayPal honors availability of funds after customer approval of an order. PayPal guarantees that funds are available in the buyer's account during the three-day honor period and within the honor period of the re-authorization (if applicable).

You can re-authorize payments only once, following the original honor period. Outside of that period, funds are not guaranteed to be in the buyer's account at the time of capture, though the authorization is still valid (29 days, by default). You can Capture either a partial amount or the full amount of the authorization, or re-authorize for a different amount: up to 115% of the originally authorized amount, not to exceed an increase of $75 USD.

NOTE: To ensure that the honor period is valid at the time of capture, Vantiv recommends that you wait to send an Authorization on a PayPal order until just before shipping.

You can void an authorization, in which case, the un-captured part of the amount specified in the DoExpressCheckoutPayment request becomes void and can no longer be captured. If no part of the payment has been captured, the entire payment becomes void and nothing can be captured.

1.4 PayPal on iQ Reporting and Analytics

The iQ Reporting and Analytics interface enables you to find, view, and work with PayPal transactions, similar to other methods of payment. For example:

- You can search for a PayPal transaction the same way you search for a credit card transaction.
- PayPal transactions appear on reports similar to the way credit card transactions do.
- You can use the User Interface to work chargebacks in a similar manner as credit card chargebacks.

1.5 Testing Your Transactions

The purpose of the testing and certification process is to verify that your order entry and supporting systems construct and send XML messages that comply with the LitleXML requirements. The Vantiv testing process involves submitting Vantiv-supplied data for specific fields in a request, and receiving specific data back in a response. The response returned by Vantiv allows you to verify that you have parsed the LitleXML Response file correctly.

NOTE: When testing transactions that include PayPal as a payment type, you must test and certify your PayPal API calls with PayPal prior to performing any testing and certification with Vantiv.

The testing process for all types of LitleXML transactions is described in detail in Chapter 2, "Testing your LitleXML Transactions" of the *Vantiv LitleXML Reference Guide*.

1.6 Getting Started with PayPal

Before you start using the PayPal payment type with LitleXML. transactions, you must first complete the following tasks:

- Your organization must comply with PayPal's Acceptable Use Policy, available on PayPal's website, and sign the appropriate processing agreements with PayPal and Vantiv. Work with your Vantiv Customer Experience Manager for more information and assistance with these requirements.
- Modify your web site to accept PayPal payments:
  - Change your order processing to allow customers to authenticate and complete PayPal orders.
  - Comply with requirements for placement of PayPal service marks on your web site.
- Add or update the LitleXML API to reflect PayPal-specific payment parameters.
- Update your fulfillment, reconciliation, and dispute resolution processes to support PayPal.
- Test and certify your API operations with PayPal.
- Test and certify your LitleXML transactions with Vantiv.

2

PayPal and LitleXML Transaction Flows

This chapter describes the PayPal API and LitleXML transactions flows and contains the following sections:

2.1 Understanding the PayPal APIs

The **PayPal Express Checkout API** streamlines the checkout process for customers and keeps them on the your site after making a purchase. The Express Checkout flow is accomplished using three API calls:

- SetExpressCheckout
- GetExpressCheckoutDetails (optional)
- DoExpressCheckoutPayment

Use the Express Checkout API for purchases of physical goods or a service that may or may not require recurring payments.

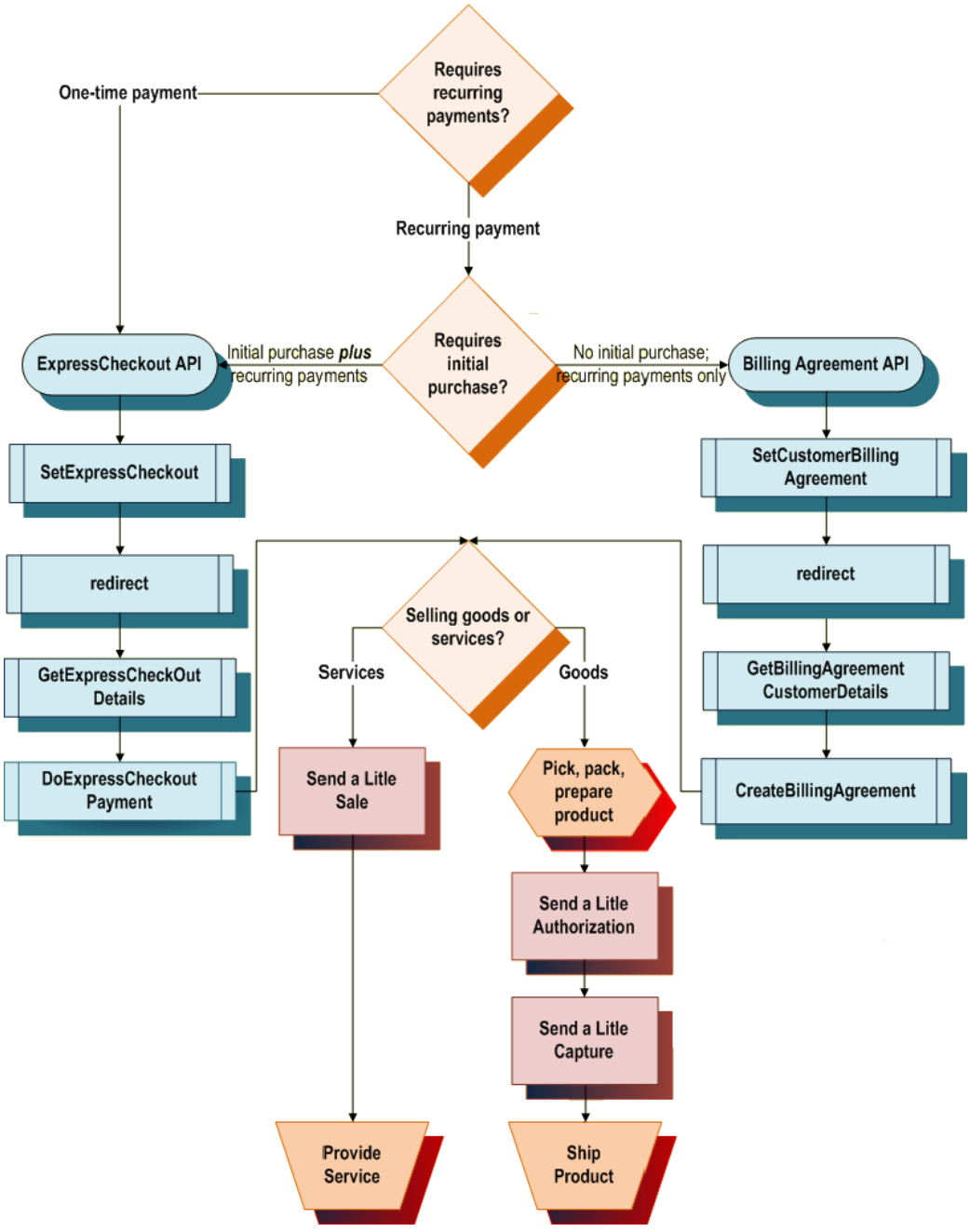
The **PayPal Billing Agreement API** is intended for merchants implementing recurring payments using reference transactions, which are financial transactions similar to industry-standard credit card reference transactions. The Billing Agreement API is accomplished using three API calls:

- SetCustomerBillingAgreement
- GetBillingAgreementCustomerDetails
- CreateBillingAgreement

Use the Billing Agreement API for recurring payments when there is no initial purchase.

Figure 2-1, "PayPal API and LitleXML Transaction Processing Flow" illustrates when to use each type of PayPal API.

FIGURE 2-1 PayPal API and LitleXML Transaction Processing Flow



2.2 Processing Flows

The sections below provide a overview of the processing flow for the three main transaction scenarios:

- Physical Goods or Service Processing Overview
- Recurring Payment with An Initial Purchase Overview
- Recurring Payment with No Initial Purchase Processing Overview

NOTE: This guide does not provide details or examples on how to structure PayPal API operations. See the documents listed in "PayPal Technical Documentation" in About This Guide on page vii for complete information on integrating PayPal, structuring and testing API operations, how to use PayPal service marks on your site, etc.

2.2.1 Physical Goods or Service Processing Overview

When a customer purchases physical goods or a service that does not require recurring payments, use the PayPal Express Checkout API, and either the LitleXML Authorization and Capture transactions (for physical goods), or a LitleXML Sale transaction (for a service one-time payment).

In addition to the standard required elements for PayPal API Operations and LitleXML transactions, include these elements and element settings:

- In the SetExpressCheckout API operation, set the `PAYMENTACTION` element to **order**.
- Include the values returned in the Express Checkout API operation (`PAYERID`, `TRANSACTIONID`, and optionally, `TOKEN`) in your LitleXML transactions after completion of the PayPal API requests and responses.
- Set the `<orderSource>` element in your LitleXML transaction to **ecommerce**.

Table 2-2 provides a quick reference for understanding the processing flow described here and the necessary elements or element settings in the PayPal API operations and LitleXML transactions.

2.2.1.1 Best Practices for Physical Goods Processing

Send an Authorization on a PayPal order just before shipping to ensure that the honor period is valid at the time of capture.

TABLE 2-2 Physical Goods or Service (No Recurring Payments)

Processing Flow		Elements or Element Settings for PayPal Transactions
1	Consumer chooses to pay with PayPal on your site.	
2	Send PayPal API Operations (Merchant --> PayPal)	
	`SetExpressCheckout` `TOKEN` value returned	`PAYMENTACTION=Order`
	`GetExpressCheckoutDetails` `PAYERID` value returned	--
	`DoExpressCheckout` `TRANSACTIONID` value returned	--
3	Send LitleXML Transaction Requests (Merchant --> Vantiv)	
	Authorization Transaction (for physical goods)	<paypal> <payerId>*PAYERID value* <transactionId>*TRANSACTIONID value* <orderSource>ecommerce Optional: <token>*TOKEN value*
	Capture Transaction	<payPalOrderComplete> (when closing a PayPal order.)
or	Sale Transaction (for services)	<paypal> <payerId>*PAYERID value* <transactionId>*TRANSACTIONID value* <ordersource>ecommerce <payPalOrderComplete> (when closing a PayPal order.)

2.2.2 Recurring Payment with An Initial Purchase Overview

When a customer purchase requires recurring payments with an initial purchase, use the PayPal Express Checkout API, and the LitleXML Sale transaction. Examples of this type of purchase include a cell phone purchase plus a monthly service plan, or an initial music download plus a recurring subscription plan.

In addition to the standard required elements for PayPal API Operations and LitleXML transactions, include these elements and element settings:

- In the SetExpressCheckout API operation, set the `PAYMENTACTION` element to **order**, the `BILLINGTYPE` element to **MerchantInitiatedBilling**, and include a description (DESC) of the items or service the customer is purchasing.
- Include the values returned in the Express Checkout API operations (`PAYERID`, `TRANSACTIONID`, and optionally, `TOKEN`) in your LitleXML transactions after completion of the PayPal APIs requests and responses.
- Set the `<orderSource>` element to **recurring**.

Table 2-3 provides a quick reference for understanding the processing flow described here and the necessary elements or element settings in PayPal API and LitleXML transactions.

TABLE 2-3 Recurring Payment with Initial Purchase

Processing Flow		Elements or Element Settings for PayPal Transactions
1	Consumer chooses to pay with PayPal on your site.	
2	Send PayPal API Operations (Merchant --> PayPal)	

	`SetExpressCheckout`
	`TOKEN` value returned
		`PAYMENTACTION=Order`
		`BILLINGTYPE=MerchantInitiatedBilling`
		`DESC=xxxx`

	`GetExpressCheckoutDetails` `PAYERID` value returned	--
	`DoExpressCheckout` `TRANSACTIONID` value returned	--
3	Send LitleXML Transaction Requests (Merchant --> Vantiv)	

	Sale Transaction
	(Repeated every billing cycle)
		`<paypal>`
		`<payerId>PAYERID value`
		`<transactionId>TRANSACTIONID value`
		`<orderSource>recurring`
		Optional: `<token>TOKEN value`

2.2.3 Recurring Payment with No Initial Purchase Processing Overview

When a customer purchase requires recurring payments with no initial purchase, use the PayPal Billing Agreement API, and the LitleXML Sale transaction. Examples of this type of purchase include utility payments, gym memberships, and dating services.

In addition to the standard required elements for PayPal API Operations and LitleXML transactions, include these elements and element settings:

- In the SetCustomerBillingAgreement API operation, set the `BILLINGTYPE` element `to` **MerchantInitiatedBilling**, and include a description (`BILLINGAGREEMENTDESCRIPTOR`) of the items or service the customer is purchasing.
- Include the values returned in the Express Checkout API operations (`PAYERID`, `BILLINGAGREEMENTID`, and optionally, `TOKEN`) in your LitleXML transactions after completion of the PayPal APIs requests and responses
- Set the <`orderSource`> element to **recurring**.

Table 2-4 provides a quick reference for understanding the processing flow described here and the necessary elements or element settings in PayPal API and LitleXML transactions.

TABLE 2-4 Recurring Payment with No Initial Purchase

	Processing Flow	Elements or Element Settings for PayPal Transactions
1	Consumer chooses to pay with PayPal on your site.	
2	Send PayPal API Operations (Merchant --> PayPal)	
	`SetCustomerBillingAgrement` `TOKEN` value returned	`BILLINGTYPE=MerchantInitiatedBilling` `BILLINGAGREEMENTDESCRIPTOR=`*xxxx*
	`GetCustomerBillingAgrementDetails` `PAYERID` value returned	--
	`CreateBillingAgreement` `BILLINGAGREEMENTID` value returned	--
3	Send LitleXML Transaction Requests (Merchant --> Vantiv)	
	Sale Transaction (Repeated every billing cycle)	<paypal> <payerId>*PAYERID value* <transactionId>BILLINGAGREEMENTID *value* <orderSource>recurring Optional: <token>*TOKEN value*

2.3 Closing a PayPal Order

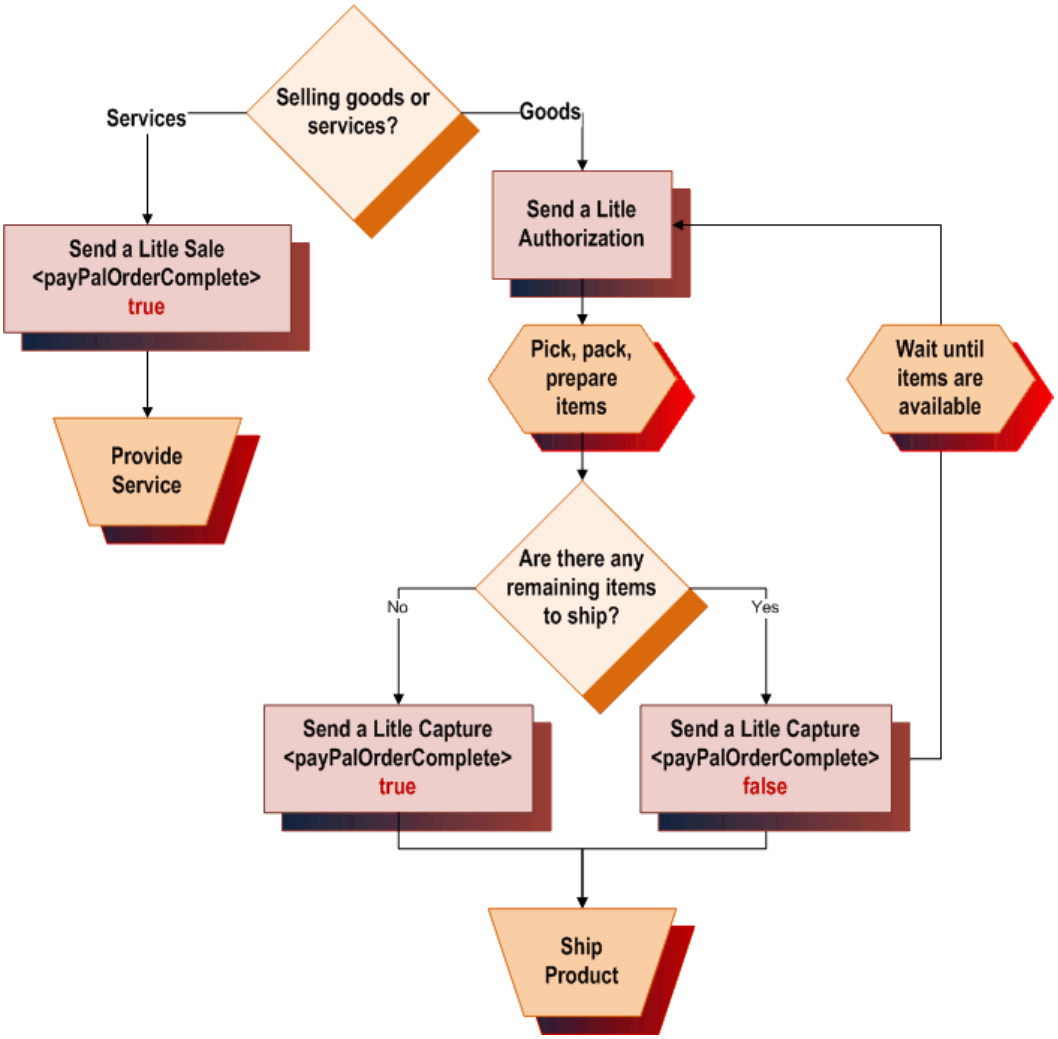
A PayPal order stays open until it has been explicitly closed. To close an order, Vantiv provides a `<payPalOrderComplete>` element for Sale and Capture transactions. Set the value of this element to either **false** to keep an order open, or **true** to close the order (the default value is **false**).

- When an order contains services (rather than physical goods) and the entire order can be fulfilled immediately, send a Sale transaction with the `<payPalOrderComplete>` element set to **true**. This closes the PayPal order.
- When an order contains goods, and the entire order can be fulfilled in one shipment, send a Capture transaction with the `<payPalOrderComplete>` element set to **true**. This closes the PayPal order.
- When an order contains goods, and the entire order cannot be fulfilled in one shipment (for example, due to back-ordered items), send a Capture transaction with the `<payPalOrderComplete>` element set to **false** on all except the last capture, where you set the element to **true**. This closes the PayPal order.

Figure 2-2 shows the different scenarios for using the `<payPalOrderComplete>` element. For more information about this element, see the payPalOrderComplete element description on page 4-44.

See Chapter 3, "LitleXML PayPal Transaction Examples" for examples of Capture and Sale transactions that include the `<payPalOrderComplete>` element.

FIGURE 2-2 PayPal Order Complete Flow



3

LitleXML PayPal Transaction Examples

This chapter describes how to format LitleXML requests for use with the PayPal payment type. This chapter contains the following topics:

3.1 Using PayPal Elements in LitleXML Transactions

When structuring LitleXML transactions for use with PayPal, use the PayPal-specific elements listed in Table 3-5. See Chapter 4, "LitleXML PayPal Elements" for definitions of these elements, or click the element link in the table.

TABLE 3-5 PayPal Elements for Supported Transactions

Transaction Type	PayPal-Specific Element(s) Used
Authorization	Required: <paypal>, <payerId>, <transactionId> Optional: <token>
Authorization Reversal	none
Capture	Optional: <payPalOrderComplete> (required when closing a PayPal order.)
Sale	Required: <paypal>, <payerId>, <transactionId>, Optional: <payPalOrderComplete> (required when closing a PayPal order.)
Credit (for a Vantiv-processed Transaction)	none
Void	none

For definitions of all LitleXML elements and attributes, see the *Vantiv LitleXML Reference Guide*.

3.2 Transaction Types and Examples

This section presents structural information for each supported PayPal transaction type; both Online and Batch submission methods are shown. The structural information is followed by one or more examples of the LitleXML transaction. Each structural example shows the parent, child, and sub-child elements relevant to PayPal, but does not show sub-children of other elements. The LitleXML examples however, do show child elements to multiple levels.

The XML examples in this section are intended to present typical LitleXML PayPal transactions. The examples do not include every possible element for a particular transaction type. When coding your XML, always consult the LitleXML schema files for information about all available elements.

3.2.1 About the Transaction Types Presented in this Section

This section contains examples of the following transaction types, which all require different treatment when using PayPal as a payment type:

- Authorization Transactions
- Capture Transactions
- Sale Transactions

No XML examples are given for the following transaction types, even though they are supported for PayPal (the XML structures do not contain any PayPal-specific elements and are therefore identical to non-PayPal transactions):

- Authorization Reversal Transactions
- Credit Transaction for Vantiv-Processed Transactions
- Void Transactions

NOTE: Credit transactions against non-Vantiv processed transactions are not supported for PayPal. If you need to refund non-Vantiv processed transactions and have not maintained a temporary relationship with your former processor for this purpose, see your Vantiv Customer Experience Manager for alternative options.

3.2.2 Authorization Transactions

The Authorization transaction enables you to confirm that a customer has submitted a valid payment method with their order and has sufficient funds to purchase the goods or services they ordered. See the section, "PayPal Transaction Processing" on page 5, for information on the lifespan of an Authorization when processing PayPal transactions.

This section describes the format you must use for an Authorization request, as well as the format of the Authorization Response you receive from Vantiv.

3.2.2.1 Authorization Request Structure

You must structure an Authorization request for PayPal as shown in the following examples. The structure of an Authorization request is identical for either an Online or a Batch submission. Note the following:

- The value of the LitleXML <payerId> element must match the PAYERID value returned by the GetExpressCheckout call operation to PayPal.
- The value of the LitleXML <transactionId> element must match the TRANSACTIONID value returned by the DoExpressCheckoutPayment call operation to PayPal.

```
<authorization id="Authorization Id" reportGroup="UI Report Group"
customerId="Customer Id">
  <orderId>Order Id</orderId>
  <amount>Authorization Amount</amount>
  <orderSource>ecommerce</orderSource>
  <billToAddress>
  <shipFromPostalCode>
  <paypal>
    <payerId>PayPal Customer Identifier</payerId>
    <token>Token Value Returned</token>
    <transactionId>PayPal Transaction ID</transactionId>
  </paypal>
  <processingInstructions>
  <customBilling>
  <enhancedData>
  <allowPartialAuth>
</authorization>
```

Example: Batch Authorization Request

The example below shows a batch request with a single Authorization request. If the batch included additional Authorization requests, each would have it's own `<authorization>` element with all applicable attributes and child elements. Also, the `numAuths` attribute of the `<batchRequest>` element would increment for each additional `<authorization>` element and the `authAmount` attribute would increase by the new amounts from each authorization.

```
<litleRequest version="8.27" xmlns="http://www.litle.com/schema"
  numBatchRequests = "1">
  <authentication>
    <user>XMLTESTP7</user>
    <password>password</password>
  </authentication>
  <batchRequest numAuths="1" authAmount="2500" merchantId="000902">
    <authorization id="test1" reportGroup="core" customerId="test1">
      <orderId>paypal_test1</orderId>
      <amount>2500</amount>
      <orderSource>ecommerce</orderSource>
      <billToAddress>
        <name>John Doe</name>
        <addressLine1>15 Main Street</addressLine1>
        <city>San Jose</city>
        <state>CA</state>
        <zip>95032-1234</zip>
        <country>USA</country>
        <phone>9782750000</phone>
        <email>my_address@email.com</email>
      </billToAddress>
      <shipToAddress>
        <name>Jane Doe</name>
        <addressLine1>15 Main Street</addressLine1>
        <city>San Jose</city>
        <state>CA</state>
        <zip>95032-1234</zip>
        <country>USA</country>
        <phone>9782750000</phone>
        <email>my_address@email.com</email>
      </shipToAddress>
      <paypal>
        <payerId>47690-888838</payerId>
        <transactionId>0-33y9573927J77</transactionId>
      </paypal>
      <customBilling>
```

```
      <phone>8009990001</phone>
      <descriptor>bdi*001</descriptor>
    </customBilling>
    <allowPartialAuth>true</allowPartialAuth>
  </authorization>
 </batchRequest>
</litleRequest>
```

Example: Online Authorization Request

```
<litleOnlineRequest version="8.27" xmlns="http://www.litle.com/schema"
 merchantId="100">
 <authentication>
  <user>User Name</user>
  <password>Password</password>
 </authentication>
 <authorization id="834262" reportGroup="ABC Division" customerId="038945">
  <orderId>65347567</orderId>
  <amount>40000</amount>
  <orderSource>ecommerce</orderSource>
  <billToAddress>
   <name>John Smith</name>
   <addressLine1>100 Main St</addressLine1>
   <city>Boston</city>
   <state>MA</state>
   <zip>12345</zip>
   <email>jsmith@someaddress.com</email>
   <phone>555-123-4567</phone>
  </billToAddress>
  <paypal>
     <payerId>47690-888838</payerId>
     <transactionId>0-33y9573927J78</transactionId>
  </paypal>
   </authorization>
</litleOnlineRequest>
```

3.2.2.2 Authorization Response Structure

An Authorization response has the following structure. The response message is identical for Online and Batch transactions except Online includes the <postDate> element and may include a duplicate attribute.

```
<authorizationResponse id="Authorization Id" reportGroup="UI Report
Group" customerId="Customer Id">
  <litleTxnId>Transaction Id</litleTxnId>
  <orderId>Order Id</orderId>
  <response>Response Code</response>
  <responseTime>Date and Time in GMT</responseTime>
  <postDate>Date transaction posted</postDate> (Online Only)
  <message>Response Message</message>
  <authCode>Approval Code</authCode>
  <approvedAmount>Approved amount for partial Auth<approvedAmount>
  </authorizationResponse>
```

Example: Batch Authorization Response

Vantiv responds to both types of Authorization requests (card-not-present and card present) using the same Authorization response. The example below shows an Authorization response that contains two transactions.

```
<litleResponse version="8.27" id="123" response="0" message="Valid Format"
  litleSessionId="987654321">
  <batchResponse id="01234567" litleBatchId="4455667788" merchantId="100">
    <authorizationResponse id="AX54321678" reportGroup="RG27">
      <litleTxnId>84568456</litleTxnId>
      <orderId>12z58743y1</orderId>
      <response>000</response>
      <responseTime>2009-03-01T10:24:31</responseTime>
      <message>Approved</message>
      <authCode>123456</authCode>
    </authorizationResponse>
    <authorizationResponse id="AX54325432" reportGroup="RG12">
      <litleTxnId>84568457</litleTxnId>
      <orderId>12z58743y7</orderId>
      <response>000</response>
      <responseTime>2009-03-01T10:24:31</responseTime>
      <message>Approved</message>
```

```
      <authCode>123456</authCode>
    </authorizationResponse>
  </batchResponse>
</litleResponse>
```

Example: Online Authorization Response

> **NOTE: The online response format contains a <postDate> element, which indicates the date the financial transaction will post (specified in YYYY-MM-DD format).**

```
<litleOnlineResponse version="8.27" response="0" message="Valid Format">
  <authorizationResponse id="834262" reportGroup="ABC Division">
    <litleTxnId>969506</litleTxnId>
    <orderId>65347567</orderId>
    <response>000</response>
    <responseTime>2009-07-25T15:13:43</responseTime>
    <postDate>2009-07-25</postDate>
    <message>Approved</message>
    <authCode>123457</authCode>
  </authorizationResponse>
</litleOnlineResponse>
```

3.2.3 Capture Transactions

The Capture transaction transfers funds from the customer to the merchant. The Capture references the associated Authorization by means of the <litleTxnId> element returned in the Authorization response.

You send a Capture after the order has been fulfilled. In some cases, it is not possible to fulfill a customer's entire order in one shipment (for example, if some items are back-ordered, or some shipped from an off-site DCS). In this situation, you can send a Partial Capture transaction by setting the partial attribute to **true**. A Partial Capture contains only the data relevant to the items that were actually shipped, enabling you to settle the funds related to those items.

If you are closing a PayPal order, you must include the <payPalOrderComplete> element set to **true**. See Closing a PayPal Order on page 14 for more information on using this element.

3.2.3.1 Capture Request Structure

You must structure a Capture request for PayPal as shown in the following examples. The structure of the request is identical for either an Online or a Batch submission.

```
<capture id="Capture Id" reportGroup="UI Report Group" customerId="Customer
Id" partial="false">
  <litleTxnId>Transaction Id</litleTxnId>
  <amount>Authorization Amount</amount>
  <enhancedData>
  <processingInstructions>
  <payPalOrderComplete>Set to true for final Capture</payPalOrderComplete>
</capture>
```

Example: Batch Capture Request - Full Capture

The following Capture example is for a full capture. Although the `<capture>` element includes an `<amount>` child, it is not required for a full Capture. If you omit the `<amount>` child element, the capture amount defaults to the full amount from the associated Authorization.

```
<litleRequest version="8.27" xmlns="http://www.litle.com/schema" id="123"
  numBatchRequests="1">
  <authentication>
    <user>userName</user>
    <password>password</password>
  </authentication>
  <batchRequest id="01234567" numAuths="0" authAmount="0" numCaptures="1"
  captureAmount="55814" numCredits="0" creditAmount="0" numSales="0"
  saleAmount="0" merchantId="100">
    <capture id="AX54325432" reportGroup="RG12" partial="false">
      <litleTxnId>84568457</litleTxnId>
      <amount>55814</amount>
      <enhancedData>
        <customerReference>PO12346</customerReference>
        <salesTax>1500</salesTax>
        <taxExempt>false</taxExempt>
        <discountAmount>0</discountAmount>
        <shippingAmount>3714</shippingAmount>
        <dutyAmount>0</dutyAmount>
        <shipFromPostalCode>01851</shipFromPostalCode>
        <destinationPostalCode>01851</destinationPostalCode>
        <destinationCountryCode>USA</destinationCountryCode>
        <invoiceReferenceNumber>123456</invoiceReferenceNumber>
        <orderDate>2009-09-14</orderDate>
```

```
            <detailTax>
              <taxIncludedInTotal>true</taxIncludedInTotal>
              <taxAmount>500</taxAmount>
              <taxRate>0.01667</taxRate>
              <taxTypeIdentifier>00</taxTypeIdentifier>
              <cardAcceptorTaxId>011234567</cardAcceptorTaxId>
            </detailTax>
            <lineItemData>
              <itemSequenceNumber>1</itemSequenceNumber>
              <itemDescription>table</itemDescription>
              <productCode>TB123</productCode>
              <quantity>1</quantity>
              <unitOfMeasure>EACH</unitOfMeasure>
              <taxAmount>1500</taxAmount>
              <lineItemTotal>30000</lineItemTotal>
              <lineItemTotalWithTax>31500</lineItemTotalWithTax>
              <itemDiscountAmount>0</itemDiscountAmount>
              <commodityCode>301</commodityCode>
              <unitCost>300.00</unitCost>
              <detailTax>
                <taxIncludedInTotal>true</taxIncludedInTotal>
                <taxAmount>500</taxAmount>
                <taxRate>0.01667</taxRate>
                <taxTypeIdentifier>03</taxTypeIdentifier>
                <cardAcceptorTaxId>011234567</cardAcceptorTaxId>
              </detailTax>
            </lineItemData>
            <lineItemData>
              <itemSequenceNumber>2</itemSequenceNumber>
              <itemDescription>chair</itemDescription>
              <productCode>CH123</productCode>
              <quantity>1</quantity>
              <unitOfMeasure>EACH</unitOfMeasure>
              <lineItemTotal>20000</lineItemTotal>
              <itemDiscountAmount>0</itemDiscountAmount>
              <commodityCode>301</commodityCode>
              <unitCost>200.00</unitCost>
            </lineItemData>
          </enhancedData>
        <payPalOrderComplete>true</payPalOrderComplete>
        </capture>
      </batchRequest>
    </litleRequest>
```

Example: Batch Capture Request - Partial Capture

A partial Capture has the `partial` attribute set to true and must include an `<amount>` child element.

```
<litleRequest version="8.27" xmlns="http://www.litle.com/schema" id="123"
  numBatchRequests="1">
   <authentication>
     <user>userName</user>
     <password>password</password>
   </authentication>
   <batchRequest id="01234567" numAuths="0" authAmount="0" numCaptures="1"
  captureAmount="45814" numCredits="0" creditAmount="0" numSales="0"
  saleAmount="0" merchantId="100">
     <capture id="AX54325432" reportGroup="RG12" partial="true">
       <litleTxnId>84568457</litleTxnId>
       <amount>45814</amount>
       <enhancedData>
         <customerReference>PO12346</customerReference>
         <salesTax>2100</salesTax>
         <taxExempt>false</taxExempt>
         <discountAmount>0</discountAmount>
         <shippingAmount>3714</shippingAmount>
         <dutyAmount>0</dutyAmount>
         <shipFromPostalCode>01851</shipFromPostalCode>
         <destinationPostalCode>01851</destinationPostalCode>
         <destinationCountryCode>USA</destinationCountryCode>
         <invoiceReferenceNumber>123456</invoiceReferenceNumber>
         <orderDate>2009-09-14</orderDate>
         <detailTax>
           <taxIncludedInTotal>true</taxIncludedInTotal>
           <taxAmount>500</taxAmount>
           <taxRate>0.01667</taxRate>
           <taxTypeIdentifier>00</taxTypeIdentifier>
           <cardAcceptorTaxId>011234567</cardAcceptorTaxId>
         </detailTax>
         <lineItemData>
           <itemSequenceNumber>1</itemSequenceNumber>
           <itemDescription>table</itemDescription>
           <productCode>TB123</productCode>
           <quantity>1</quantity>
           <unitOfMeasure>EACH</unitOfMeasure>
           <taxAmount>1500</taxAmount>
           <lineItemTotal>30000</lineItemTotal>
           <lineItemTotalWithTax>31500</lineItemTotalWithTax>
```

```
            <itemDiscountAmount>0</itemDiscountAmount>
            <commodityCode>301</commodityCode>
            <unitCost>300.00</unitCost>
            <detailTax>
              <taxIncludedInTotal>true</taxIncludedInTotal>
              <taxAmount>500</taxAmount>
              <taxRate>0.01667</taxRate>
              <taxTypeIdentifier>03</taxTypeIdentifier>
              <cardAcceptorTaxId>011234567</cardAcceptorTaxId>
            </detailTax>
          </lineItemData>
          <lineItemData>
            <itemSequenceNumber>2</itemSequenceNumber>
            <itemDescription>chair</itemDescription>
            <productCode>CH123</productCode>
            <quantity>1</quantity>
            <unitOfMeasure>EACH</unitOfMeasure>
            <lineItemTotal>20000</lineItemTotal>
            <itemDiscountAmount>0</itemDiscountAmount>
            <commodityCode>301</commodityCode>
            <unitCost>200.00</unitCost>
          </lineItemData>
        </enhancedData>
        <payPalOrderComplete>false</payPalOrderComplete>
      </capture>
    </batchRequest>
</litleRequest>
```

Example: Online Capture Request - Full Capture

The following Capture example is for a full capture. Although the <capture> element includes an <amount> child, it is not required for a full Capture. If you omit the <amount> child element, the capture amount defaults to the full amount from the associated Authorization.

```
<litleOnlineRequest version="8.27" xmlns="http://www.litle.com/schema"
  merchantId="100">
  <authentication>
    <user>User Name</user>
    <password>password</password>
  </authentication>
  <capture id="2" reportGroup="ABC Division" customerId="038945"
  partial="false">
    <litleTxnId>13254123434</litleTxnId>
    <enhancedData>
      <customerReference>PO12345</customerReference>
      <salesTax>125</salesTax>
      <taxExempt>false</taxExempt>
      <discountAmount>0</discountAmount>
      <shippingAmount>495</shippingAmount>
      <dutyAmount>0</dutyAmount>
      <shipFromPostalCode>01851</shipFromPostalCode>
      <destinationPostalCode>01851</destinationPostalCode>
      <destinationCountryCode>USA</destinationCountryCode>
      <invoiceReferenceNumber>123456</invoiceReferenceNumber>
      <orderDate>2009-08-14</orderDate>
      <detailTax>
        <taxIncludedInTotal>true</taxIncludedInTotal>
        <taxAmount>55</taxAmount>
        <taxRate>0.0059</taxRate>
        <taxTypeIdentifier>00</taxTypeIdentifier>
        <cardAcceptorTaxId>011234567</cardAcceptorTaxId>
      </detailTax>
      <lineItemData>
        <itemSequenceNumber>1</itemSequenceNumber>
        <itemDescription>chair</itemDescription>
        <productCode>CH123</productCode>
        <quantity>1</quantity>
        <unitOfMeasure>EACH</unitOfMeasure>
        <taxAmount>125</taxAmount>
        <lineItemTotal>9380</lineItemTotal>
        <lineItemTotalWithTax>9505</lineItemTotalWithTax>
        <itemDiscountAmount>0</itemDiscountAmount>
```

```
        <commodityCode>300</commodityCode>
        <unitCost>93.80</unitCost>
        <detailTax>
          <taxIncludedInTotal>true</taxIncludedInTotal>
          <taxAmount>55</taxAmount>
          <taxRate>0.0059</taxRate>
          <taxTypeIdentifier>03</taxTypeIdentifier>
          <cardAcceptorTaxId>011234567</cardAcceptorTaxId>
        </detailTax>
      </lineItemData>
      <lineItemData>
        <itemSequenceNumber>2</itemSequenceNumber>
        <itemDescription>table</itemDescription>
        <productCode>TB123</productCode>
        <quantity>1</quantity>
        <unitOfMeasure>EACH</unitOfMeasure>
        <lineItemTotal>30000</lineItemTotal>
        <itemDiscountAmount>0</itemDiscountAmount>
        <commodityCode>300</commodityCode>
        <unitCost>300.00</unitCost>
      </lineItemData>
    </enhancedData>
    <payPalOrderComplete>true</payPalOrderComplete>
  </capture>
</litleOnlineRequest>
```

Example: Online Capture Request - Partial Capture

A partial Capture has the `partial` attribute set to true and must include an <`amount`> child element.

```
<litleOnlineRequest version="8.27" xmlns="http://www.litle.com/schema"
  merchantId="100">
  <authentication>
    <user>User Name</user>
    <password>password</password>
  </authentication>
  <capture id="2" reportGroup="ABC Division" customerId="038945"
  partial="true">
    <litleTxnId>13254123434</litleTxnId>
    <amount>100</amount>
    <enhancedData>
      <customerReference>PO12345</customerReference>
```

```
<salesTax>125</salesTax>
<taxExempt>false</taxExempt>
<discountAmount>0</discountAmount>
<shippingAmount>495</shippingAmount>
<dutyAmount>0</dutyAmount>
<shipFromPostalCode>01851</shipFromPostalCode>
<destinationPostalCode>01851</destinationPostalCode>
<destinationCountryCode>USA</destinationCountryCode>
<invoiceReferenceNumber>123456</invoiceReferenceNumber>
<orderDate>2009-08-14</orderDate>
<detailTax>
  <taxIncludedInTotal>true</taxIncludedInTotal>
  <taxAmount>55</taxAmount>
  <taxRate>0.0059</taxRate>
  <taxTypeIdentifier>00</taxTypeIdentifier>
  <cardAcceptorTaxId>011234567</cardAcceptorTaxId>
</detailTax>
<lineItemData>
  <itemSequenceNumber>1</itemSequenceNumber>
  <itemDescription>chair</itemDescription>
  <productCode>CH123</productCode>
  <quantity>1</quantity>
  <unitOfMeasure>EACH</unitOfMeasure>
  <taxAmount>125</taxAmount>
  <lineItemTotal>9380</lineItemTotal>
  <lineItemTotalWithTax>9505</lineItemTotalWithTax>
  <itemDiscountAmount>0</itemDiscountAmount>
  <commodityCode>300</commodityCode>
  <unitCost>93.80</unitCost>
  <detailTax>
    <taxIncludedInTotal>true</taxIncludedInTotal>
    <taxAmount>55</taxAmount>
    <taxRate>0.0059</taxRate>
    <taxTypeIdentifier>03</taxTypeIdentifier>
    <cardAcceptorTaxId>011234567</cardAcceptorTaxId>
  </detailTax>
</lineItemData>
<lineItemData>
  <itemSequenceNumber>2</itemSequenceNumber>
  <itemDescription>table</itemDescription>
  <productCode>TB123</productCode>
  <quantity>1</quantity>
  <unitOfMeasure>EACH</unitOfMeasure>
```

```
        <lineItemTotal>30000</lineItemTotal>
        <itemDiscountAmount>0</itemDiscountAmount>
        <commodityCode>300</commodityCode>
        <unitCost>300.00</unitCost>
      </lineItemData>
    </enhancedData>
    <payPalOrderComplete>false</payPalOrderComplete>
  </capture>
</litleOnlineRequest>
```

3.2.3.2 Capture Response Structure

A Capture response has the following structure. The response message is identical for Online and Batch transactions except Online includes the <postDate> element and may include a duplicate attribute.

```
<captureResponse id="Authorization Id" duplicate="true or false"
reportGroup="UI Report Group" customerId="Customer Id">
  <litleTxnId>Transaction Id</litleTxnId>
  <orderId>Order Id</orderId>
  <response>Response Code</response>
  <responseTime>Date and Time in GMT</responseTime>
  <postDate>Date Of Posting</postDate> (Online Only)
  <message>Response Message</message>
</captureResponse>
```

Example: Batch Capture Response

```
<litleResponse version="8.27" id="123" litleSessionId="987654321"
  response="0" message="Valid Format">
  <batchResponse id="01234567" litleBatchId="4455667788"  merchantId="100">
    <captureResponse id="AX54321678" reportGroup="RG27">
      <litleTxnId>84568456</litleTxnId>
      <orderId>12z58743y1</orderId>
      <response>000</response>
      <responseTime>2009-09-01T10:24:31</responseTime>
      <message>message</message>
    </captureResponse>
    <captureResponse id="AX54325432" reportGroup="RG12">
      <litleTxnId>84568457</litleTxnId>
      <orderId>12z58743y7</orderId>
      <response>000</response>
```

```
      <responseTime>2009-09-01T10:24:31</responseTime>
      <message>message</message>
    </captureResponse>
  </batchResponse>
</litleResponse>
```

Example: Online Capture Response

> **NOTE:** **If the request is a duplicate, the response includes the `duplicate` attribute set to true and the entire original response.**

```
<litleOnlineResponse version="8.27" response="0" message="Valid Format">
  <captureResponse id="2" reportGroup="ABC Division" customerId="038945">
    <litleTxnId>1100030204</litleTxnId>
    <orderId>65347567</orderId>
    <response>000</response>
    <responseTime>2009-07-11T14:48:48</responseTime>
    <postDate>2009-07-11</postDate>
    <message>Approved</message>
  </captureResponse>
</litleOnlineResponse>
```

3.2.4 Sale Transactions

The Sale transaction enables you to both authorize fund availability and deposit those funds by means of a single transaction. The Sale transaction is also known as a conditional deposit, because the deposit takes place only if the authorization succeeds. If the authorization is declined, the deposit will not be processed.

If you are closing a PayPal order, you must include the <payPalOrderComplete> element set to **true**. See Closing a PayPal Order on page 14 for more information on using this element.

3.2.4.1 Sale Request Structure

You must structure a Sale request for PayPal transactions as follows. The structure of the request is identical for either an Online or a Batch submission. Note the following:

- The value of the LitleXML <payerId> element must match the PAYERID value returned by the GetExpressCheckout call operation to PayPal.
- The value of the LitleXML <transactionId> element must match the TRANSACTIONID value returned by the DoExpressCheckoutPayment call operation to PayPal.

```
<sale id="Sale Id" reportGroup="UI Report Group" customerId="Customer Id">
  <orderId>Order Id</orderId>
  <amount>Authorization Amount</amount>
  <orderSource>ecommerce or recurring</orderSource>
  <customerInfo>
  <billToAddress>
  <shipToAddress>
  <paypal>
    <payerId>PayPal Customer Identifier</payerId>
    <token>Token Value Returned</token>
    <transactionId>PayPal Transaction ID</transactionId>
  <customBilling>
  <enhancedData>
  <processingInstructions>
  <allowPartialAuth>
  <payPalOrderComplete>Set to true in the final Sale</payPalOrderComplete>
</sale>
```

Example: Batch Sale Request

```
<litleRequest version="8.27" xmlns="http://www.litle.com/schema" id="123"
  numBatchRequests="1">
  <authentication>
    <user>userName</user>
    <password>password</password>
  </authentication>
  <batchRequest id="01234567" numSales="1" saleAmount="12522"
  merchantId="100">
    <sale id="AX54321678" reportGroup="RG27">
      <orderId>12z58743y1</orderId>
      <amount>12522</amount>
      <orderSource>ecommerce</orderSource>
      <billToAddress>
        <name>David Berman</name>
        <addressLine1>123 4th street</addressLine1>
        <addressLine2>Apt. 20</addressLine2>
        <addressLine3>second floor</addressLine3>
        <city>San Jose</city>
        <state>CA</state>
        <zip>95032</zip>
        <country>USA</country>
        <email>dberman@isp.com</email>
        <phone>408-555-1212</phone>
      </billToAddress>
       <paypal>
        <payerId>47690-888838</payerId>
        <transactionId>0-33y9573927J86</transactionId>
       </paypal>
       <payPalOrderComplete>true</payPalOrderComplete>
    </sale>
  </batchRequest>
</litleRequest>
```

Example: Online Sale Request

```
<litleOnlineRequest version="8.27" xmlns="http://www.litle.com/schema"
  merchantId="100">
   <authentication>
     <user>User Name</user>
     <password>password</password>
   </authentication>
   <sale id="1" reportGroup="ABC Division" customerId="038945">
     <orderId>5234234</orderId>
     <amount>40000</amount>
     <orderSource>recurring</orderSource>
     <billToAddress>
       <name>John Smith</name>
       <addressLine1>100 Main St</addressLine1>
       <addressLine2>100 Main St</addressLine2>
       <addressLine3>100 Main St</addressLine3>
       <city>Boston</city>
       <state>MA</state>
       <zip>12345</zip>
       <country>US</country>
       <email>jsmith@someaddress.com</email>
       <phone>555-123-4567</phone>
     </billToAddress>
     <paypal>
        <payerId>47690-812838</payerId>
        <transactionId>0-33y9573927J92</transactionId>
      </paypal>
     <customBilling>
       <phone>8888888888</phone>
       <descriptor>bdi*Test</descriptor>
     </customBilling>
     <enhancedData>
       <customerReference>PO12345</customerReference>
       <salesTax>125</salesTax>
       <taxExempt>false</taxExempt>
       <discountAmount>0</discountAmount>
       <shippingAmount>495</shippingAmount>
       <dutyAmount>0</dutyAmount>
       <shipFromPostalCode>01851</shipFromPostalCode>
       <destinationPostalCode>01851</destinationPostalCode>
       <destinationCountryCode>USA</destinationCountryCode>
       <invoiceReferenceNumber>123456</invoiceReferenceNumber>
       <orderDate>2009-08-14</orderDate>
```

```
        <detailTax>
          <taxIncludedInTotal>true</taxIncludedInTotal>
          <taxAmount>55</taxAmount>
          <taxRate>0.0059</taxRate>
          <taxTypeIdentifier>00</taxTypeIdentifier>
          <cardAcceptorTaxId>011234567</cardAcceptorTaxId>
        </detailTax>
        <lineItemData>
          <itemSequenceNumber>1</itemSequenceNumber>
          <itemDescription>chair</itemDescription>
          <productCode>CH123</productCode>
          <quantity>1</quantity>
          <unitOfMeasure>EACH</unitOfMeasure>
          <taxAmount>125</taxAmount>
          <lineItemTotal>9380</lineItemTotal>
          <lineItemTotalWithTax>9505</lineItemTotalWithTax>
          <itemDiscountAmount>0</itemDiscountAmount>
          <commodityCode>300</commodityCode>
          <unitCost>93.80</unitCost>
          <detailTax>
            <taxIncludedInTotal>true</taxIncludedInTotal>
            <taxAmount>55</taxAmount>
            <taxRate>0.0059</taxRate>
            <taxTypeIdentifier>03</taxTypeIdentifier>
            <cardAcceptorTaxId>011234567</cardAcceptorTaxId>
          </detailTax>
        </lineItemData>
        <lineItemData>
          <itemSequenceNumber>2</itemSequenceNumber>
          <itemDescription>table</itemDescription>
          <productCode>TB123</productCode>
          <quantity>1</quantity>
          <unitOfMeasure>EACH</unitOfMeasure>
          <lineItemTotal>30000</lineItemTotal>
          <itemDiscountAmount>0</itemDiscountAmount>
          <commodityCode>300</commodityCode>
          <unitCost>300.00</unitCost>
        </lineItemData>
      </enhancedData>
      <payPalOrderComplete>true</payPalOrderComplete>
    </sale>
  </litleOnlineRequest>
```

3.2.4.2 Sale Response Structure

The Sale response message is identical for Online and Batch transactions except Online includes the <postDate> element and may include a duplicate attribute. The Sale response has the following structure:

```
<saleResponse id="Sale Id" reportGroup="UI Report Group"
customerId="Customer Id">
  <litleTxnId>Transaction Id</litleTxnId>
  <orderId>Order Id</orderId>
  <response>Response Code</response>
  <responseTime>Date and Time in GMT</responseTime>
  <postDate>Date of Posting</postDate> (Online Only)
  <message>Response Message</message>
  <authCode>Approval Code</authCode>
  <approvedAmount>Approved amount for partial Auth</approvedAmount>
</saleResponse>
```

Example: Batch Sale Response

```
<litleResponse version="8.27" id="123" response="0" message="Valid Format"
  litleSessionId="987654321">
  <batchResponse id="01234567" litleBatchId="4455667788" merchantId="100">
    <saleResponse id="AX54321678" reportGroup="RG27">
      <litleTxnId>84568456</litleTxnId>
      <orderId>12z58743y1</orderId>
      <response>000</response>
      <responseTime>2009-09-01T10:24:31</responseTime>
      <message>Approved</message>
      <authCode>123456</authCode>
    </saleResponse>
    <saleResponse id="AX54325432" reportGroup="RG12">
      <litleTxnId>84568457</litleTxnId>
      <orderId>12z58743y7</orderId>
      <response>000</response>
      <responseTime>2009-09-01T10:24:31</responseTime>
      <message>Approved</message>
      <authCode>123456</authCode>
    </saleResponse>
  </batchResponse>
</litleResponse>
```

Example: Online Sale Response

```
<litleOnlineResponse version="8.27" response="0" message="Valid Format">
  <saleResponse id="1" reportGroup="ABC Division" customerId="038945">
    <litleTxnId>1100030055</litleTxnId>
    <orderId>23423434</orderId>
    <response>000</response>
    <responseTime>2009-07-11T14:48:46</responseTime>
    <postDate>2009-07-11</postDate>
    <message>Approved</message>
    <authCode>123457</authCode>
  </saleResponse>
</litleOnlineResponse>
```

4

LITLEXML PAYPAL ELEMENTS

This chapter provides definitions for the elements used in the LitleXML for PayPal transactions. Use this information in combination with the various LitleXML schema files to assist you as you build the code necessary to submit PayPal transactions to Vantiv transaction processing systems. Each section defines a particular element, its relationship to other elements (parents and children), as well as any attributes associated with the element.

For additional information on the structure of LitleXML requests and responses using these elements, as well as XML examples, see Chapter 3, "LitleXML PayPal Transaction Examples". For a comprehensive list of all LitleXML elements and usage, see Chapter 4, “LitleXML Elements” in the *Vantiv LitleXML Reference Guide*.

The XML elements defined in this chapter are listed alphabetically.

4.1 payerId

The <payerId> element is a required child of the <paypal> element specifying the PAYERID returned from PayPal.

> **NOTE:** **The value of the LitleXML <payerId> element must match the PAYERID value returned by the GetExpressCheckout call operation to PayPal.**

Type = String; **minLength** = 1; **maxLength** = 17

Parent Elements:

paypal

Attributes:

None

Child Elements:

None

4.2 paypal

The <paypal> element defines PayPal account information. It replaces the <card> or <token> elements in transactions using PayPal as a payment method.

Parent Elements:

authorization, sale

Attributes:

None

Child Elements:

Required: payerId, transactionId

Optional: token

Example: paypal Structure

```
<paypal>
  <payerId>PayPal Customer Identifier</payerId>
  <token>Token Value Returned</token>
  <transactionId>PayPal Transaction ID</transactionId>
</paypal>
```

4.3 payPalOrderComplete

The <payPalOrderComplete> element is an optional child of both the <capture> and <sale> elements, but is required to close a PayPal order. Set the value to **true** to close the order, when you have fulfilled the order and do not need to send any further authorizations or deposits against it. Set the value to **false** to keep the order open for additional authorizations or deposits.

Type = Boolean; **Valid values** = true or false

Parent Elements:

capture, sale

Attributes:

None

Child Elements:

None

4.4 token

(PayPal-generated)

The <token> element has two uses in LitleXML depending upon whether the element concerns a Vantiv-generated token (for tokenized merchants) or a PayPal-generated token. In this case, the <token> element is the TOKEN value returned by PayPal.

Type = String; **minLength** = N/A; **maxLength** = N/A

Parent Elements:

paypal

Attributes:

None

Child Elements:

None

4.5 transactionId

The <transactionId> element is a required child of the <paypal> element, specifying the TRANSACTIONID returned from PayPal.

NOTE: The value of the LitleXML <transactionId> element must match the TRANSACTIONID returned by the DoExpressCheckoutPayment call operation to PayPal.

Type = String; **minLength** = N/A; **maxLength** = N/A

Parent Elements:

paypal

Attributes:

None

Child Elements:

None

A

PAYPAL RESPONSE CODES

This appendix provides reference material regarding the response codes returned in a LitleXML response for a PayPal payment transactions and chargebacks. This appendix contains the following sections:

A.1 PayPal Response Codes

Table A-1 contains a list of codes and messages that the system can return in the response message for a PayPal payment transaction. Note that:

- The Response Code value appears in the <response> element.
- The Response Message value appears in the <message> element.

TABLE A-1 Valid PayPal Response and Message Elements

Response Code	Response Message	Description
000	Approved	--
120	Call Issuer	Either an internal PayPal error occurred, the maximum number of authorizations allowed for the transaction is reached.
127	Exceeds Approval Amount Limit	This transaction exceeds the daily approval limit for the card or the PayPal user account.
328	Cardholder requested that recurring or installment payment be stopped	Recurring/Installment Payments no longer accepted by the card issuing bank, or the PayPal account holder cancelled the recurring/installment billing agreement on their account.
350	Generic Decline	There is an unspecified problem; contact the issuing bank (This is the default Response Code for any undefined PayPal code.)
601	Soft Decline - Primary Funding Source Failed	The transaction failed due to an issue with primary funding source (e.g. expired Card, insufficient funds, etc.)
602	Soft Decline - Buyer has alternate funding source	The merchant may resubmit the transaction immediately and the use of an alternate funding source will be attempted.
610	Hard Decline - Invalid Billing Agreement Id	The Billing Agreement ID is invalid.
611	Hard Decline - Primary Funding Source Failed	The issuer is unavailable.
612	Hard Decline - Issue with Paypal Account	The transaction failed due to an issue with the buyer account.

TABLE A-1 Valid PayPal Response and Message Elements (Continued)

Response Code	Response Message	Description
613	Hard Decline - PayPal authorization ID missing	A PayPal response indicating the need to correct the authorization ID before resubmitting.
614	Hard Decline - confirmed email address is not available	A PayPal response indicating your account is configured to decline transactions without a confirmed address. request another payment method or contact support@litle.com to modify your account settings.
615	Hard Decline - PayPal buyer account denied	A PayPal response indicating account unauthorized payment risk.
616	Hard Decline - PayPal buyer account restricted	A PayPal response indicating PayPal is unable to process the payment. Buyer should contact PayPal with questions.
617	Hard Decline - PayPal order has been voided, expired, or completed	A PayPal response indicating no further authorizations/captures can be processed against this order. A new order must be created.
618	Hard Decline - issue with PayPal refund	A PayPal response indicating one of these potential refund-related issues: duplicate, partial refund must be less than or equal to original or remaining amount, past time limit, not allowed for transaction type, consumer account locked/inactive, or complaint exists - only a full refund of total/remaining amount allowed. Contact support@litle.com for specific details.
619	Hard Decline - PayPal credentials issue	A PayPal response indicating you do not have permissions to make this API call.
620	Hard Decline - PayPal authorization voided or expired	A PayPal response indicating you cannot capture against this authorization. You need to perform a brand new authorization for the transaction.
621	Hard Decline - required PayPal parameter missing	A PayPal response indicating missing parameters are required. Contact support@litle.com for specific details.

TABLE A-1 Valid PayPal Response and Message Elements (Continued)

Response Code	Response Message	Description
622	Hard Decline - PayPal transaction ID or auth ID is invalid	A PayPal response indicating the need to check the validity of the authorization ID prior to reattempting the transaction.
623	Hard Decline - Exceeded maximum number of PayPal authorization attempts	A PayPal response indicating you should capture against a previous authorization.
624	Hard Decline - Transaction amount exceeds merchant's PayPal account limit.	A PayPal response indicating the transaction amount exceeds the merchant's account limit. Contact support@litle.com to modify your account settings.
625	Hard Decline - PayPal funding sources unavailable.	A PayPal response indicating the buyer needs to add another funding sources to their account.
626	Hard Decline - issue with PayPal primary funding source.	A PayPal response indicating there are issues with the buyer's primary funding source.
627	Hard Decline - PayPal profile does not allow this transaction type.	Contact us to adjust your PayPal merchant profile preferences.
628	Internal System Error with PayPal - Contact Litle	There is a problem with the username and password. Contact support@litle.com.
629	Hard Decline - contact PayPal consumer for another payment method.	A PayPal response indicating that you must contact the consumer for another payment method.

A.2 PayPal Chargeback Codes

Table A-2 contains a list of codes and messages that can be returned in the response for a chargeback transaction.

TABLE A-2 PayPal Chargeback Codes

Code	Message
8501	Not as Described - Claim
8502	Non-Receipt - Claim
8510	Unauthorized - Chargeback
8511	Non-Receipt - Chargeback
8512	Merchandise
8513	Duplicate
8514	Special
8520	Unauthorized - ACH
8521	Non-Receipt - ACH
8530	Unauthorized - Fraud
8540	Inquiry - Fraud

Index