

# **Merchant Web Services API**

## **Automated Recurring Billing™ (ARB) SOAP Guide**

November 2011

**Authorize.Net®**  
a CyberSource solution

Authorize.Net LLC ("Authorize.Net") has made efforts to ensure the accuracy and completeness of the information in this document. However, Authorize.Net disclaims all representations, warranties and conditions, whether express or implied, arising by statute, operation of law, usage of trade, course of dealing or otherwise, with respect to the information contained herein. Authorize.Net assumes no liability to any party for any loss or damage, whether direct, indirect, incidental, consequential, special or exemplary, with respect to (a) the information; and/or (b) the evaluation, application or use of any product or service described herein.

Authorize.Net disclaims any and all representation that its products or services do not infringe upon any existing or future intellectual property rights. Authorize.Net owns and retains all right, title and interest in and to the Authorize.Net intellectual property, including without limitation, its patents, marks, copyrights and technology associated with the Authorize.Net services. No title or ownership of any of the foregoing is granted or otherwise transferred hereunder. Authorize.Net reserves the right to make changes to any information herein without further notice.

## **Authorize.Net Trademarks**

Advanced Fraud Detection Suite™

Authorize.Net®

Authorize.Net Your Gateway to IP Transactions™

Authorize.Net Verified Merchant Seal™

Authorize.Net Where the World Transacts®

Automated Recurring Billing™

eCheck.Net®

FraudScreen.Net®



# Contents

## [Revision History](#) 4

---

|                  |   |          |
|------------------|---|----------|
| <b>Chapter 1</b> | <b><a href="#">Developer Introduction</a></b> | <b>5</b> |
|                  | <a href="#">Minimum Requirements</a>          | 6        |
|                  | <a href="#">Developer Support</a>             | 7        |
|                  | <a href="#">Software Development Kits</a>     | 7        |

---

|                  |   |          |
|------------------|---|----------|
| <b>Chapter 2</b> | <b><a href="#">Executing an API Call</a></b>                    | <b>8</b> |
|                  | <a href="#">Note for .NET programmers</a>                       | 8        |
|                  | <a href="#">ARB API URLs</a>                                    | 8        |
|                  | <a href="#">ARB Subscription Functions</a>                      | 9        |
|                  | <a href="#">Authentication</a>                                  | 9        |
|                  | <a href="#">Input Elements for ARBCreateSubscriptionRequest</a> | 10       |
|                  | <a href="#">Input Elements for ARBUpdateSubscription</a>        | 15       |
|                  | <a href="#">Input Elements for ARBCancelSubscription</a>        | 17       |

---

|                  |   |           |
|------------------|---|-----------|
| <b>Chapter 3</b> | <b><a href="#">XML Responses</a></b>  | <b>18</b> |
|                  | <a href="#">Responses for Successful Requests</a>   | 18        |
|                  | <a href="#">Output Elements for ARBCreateSubscriptionResponse</a>                                   | 18        |
|                  | <a href="#">Transaction Response for Individual Payments in a Subscription</a>                      | 21        |
|                  | <a href="#">Output Elements for ARBUpdateSubscriptionResponse and ARBCancelSubscriptionResponse</a> | 23        |
|                  | <a href="#">Error Response</a>  | 23        |
|                  | <a href="#">Error Codes</a>   | 24        |
|                  | <a href="#">Duplicate Subscription Verification</a>   | 26        |
|                  | <a href="#">General Errors for Individual Payments in a Subscription</a>                            | 27        |

# Revision History

This table lists the changes made in the last six releases of this document:

| <b>Release</b> | <b>Changes</b>  |
|----------------|---|
| November 2011  | Added TEL as a valid value for eCheckType                                   |
| February 2011  | Clarify end of month billing cycles   |
| August 2010    | Added ARBGetSubscriptionStatus and ARBGetSubscriptionStatusResponse         |
| July 2010      | Changed error codes to response codes, and added two informational messages |
| June 2010      | Added a note to " <a href="#">ARB Subscription Functions</a> ," page 9      |
| February 2010  | Clarifications suggested by Customer Service                                |

# Developer Introduction

This guide describes the Web development required to submit Automated Recurring Billing™ (ARB), or subscription-based, payments to the Authorize.Net Payment Gateway directly from a Web site or other application using Simple Object Access Protocol (SOAP).

SOAP provides a standards-based mechanism to access Web services from a wide range of platforms. Typically, clients access the Web services using a SOAP client on their respective programming environment. The SOAP client typically generates the native objects and interfaces based on a Web Services description Language (WSDL) that is published by Authorize.Net. The client application initializes the local object and invokes the method as if it is calling a local procedure. The SOAP client handles the generation and parsing of the underlying extensible markup language (XML) documents that form the basis of the SOAP protocol.

Specifically, the Authorize.Net ARB Application Programming Interface (API) provides a mechanism for developers and value-added resellers (VARs) to create, update and cancel ARB subscriptions by means of direct integration between client software or applications and the Authorize.Net Payment Gateway.

A subscription is a set of multiple transactions, or payments, created for the purchase of a subscription-based product or service or for an installment-based payment plan. Payments for the subscription are then generated by the payment gateway at later dates based on a specified payment schedule and subscription duration.

ARB subscriptions **do not** process transactions in real-time. A successful creation of an ARB subscription transaction is not an indicator that the subscription payments that process through your account will be successful. ARB subscription transactions process at approximately 2am PST on their scheduled payment dates. This means that the first scheduled transaction will not be sent to the customer's bank for authorization until approximately 2am PST on the start date that you specify upon creating the subscription in your account. If you create a subscription with a start date that equals the creation date, the first scheduled payment will not process until after 2am the following day. If you wish to validate your customer's payment information before creating their subscription in your account, please use one of the real-time transaction processing methods, such as the AIM (Advanced Integration Method).

The behavior of the ARB API is the same as when a merchant creates, updates, and cancels ARB subscriptions in the Merchant Interface. When a merchant creates a subscription in the Merchant Interface, they enter all required information (customer

payment information, subscription interval and duration, etc.) into the Create New ARB Subscription form. When the merchant submits the information, the Subscription Confirmation page returns a message to the merchant regarding whether or not the subscription was created successfully. The subscription ID assigned for a successfully created subscription is also displayed.

The ARB API accomplishes these same functions through an XML call and subsequent XML response. Whether a subscription is created in the Merchant Interface or through the ARB API, the results are the same.



Log on to the Merchant Interface to step through the manual ARB process. If you do not have a live production account to use for this purpose, you can request a [developer test account](#) from our [Developer Center](#). Be sure to include in the comments section that you need the ARB feature enabled for your test account. ARB subscription transactions never process through our test environment, so if you use a test environment account, you will never see an ARB subscription transaction process. If you wish to see an ARB subscription transaction process, you **MUST** use your live production account.

---

Please refer to specific SOAP client documentation for details on how to use SOAP-based Web services.

## Minimum Requirements

Before you begin ARB integration for an Authorize.Net Payment Gateway account, please check with the merchant to make sure that the following minimum requirements have already been met.

- The merchant must have a merchant bank account that allows Internet transactions.
- The merchant must have an active Authorize.Net Card Not Present Payment Gateway account.
- The merchant must be signed up for the Authorize.Net ARB service.
- Test Mode must be disabled.
- The merchant must store account authentication data securely (for example, API login ID, transaction key).



Merchants should avoid storing any type of sensitive cardholder information. However, if a merchant or third party must store sensitive customer business or payment information, compliance with industry standard storage requirements is required. Please see the [Developer Security Best Practices White Paper](#) for guidelines.

---

## Developer Support

There are several resources available to help you successfully integrate a merchant Web site or other application to the Authorize.Net Payment Gateway.

- The [Developer Center](#) provides test accounts, [sample code](#), FAQs, and troubleshooting tools.
- Be sure to read our [Developer Security Best Practices White Paper](#) for information on how to maximize the security and reliability of your merchant integration solutions.
- If you have questions about the information you find in the Developer Center, you can contact Integration Services by email at [integration@authorize.net](mailto:integration@authorize.net).

If you have any suggestions about how we can improve or correct this guide, please email [documentation@authorize.net](mailto:documentation@authorize.net).

## Software Development Kits

Authorize.Net offers Software Development Kits (SDKs) that present an alternate object-oriented model, in several popular languages. The SDK performs the core payment activities (such as error handling and parsing, network communication, and data encoding) behind the scenes.

The SDK provides utility methods to help developers build payment flows for each of the integration methods. You can download the SDKs at <http://developer.authorize.net/downloads/>.

# Executing an API Call

The following sections describe the minimum requirements for executing an API call for an ARB subscription request using SOAP.

You can develop the subscription request script in one of two ways:

- by yourself, using the API field information in this section
- use Authorize.Net sample code available for free from our [Developer Center](#). We try to offer the most requested programming languages for sample code, but unfortunately we cannot offer all programming languages requested. If you do not wish to use the ARB sample code that we offer, please use your knowledge of your chosen language, along with this guide, to create your own.



**Note**

If you choose to use Authorize.Net sample code, please be aware that in order to achieve a successful implementation, it must be modified with the merchant's specific payment gateway account information.

## Note for .NET programmers

When a parameter is optional, and if you use serialization, then the .NET language you are using automatically creates Boolean properties that indicate whether or not non-nullable parameters are specified. For example, if there is a parameter named `validationMode` that is an Enumeration type, a parameter called `validationModeSpecified` is automatically created. By default, these properties are set to "false." If a request passes a value for an optional parameter, be sure to set these properties to "true" so that the value is not ignored.

## ARB API URLs

| ITEM                              | LOCATION  |
|-----------------------------------|---|
| Web Service URL in Production     | <a href="https://api.authorize.net/soap/v1/Service.asmx">https://api.authorize.net/soap/v1/Service.asmx</a>           |
| Web Service URL in Developer Test | <a href="https://apitest.authorize.net/soap/v1/Service.asmx">https://apitest.authorize.net/soap/v1/Service.asmx</a>   |
| WSDL                              | <a href="https://api.authorize.net/soap/v1/Service.asmx?WSDL">https://api.authorize.net/soap/v1/Service.asmx?WSDL</a> |

**Note**

The Developer Test URL requires the use of a developer test payment gateway account. Production accounts cannot be used to test against the developer test URL, and vice versa.

## ARB Subscription Functions

The ARB API includes the following functions:

- ARBCreateSubscription
- ARBUpdateSubscription
- ARBCancelSubscription

Each API submission can contain only one ARB request. Including more than one request per submission will result in an error.

The following sections provide information about the input parameters required for executing the functions listed above. Indentations in the Parameter column indicate grouping hierarchy. All parameters are case sensitive and must be submitted in the order listed here. Parameters are required unless otherwise indicated. Optional parameters should not be submitted unless they contain valid values.

**Note**

Parameters required for individual API calls are in addition to the authentication parameters required for all API calls.

## Authentication

**ALL** calls to the ARB API require merchant authentication. The following table represents the required XML elements. **All XML elements are case-sensitive and must be submitted in the order listed here. Do not submit optional elements unless they contain valid values.**

**Table 1 Authentication parameters**

| ELEMENT  | Description  |
|--|--|
| merchantAuthentication                                   | Contains the merchant's payment gateway account authentication information   |
| <ul style="list-style-type: none"> <li>• name</li> </ul> | <p><b>Value:</b> The merchant's valid API login ID</p> <p><b>Format:</b> Up to 25 characters</p> <p><b>Notes:</b> Submit the API login ID used to submit transactions.</p> |

**Table 1 Authentication parameters (Continued)**

| ELEMENT  | Description   |
|--|---|
| <ul style="list-style-type: none"> <li>transactionKey</li> </ul> | <p><b>Value:</b> The merchant's valid transaction key</p> <p><b>Format:</b> 16 characters</p> <p><b>Notes:</b> Submit the transaction key obtained by the merchant from the Merchant Interface.</p> |

**Note**

The sample code included in this document uses dummy field values. When using or testing sample code, be sure to enter valid field values. Additional sample code is available for download from the Authorize.Net [Developer Center](#).

## Input Elements for ARBCreateSubscriptionRequest

The following table represents the input elements for executing an API call to the ARBCreateSubscriptionRequest function, in addition to the authentication elements. Indentations in the Element column indicate grouping hierarchy. **Elements are required unless otherwise indicated. All XML elements are case sensitive and must be submitted in the order listed here. Optional elements should not be submitted unless they contain valid values.**

**Note**

For subscriptions with a monthly interval, whose payments begin on the 31st of a month, payments for months with less than 31 days will occur on the last day of the month.

**Table 2 Input elements for ARBCreateSubscriptionRequest**

| PARAMETER  | DESCRIPTION  |
|--|--|
| refId  | <p><b>Value:</b> Merchant-assigned reference ID for the request</p> <p><b>Required:</b> no</p> <p><b>Format:</b> Up to 20 characters</p> <p><b>Notes:</b> If included in the request, this value is included in the response. This feature might be especially useful for multi-threaded applications.</p> |
| subscription   | Contains information about the subscription  |
| <ul style="list-style-type: none"> <li>name</li> </ul>   | <p><b>Value:</b> Merchant-assigned name for the subscription</p> <p><b>Required:</b> no</p> <p><b>Format:</b> Up to 50 characters</p>  |
| <ul style="list-style-type: none"> <li>paymentSchedule</li> </ul>  | Contains information about the payment schedule  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>interval</li> </ul> </li> </ul> | Contains information about the interval of time between payments   |

**Table 2 Input elements for ARBCreateSubscriptionRequest (Continued)**

| PARAMETER           | DESCRIPTION  |
|---------------------|--|
| •••length           | <p><b>Value:</b> The measurement of time, in association with the Interval Unit, that is used to define the frequency of the billing occurrences</p> <p><b>Format:</b> Up to 3 digits</p> <p><b>Notes:</b> If the Interval Unit is "months," can be any number between one (1) and 12. If the Interval Unit is "days," can be any number between seven (7) and 365.</p>  |
| •••unit             | <p><b>Value:</b> The unit of time, in association with the Interval Length, between each billing occurrence</p> <p><b>Format:</b> days, months</p>   |
| •• startDate        | <p><b>Value:</b> The date the subscription begins (also the date the initial billing occurs)</p> <p><b>Format:</b> YYYY-MM-DD</p> <p><b>Notes:</b> The date entered must be greater than or equal to the date the subscription was created.</p> <p>The validation checks against local server date, which is Mountain Time. An error might possibly occur if you try to submit a subscription from a time zone where the resulting date is different; for example, if you are in the Pacific time zone and try to submit a subscription between 11:00 PM and midnight, with a start date set for today.</p> <p>If the start date is the 31st, and the interval is monthly, the billing date is the last day of each month (even when the month does not have 31 days).</p> |
| •• totalOccurrences | <p><b>Value:</b> Number of billing occurrences or payments for the subscription</p> <p><b>Format:</b> Up to 4 digits</p> <p><b>Notes:</b> To submit a subscription with no end date (an ongoing subscription), this field must be submitted with a value of "9999."</p> <p>If a trial period is specified, this number should include the Trial Occurrences.</p>   |
| •• trialOccurrences | <p><b>Value:</b> Number of billing occurrences or payments in the trial period</p> <p><b>Required:</b> no</p> <p><b>Format:</b> Up to 2 digits</p> <p><b>Notes:</b> If a trial period is specified, this number must be included in the Total Occurrences.</p>   |
| • amount            | <p><b>Value:</b> The amount to be billed to the customer for each payment in the subscription</p> <p><b>Format:</b> Up to 15 digits</p> <p><b>Notes:</b> If a trial period is specified, this is the amount that will be charged after the trial payments are completed.</p>   |
| • trialAmount       | <p><b>Value:</b> The amount to be charged for each payment during a trial period</p> <p><b>Required:</b> Conditional</p> <p><b>Format:</b> Up to 15 digits</p> <p><b>Notes:</b> Required when trial occurrences is specified.</p> <p>Once the number of trial occurrences for the subscription is complete, the regular amount will be charged for each remaining payment.</p>   |

**Table 2 Input elements for ARBCreateSubscriptionRequest (Continued)**

| PARAMETER         | DESCRIPTION   |
|-------------------|---|
| • payment         | Contains either the customer's credit card or bank account payment information  |
| •• creditCard     | <b>Value:</b> Contains the customer's credit card information<br><b>Notes:</b> Include this element only when the payment method is credit card.  |
| •• cardNumber     | <b>Value:</b> The credit card number used for payment of the subscription<br><b>Format:</b> 13 to 16 digits   |
| •• expirationDate | <b>Value:</b> The expiration date of the credit card used for the subscription<br><b>Format:</b> YYYY-MM  |
| •• cardCode       | <b>Value:</b> The three- or four-digit card code on the back of most credit cards, on the front for American Express<br><b>Required:</b> no<br><b>Format:</b> 3 or 4 digits<br><b>Notes:</b> include this element only when the merchant has set the card code value field to <b>required</b> in the account settings. The value itself is never validated. |
| •• bankAccount    | <b>Value:</b> Contains the customer's bank account information<br><b>Notes:</b> Include this element only when the payment method is bank account.  |
| •• accountType    | <b>Value:</b> The type of bank account used for payment of the subscription<br><b>Format:</b> checking, business Checking, savings  |
| •• routingNumber  | <b>Value:</b> The routing number of the customer's bank<br><b>Format:</b> 9 digits  |
| •• accountNumber  | <b>Value:</b> The bank account number used for payment of the subscription<br><b>Format:</b> 5 to 17 digits   |
| •• nameOnAccount  | <b>Value:</b> The full name of the individual associated with the bank account number<br><b>Format:</b> Up to 22 characters   |
| •• echeckType     | <b>Value:</b> The type of electronic check transaction used for the subscription<br><b>Format:</b> For checking or savings accounts, PPD, TEL, or WEB<br>For business checking accounts, CCD  |
| •• bankName       | <b>Value:</b> The name of the bank associated with the bank account number<br><b>Required:</b> no<br><b>Format:</b> Up to 50 characters   |
| • order           | <b>Value:</b> Contains optional order information<br><b>Required:</b> no  |
| •• invoiceNumber  | <b>Value:</b> Merchant-assigned invoice number for the subscription<br><b>Required:</b> no<br><b>Format:</b> Up to 20 characters<br><b>Notes:</b> The invoice number will be associated with each payment in the subscription.  |

**Table 2** Input elements for ARBCreateSubscriptionRequest (Continued)

| PARAMETER      | DESCRIPTION  |
|----------------|--|
| •• description | <b>Value:</b> Description of the subscription<br><b>Required:</b> no<br><b>Format:</b> Up to 255 characters<br><b>Notes:</b> The description will be associated with each payment in the subscription. |
| • customer     | <b>Value:</b> Contains information about the customer  |
| •• id          | <b>Value:</b> Merchant-assigned identifier for the customer<br><b>Required:</b> no<br><b>Format:</b> Up to 20 characters   |
| •• email       | <b>Value:</b> The customer's email address<br><b>Required:</b> no<br><b>Format:</b> Up to 255 characters   |
| •• phoneNumber | <b>Value:</b> The customer's phone number<br><b>Required:</b> no<br><b>Format:</b> Up to 25 digits   |
| •• faxNumber   | <b>Value:</b> The customer's fax number<br><b>Required:</b> no<br><b>Format:</b> Up to 25 digits   |
| • billTo       | <b>Value:</b> Contains the customer's billing address information  |
| •• firstName   | <b>Value:</b> The first name associated with the customer's billing address<br><b>Format:</b> Up to 50 characters  |
| •• lastName    | <b>Value:</b> The last name associated with the customer's billing address<br><b>Format:</b> Up to 50 characters   |
| •• company     | <b>Value:</b> The company associated with the customer's billing address<br><b>Required:</b> no<br><b>Format:</b> Up to 50 characters  |
| •• address     | <b>Value:</b> The customer's billing address<br><b>Required:</b> no<br><b>Format:</b> Up to 60 characters  |
| •• city        | <b>Value:</b> The city of the customer's billing address<br><b>Required:</b> no<br><b>Format:</b> Up to 40 characters  |
| •• state       | <b>Value:</b> The state of the customer's billing address<br><b>Required:</b> no<br><b>Format:</b> 2 characters<br><b>Notes:</b> Must be a valid state code  |

**Table 2 Input elements for ARBCreateSubscriptionRequest (Continued)**

| PARAMETER    | DESCRIPTION   |
|--------------|---|
| •• zip       | <b>Value:</b> The ZIP code of the customer's billing address<br><b>Required:</b> no<br><b>Format:</b> Up to 20 characters   |
| •• country   | <b>Value:</b> The country of the customer's billing address<br><b>Required:</b> no<br><b>Format:</b> Up to 60 characters<br><b>Notes:</b> Must be a valid two-character country code or full country name (spelled in English). |
| • shipTo     | <b>Value:</b> Contains the customer's shipping address information<br><b>Required:</b> no   |
| •• firstName | <b>Value:</b> The first name associated with the customer's shipping address<br><b>Format:</b> Up to 50 characters  |
| •• lastName  | <b>Value:</b> The last name associated with the customer's shipping address<br><b>Format:</b> Up to 50 characters   |
| •• company   | <b>Value:</b> The company associated with the customer's shipping address<br><b>Format:</b> Up to 50 characters   |
| •• address   | <b>Value:</b> The customer's shipping address<br><b>Format:</b> Up to 60 characters   |
| •• city      | <b>Value:</b> The city of the customer's shipping address<br><b>Format:</b> Up to 40 characters   |
| •• state     | <b>Value:</b> The state of the customer's shipping address<br><b>Format:</b> Up to 40 characters  |
| •• zip       | <b>Value:</b> The ZIP code of the customer's shipping address<br><b>Format:</b> Up to 20 characters   |
| •• country   | <b>Value:</b> The country of the customer's shipping address<br><b>Format:</b> Up to 60 characters<br><b>Notes:</b> Must be a valid two-character country code or full country name (spelled in English).                       |

**Example ARBCreateSubscription**

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://
schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ARBCreateSubscription xmlns="https://api.authorize.net/soap/v1/">
      <merchantAuthentication>
        <name>API Login ID here</name>
      </merchantAuthentication>
    </ARBCreateSubscription>
  </soap:Body>
</soap:Envelope>
```

```

    <transactionKey>Transaction Key here</transactionKey>
  </merchantAuthentication>
  <subscription>
    <name>subscription information</name>
    <paymentSchedule>
      <interval>
        <length>30</length>
        <unit>days</unit>
      </interval>
      <startDate>2007-12-01</startDate>
      <totalOccurrences>14</totalOccurrences>
      <trialOccurrences>2</trialOccurrences>
    </paymentSchedule>
    <amount>15.00</amount>
    <trialAmount>10.00</trialAmount>
    <payment>
      <creditCard>
        <cardNumber>6011000000000012</cardNumber>
        <expirationDate>2008-12</expirationDate>
      </creditCard>
    </payment>
    <billTo>
      <firstName>John</firstName>
      <lastName>Smith</lastName>
    </billTo>
  </subscription>
</ARBCreateSubscription>
</soap:Body>
</soap:Envelope>

```

**Note**

The sample code included in this document uses dummy field values. When using or testing sample code, be sure to enter valid field values. Additional sample code is available for download from the Authorize.Net [Developer Center](#).

## Input Elements for ARBUpdateSubscription

The input elements for a request to update an ARB subscription are the same as the create an ARB subscription function with the following addition and exceptions. **All XML elements are case sensitive and must be submitted in the order listed here. Optional elements should not be submitted unless they contain valid values.**

You must submit the subscriptionID of the subscription to be updated.

**Table 3** Input elements for ARBUpdateSubscription

| ELEMENT        | DESCRIPTION   |
|----------------|---|
| subscriptionId | <p><b>Value:</b>The payment gateway-assigned identification number for the subscription</p> <p><b>Format:</b> Up to 13 digits</p> |

- The subscription start date (subscription.paymentSchedule.startDate) may only be updated if no successful payments have been completed.
- The subscription interval information (subscription.paymentSchedule.interval.length and subscription.paymentSchedule.interval.unit) may not be updated.
- The number of trial occurrences (subscription.paymentSchedule.trialOccurrences) may only be updated if the subscription has not yet begun or is still in the trial period.
- If the start date is the 31st, and the interval is monthly, the billing date is the last day of each month (even when the month does not have 31 days).

All other fields are optional.



**Note**

The sample code included in this document uses dummy field values. When using or testing sample code, be sure to enter valid field values. Additional sample code is available for download from the Authorize.Net [Developer Center](#).

### Example ARBUpdateSubscription

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://
schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ARBUpdateSubscription xmlns="https://api.authorize.net/soap/v1/">
      <merchantAuthentication>
        <name>API Login ID here</name>
        <transactionKey>Transaction Key here</transactionKey>
      </merchantAuthentication>
      <subscriptionId>141414</subscriptionId>
      <subscription>
        <name>subscription information</name>
        <paymentSchedule>
          <interval>
            <length>30</length>
            <unit>days</unit>
          </interval>
          <startDate>2007-12-01</startDate>
          <totalOccurrences>26</totalOccurrences>
        </paymentSchedule>
      </subscription>
    </ARBUpdateSubscription>
  </soap:Body>
</soap:Envelope>
```

## Input Elements for ARBCancelSubscription

The following table represents the input elements for executing an API call to the ARBCancelSubscription function, in addition to the authentication elements. Indentations in the Element column indicate grouping hierarchy. **Elements are required unless otherwise indicated. All XML elements are case sensitive and must be submitted in the order listed here. Optional elements should not be submitted unless they contain valid values.**

**Table 4** Input elements for ARBCancelSubscription

| ELEMENT        | DESCRIPTION   |
|----------------|---|
| refID          | <p><b>Value:</b> Merchant-assigned reference ID for the request</p> <p><b>Required:</b> no</p> <p><b>Notes:</b> If included in the request, this value will be included in the response. This feature might be especially useful for multi-threaded applications.</p> |
| subscriptionId | <p><b>Value:</b> The payment gateway-assigned identification number for the subscription</p> <p><b>Format:</b> Up to 13 digits</p>  |

### Example ARBCancelSubscriptionRequest

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://
schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ARBCancelSubscription xmlns="https://api.authorize.net/soap/v1/">
      <merchantAuthentication>
        <name>API Login ID here</name>
        <transactionKey>Transaction Key here</transactionKey>
      </merchantAuthentication>
      <subscriptionId>141414</subscriptionId>
    </ARBCancelSubscription>
  </soap:Body>
</soap:Envelope>
```



#### Note

The sample code included in this document uses dummy field values. When using or testing sample code, be sure to enter valid field values. Additional sample code is available for download from the Authorize.Net [Developer Center](#).

# XML Responses

The transaction response from the payment gateway is a set of fields that provides information about the status of a request.

## Responses for Successful Requests

The following sections describe the output elements that are returned for successful API calls.

### Output Elements for ARBCreateSubscriptionResponse

The following table represents the output elements for a successful API call to the ARBCreateSubscriptionRequest function. Indentations in the Element column indicate grouping hierarchy.

**Table 5** Output elements for ARBCreateSubscriptionResponse

| ELEMENT  | DESCRIPTION  |
|--|--|
| refID  | <p><b>Value:</b> Merchant-assigned reference ID for the request</p> <p><b>Format:</b> Up to 20 characters</p> <p><b>Notes:</b> This element is included in the response only if it was included in the request.</p>          |
| messages   | <p><b>Value:</b> Contains information about the results of the request</p>   |
| <ul style="list-style-type: none"> <li>resultCode</li> </ul>   | <p><b>Value:</b> Contains additional information about the results of the request</p> <p><b>Format:</b> Ok</p> <p><b>Notes:</b> An “Ok” result code indicates that the request was processed and accepted without error.</p> |
| <ul style="list-style-type: none"> <li>message</li> </ul>  | <p><b>Value:</b> Contains the result code and text</p> <p><b>Notes:</b> Any messages present are informational only.</p>   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>code</li> </ul> </li> </ul> | <p><b>Value:</b> I00001</p>  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>text</li> </ul> </li> </ul> | <p><b>Value:</b> Successful</p>  |

**Table 5 Output elements for ARBCreateSubscriptionResponse (Continued)**

| ELEMENT               | DESCRIPTION   |
|-----------------------|---|
| <b>subscriptionId</b> | <b>Value:</b> The payment gateway assigned identification number for the subscription<br><br><b>Format:</b> Up to 13 digits |

**Example ARBCreateSubscriptionResponse**

```
<?xml version="1.0" encoding="utf-8"?>
<ARBCreateSubscriptionResponse xmlns="AnetApi/xml/v1/schema/
AnetApiSchema.xsd">
  <refId>Sample</refId>
  <messages>
    <resultCode>Ok</resultCode>
    <message>
      <code>I00001</code>
      <text>Successful.</text>
    </message>
  </messages>
  <subscriptionId>100748</subscriptionId>
</ARBCreateSubscriptionResponse>
```

After you receive a response from the payment gateway with an “Ok” result code, your subscription has been successfully created. The response will include the subscription ID assigned to that particular subscription. Individual transactions, or payments, for a subscription are generated automatically after 2 a.m. PST by the payment gateway according to the designated payment schedule and subscription duration. Each payment will only be viewable in the merchant’s payment gateway account when it is actually generated.

For example, if a new subscription is created with a start date of June 6, with a monthly payment interval, the first payment for the subscription will not be viewable in the merchant’s payment gateway account until June 6. All subsequent payments will be visible on their scheduled date (July 6 payment will be visible on July 6, August 6 on August 6, etc.).

**Note**

If you create a new subscription with the first payment scheduled for that same day, the initial payment for the subscription will actually be submitted the next business day.

Once each scheduled transaction in a subscription has been submitted, which is usually at 2 AM PST for ARB transactions, the merchant will receive an email from the payment gateway indicating the transaction status.

The merchant can also configure their account in the Merchant Interface to receive the following ARB emails:

- Daily Transaction Summary.
- Failed Transaction Notice – sent when a payment in a subscription declines or receives an error response from the processor.
- Subscription Due for Expiration – sent after the second to last payment in a subscription is submitted, to notify the merchant that the next payment is the final one in the subscription.
- Credit Card Expiration – sent immediately after the last possible successful payment in a subscription, to notify the merchant that the credit card expiration date will expire before the next scheduled payment in the subscription.
- Subscription Suspension – sent to notify the merchant that a subscription has been suspended. A subscription will be suspended if the first payment in the subscription is declined, rejected or receives an error response. Additionally, if a subscription is edited, for example payment or shipping information is changed, the subscription will be suspended if the first payment after the edits is declined, rejected or receives an error response.
- Subscription Termination – sent when a subscription is terminated. If a suspended subscription is not edited to fix the problem that caused the suspension, it will terminate on the next scheduled payment.
- Subscription Expiration – sent after a subscription has expired. Once expired, a subscription cannot be reactivated. Instead, a new subscription would have to be created.

**Note**

The Daily Transaction Summary email returns an Excel file in comma separated value (.csv) format. The merchant will receive Successful.csv, Failed.csv or both files.

---

**To select which ARB emails to receive:**

- Step 1** Log on to the Merchant Interface at <https://secure.authorize.net>
- Step 2** Click **User Administration** under Account in the main menu on the left
- Step 3** Select the user you would like to edit and click **Edit User**
- Step 4** Click **Edit Profile Information** under Profile and Security Settings
- Step 5** Under the Automated Recurring Billing (ARB) Emails section, click to select or deselect which emails the user should receive
- Step 6** Click **Submit** to save the changes

**Note**

Test environment accounts do not process ARB subscription transactions. If you are using a test environment account, you will not receive these email notifications in any form. You will also not be able to receive an ARB subscription transaction Silent Post while using a test environment account.

---

For more information on viewing subscriptions in the Merchant Interface or on the types of ARB emails the merchant can opt to receive, please see the Merchant Interface Online Help Files.

## Transaction Response for Individual Payments in a Subscription

The payment gateway sends an email to the merchant for each transaction submitted in a subscription indicating the transaction's status. If you would like to receive a transaction response for each payment in a subscription, you must enable the Silent Post feature in the Merchant Interface. When this feature is enabled, the payment gateway will post a transaction response in name/value pair format to the URL specified in the Silent Post field of the Merchant Interface. The name/value pair response uses the syntax of *x\_name\_of\_field=value of field&*. You can find a list of these fields in the [SIM Implementation Guide](#) in the section entitled "Fields in the Payment Gateway Response."

When the Silent Post URL feature is enabled, name/value pair responses for both ARB transactions *and* all other non-ARB transactions will post to the specified URL. To determine which transaction responses are for ARB payments, you can parse the response for the *x\_subscription\_id* (Subscription ID) and the *x\_subscription\_paynum* (Subscription Payment Number) fields. These fields are only returned in ARB subscription transaction responses.



### Note

The Silent Post feature only returns responses for scheduled ARB transactions that are approved or declined. The payment gateway will not return a response to the specified Silent Post URL if the scheduled transaction results in a general error due to expired or invalid payment information. For more information see the "General Errors for Individual Payments in a Subscription" section of this guide.

## Configuring a Silent Post URL In Your Live Production Account.

A Silent Post request must be accepted within 2 seconds, otherwise it will be aborted. If you decide to use Silent Post, it is important that your Silent Post URL is simply used as a method of collecting and dumping response data into a database or file for your use separately at a later time. Otherwise, the likelihood of your Silent Post URL failing to accept the responses we send will be much higher. A Silent Post is sent only once and it is not possible to have them re-sent to you at any time.

ARB subscriptions only generate Silent Post responses if and when a transaction processes. If a transaction does not process, for example, if the credit card has expired, a Silent Post does not occur (see "[General Errors for Individual Payments in a Subscription](#)," page 27 for more information). It is recommended that you configure the ARB specific email notifications within your account as well as using Silent Post for the purposes of identifying ARB subscription activity.

Silent Post responses are returned in real-time, meaning as soon as the transaction processes we send out the Silent Post to your specified URL. We do not necessarily update the subscription in real-time, however. This means that you should not use the Silent Post response to immediately update or cancel an ARB subscription. If you update or cancel a subscription before we have updated the subscription in our system, our update will overwrite any changes you may have made. You should instead simply collect

the response data and submit any changes necessary in your subscription(s) later that day.

For information on how to configure the Silent Post URL in the Merchant Interface, see the [Merchant Integration Guide](#).

An ARB subscription transaction Silent Post will occur when ARB transactions are processed in your live production account. ARB subscriptions begin processing at approximately 2am PST. Because the POST does not occur while an SSL connection is established, ARB transactions use an MD5 Hash calculation to validate each transaction response. If you do not have the Silent Post feature enabled, the MD5 Hash information below is not applicable.

### Using the MD5 Hash Feature for ARB Transactions

The MD5 Hash feature enables you to authenticate that a transaction response is securely received from Authorize.Net. The payment gateway creates the MD5 Hash using the following pieces of account and transaction information as input:

- MD5 Hash value
- Transaction ID (*x\_trans\_id*)
- Amount (*x\_amount*)

The MD5 Hash value is a random value configured by the merchant in the Merchant Interface. It should be stored securely separately from the merchant's Web server. For more information on how to configure this value, see the [Merchant Integration Guide](#).

For example, if the MD5 Hash value configured by the merchant in the Merchant Interface is "wilson," and the transaction ID is "9876543210" with an amount of \$1.00, then the field order used by the payment gateway to generate the MD5 Hash would be as follows:

```
wilson98765432101.00
```



#### Note

The value passed back for *x\_amount* is formatted with the correct number of decimal places used in the transaction. For transaction types that do not include a transaction amount, mainly Voids, the amount used by the payment gateway to calculate the MD5 Hash is "0.00."

To authenticate the MD5 Hash returned by the payment gateway in the transaction response, you need to create a script that can receive and parse the transaction response, call the merchant's MD5 Hash value, and run the MD5 algorithm on the same fields listed above. If the result matches the MD5 Hash returned by the payment gateway, the transaction response is successfully authenticated.

The fields listed above are only applicable when using the MD5 Hash for ARB transactions. If you are using the MD5 Hash to authenticate non-ARB transactions, the fields used are different. For information on using the MD5Hash for non-ARB transactions, see the [Merchant Integration Guide](#) at <http://www.authorize.net/support/merchant/>.

**Example Silent Post Response**


---

```
x_response_code=1&x_response_subcode=1&x_response_reason_code=1&
x_response_reason_text=This+transaction+has+been+approved%2E&
x_auth_code=QbJHm4&x_avs_code=Y&x_trans_id=2147490176&
x_invoice_num=INV12345&x_description=My+test+description&
x_amount=0%2E44&x_method=CC&x_type=auth%5Fcapture&
x_cust_id=CustId&x_first_name=Firstname&
x_last_name=LastNamenardkkwhczdp&x_company=&x_address=&x_city=&
x_state=&x_zip=&x_country=&x_phone=&x_fax=&x_email=&
x_ship_to_first_name=&x_ship_to_last_name=&x_ship_to_company=&
x_ship_to_address=&x_ship_to_city=&x_ship_to_state=&x_ship_to_zip=&
x_ship_to_country=&x_tax=0%2E0000&
x_duty=0%2E0000&x_freight=0%2E0000&x_tax_exempt=FALSE&x_po_num=&
x_MD5_Hash=B9B3D19AEFD7BECC86C5FB3DB717D565&
x_cavv_response=2&x_test_request=false&x_subscription_id=101635&
x_subscription_paynum=1
```

---

**Output Elements for ARBUpdateSubscriptionResponse and ARBCancelSubscriptionResponse**

The output elements in for ARBUpdateSubscriptionResponse and ARBCancelSubscriptionResponse are the same as ["Output Elements for ARBCreateSubscriptionResponse"](#) with the following exception: the subscriptionID of the updated subscription is not included in the response.

**Error Response**

The following table describes the output elements for an error response to any of the requested API methods.

**Table 6 Output elements for an error response**

| ELEMENT             | DESCRIPTION  |
|---------------------|--|
| <b>refID</b>        | <b>Value:</b> Merchant-assigned reference ID for the request<br><b>Format:</b> Up to 20 characters<br><b>Notes:</b> This element is included in the response only if it was included in the request. |
| <b>messages</b>     | <b>Value:</b> Contains information about the results of the request  |
| • <b>resultCode</b> | <b>Value:</b> Contains additional information about the results of the request<br><b>Format:</b> Error<br><b>Notes:</b> The request resulted in one or more errors.                                  |
| • <b>message</b>    | <b>Value:</b> Contains the result code and text<br><b>Notes:</b> Messages provide more details about the error(s).   |

**Table 6 Output elements for an error response (Continued)**

| ELEMENT | DESCRIPTION   |
|---------|---|
| •• code | <b>Value:</b> The code that represents the reason for the error |
| •• text | <b>Value:</b> A text description of the error                   |

**Example Error Response**

```
<?xml version="1.0" encoding="utf-8"?>
<ErrorResponse xmlns="AnetApi/xml/v1/schema/AnetApiSchema.xsd">
  <messages>
    <resultCode>Error</resultCode>
    <message>
      <code>E00003</code>
      <text> An error occurred while parsing the XML request.
    </text>
    </message>
  </messages>
</ErrorResponse>
```

## Error Codes

The following table lists the common error codes and texts.

**Table 7 Error codes**

| CODE   | TEXT  | DESCRIPTION  |
|--------|---|--|
| E00001 | An error occurred during processing. Please try again.                        | An unexpected system error occurred while processing this request.                             |
| E00002 | The content-type specified is not supported.                                  | The only supported content-types are text/xml and application/xml.                             |
| E00003 | An error occurred while parsing the XML request.                              | This is the result of an XML parser error.   |
| E00004 | The name of the requested API method is invalid.                              | The name of the root node of the XML request is the API method being called. It is not valid.  |
| E00005 | The merchantAuthentication.transactionKey is invalid or not present.          | Merchant authentication requires a valid value for transaction key.                            |
| E00006 | The merchantAuthentication.name is invalid or not present.                    | Merchant authentication requires a valid value for name.                                       |
| E00007 | User authentication failed due to invalid authentication values.              | The name/and or transaction key is invalid.  |
| E00008 | User authentication failed. The payment gateway account or user is inactive.  | The payment gateway or user account is not currently active.                                   |
| E00009 | The payment gateway account is in Test Mode. The request cannot be processed. | The requested API method cannot be executed while the payment gateway account is in Test Mode. |

**Table 7 Error codes (Continued)**

| <b>CODE</b> | <b>TEXT</b>   | <b>DESCRIPTION</b>  |
|-------------|---|---|
| E00010      | User authentication failed. You do not have the appropriate permissions.  | The user does not have permission to call the API.  |
| E00011      | Access denied. You do not have the appropriate permissions.               | The user does not have permission to call the API method.   |
| E00012      | A duplicate subscription already exists.                                  | A duplicate of the subscription was already submitted. The duplicate check looks at several fields including payment information, billing information and, specifically for subscriptions, Start Date, Interval and Unit. |
| E00013      | The field is invalid.   | One of the field values is not valid.   |
| E00014      | A required field is not present.  | One of the required fields was not present.   |
| E00015      | The field length is invalid.  | One of the fields has an invalid length.  |
| E00016      | The field type is invalid.  | The field type is not valid.  |
| E00017      | The startDate cannot occur in the past.                                   | The subscription start date cannot occur before the subscription submission date.<br><br>(Note: validation is performed against local server date, which is Mountain Time.)   |
| E00018      | The credit card expires before the subscription startDate.                | The credit card is not valid as of the start date of the subscription.  |
| E00019      | The customer taxId or driversLicense information is required.             | The customer tax ID or driver's license information (driver's license number, driver's license state, driver's license DOB) is required for the subscription.   |
| E00020      | The payment gateway account is not enabled for eCheck.Net subscriptions.  | This payment gateway account is not set up to process eCheck.Net subscriptions.   |
| E00021      | The payment gateway account is not enabled for credit card subscriptions. | This payment gateway account is not set up to process credit card subscriptions.  |
| E00022      | The interval length cannot exceed 365 days or 12 months.                  | The interval length must be 7 to 365 days or 1 to 12 months.  |
| E00024      | The trialOccurrences is required when trialAmount is specified.           | The number of trial occurrences cannot be zero if a valid trial amount is submitted.  |
| E00025      | Automated Recurring Billing is not enabled.                               | The payment gateway account is not enabled for Automated Recurring Billing.   |
| E00026      | Both trialAmount and trialOccurrences are required.                       | If either a trial amount or number of trial occurrences is specified then values for both must be submitted.  |
| E00027      | The test transaction was unsuccessful.                                    | An approval was not returned for the test transaction.  |
| E00028      | The trialOccurrences must be less than totalOccurrences.                  | The number of trial occurrences specified must be less than the number of total occurrences specified.  |

**Table 7 Error codes (Continued)**

| CODE   | TEXT  | DESCRIPTION   |
|--------|---|---|
| E00029 | Payment information is required.                        | Payment information is required when creating a subscription.   |
| E00030 | A paymentSchedule is required.                          | A payment schedule is required when creating a subscription.  |
| E00031 | The amount is required.                                 | The subscription amount is required when creating a subscription.                                     |
| E00032 | The startDate is required.                              | The subscription start date is required to create a subscription.                                     |
| E00033 | The subscription Start Date cannot be changed.          | Once a subscription is created the Start Date cannot be changed.                                      |
| E00034 | The interval information cannot be changed.             | Once a subscription is created the subscription interval cannot be changed.                           |
| E00035 | The subscription cannot be found.                       | The subscription ID for this request is not valid for this merchant.                                  |
| E00036 | The payment type cannot be changed.                     | Changing the subscription payment type between credit card and eCheck.Net is not currently supported. |
| E00037 | The subscription cannot be updated.                     | Subscriptions that are expired, canceled or terminated cannot be updated.                             |
| E00038 | The subscription cannot be canceled.                    | Subscriptions that are expired or terminated cannot be canceled.                                      |
| E00045 | The root node does not reference a valid XML namespace. | An error exists in the XML namespace. This error is similar to E00003.                                |

## Duplicate Subscription Verification

A duplicate check occurs against every ARB subscription created in an account in order to prevent duplicate subscriptions from inadvertently being created. The following is a list of the fields that are verified. If ALL of the verified fields are the same, an E00012 will occur and the subscription is not successfully created in the account. The duplicate check verifies for an indefinite amount of time.

- subscription.Article.MerchantID
- subscription.Article.CustomerInfo.Payment.CreditCard.CardNumber
- subscription.Article.CustomerInfo.Payment.eCheck.RoutingNumber
- subscription.Article.CustomerInfo.Payment.eCheck.AccountNumber
- subscription.Article.CustomerInfo.CustomerID
- subscription.Article.CustomerInfo.BillingInfo.BillToAddress.FirstName
- subscription.Article.CustomerInfo.BillingInfo.BillToAddress.LastName
- subscription.Article.CustomerInfo.BillingInfo.BillToAddress.Company
- subscription.Article.CustomerInfo.BillingInfo.BillToAddress.StreetAddress

- subscription.Article.CustomerInfo.BillingInfo.BillToAddress.City
- subscription.Article.CustomerInfo.BillingInfo.BillToAddress.StateProv
- subscription.Article.CustomerInfo.BillingInfo.BillToAddress.Zip
- subscription.OrderInfo.Amount
- subscription.OrderInfo.Invoice
- subscription.Recurrence.StartDate
- subscription.Recurrence.Interval
- subscription.Recurrence.Unit

## General Errors for Individual Payments in a Subscription

Anytime an error occurs that prevents the payment gateway from processing a scheduled payment in a subscription, the payment will result in a general error. For example, if the credit card expiration date on file for a subscription is not updated before it expires, the next scheduled payment will not be processed and the transaction will result in a general error. These subscriptions will not be suspended or be automatically terminated unless the general error occurs on the first scheduled payment in the subscription.



### Note

If the Silent Post feature of the Merchant Interface is enabled, transactions that receive a general error will NOT post a response to the specified Silent Post URL. See the “Transaction Response for Individual Payments in a Subscription” section of this guide for more information on using the Silent Post feature.

Some of the most common reasons for a payment to receive a general error are:

- The credit card number or expiration date on file has expired.
- The payment gateway account was in test mode at the time of the scheduled payment.
- eCheck.Net has been disabled for the payment gateway account or the specific eCheck.Net type has been disabled.
- A notice of change (NOC) has been received for the eCheck.Net subscription.

Payments with general errors can be identified on the completed transactions page of the Merchant Interface. They will display “N/A” in the Transaction ID field and “General Error” in the Transaction Status field.

Transactions that result in general errors can also be found in the Failed.csv Excel file that comes when you are enabled to receive the Daily Transaction Summary email.