more give, less take

NAB TRANSACT

Integration Guide – XML API for Payments

Version 3.0 – July 2013

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1. Introduction

1.1 About this Guide

This guide provides technical information about integrating and configuring the NAB Transact XML API within your web site or system. An Application Programming Interface (API) is a source code interface that an operating system or library provides to support requests for services to be made of it by computer programs. The Extensible Markup Language (XML) is a general purpose markup language. It is classified as an extensible language because it allows its users to define their own tags. Its primary purpose is to facilitate the sharing of structured data across different information systems, especially via the internet.

It is recommended that someone with web site or application programming experience reads this guide and implements the NAB Transact XML API.

This guide covers the process of building a program within your web site or application in order to integrate the XML API, plus explanations and examples of the system's features. An understanding of application programming is required.

1.2 Card Types Accepted

The NAB Transact XML API accepts the following card types by default:

- Visa
- MasterCard

You may also accept American Express, Diners Club or JCB. However, you will need to apply directly with the relevant card schemes. Contact details are shown below:

American Express/JCB	1300 363 614
Diners Club	1300 360 500

1.3 Prerequisites

1.3.1 Merchant Services

- A NAB Merchant ID and an Electronic Banking (EB) number for accepting Visa and MasterCard credit card transactions.
- An agreement with American Express, Diners and/or JCB if you wish to accept these cards

1.3.2 NAB Transact Service

- A NAB Transact Client ID (e.g. ABC0021). This number is generated by the NAB Transact Service Centre and is provided to you upon account activation.
- A website or application and test environment.
- A prior knowledge of web site or application programming is required. It is beyond the scope of this document to explain all features and functionality of building a web site or application program in the variety of languages available.
- The ability to update your web site. This is typically performed by a File Transfer Program (FTP).

1.4 Website Review and Service Activation

Once your request for a NAB Transact account is received, the NAB Transact Service Centre will activate your service. You will then receive a 'live' activation email. At this stage you will be able to integrate the XML API into your web site and complete your testing.

Common mistakes that slow down account activation:

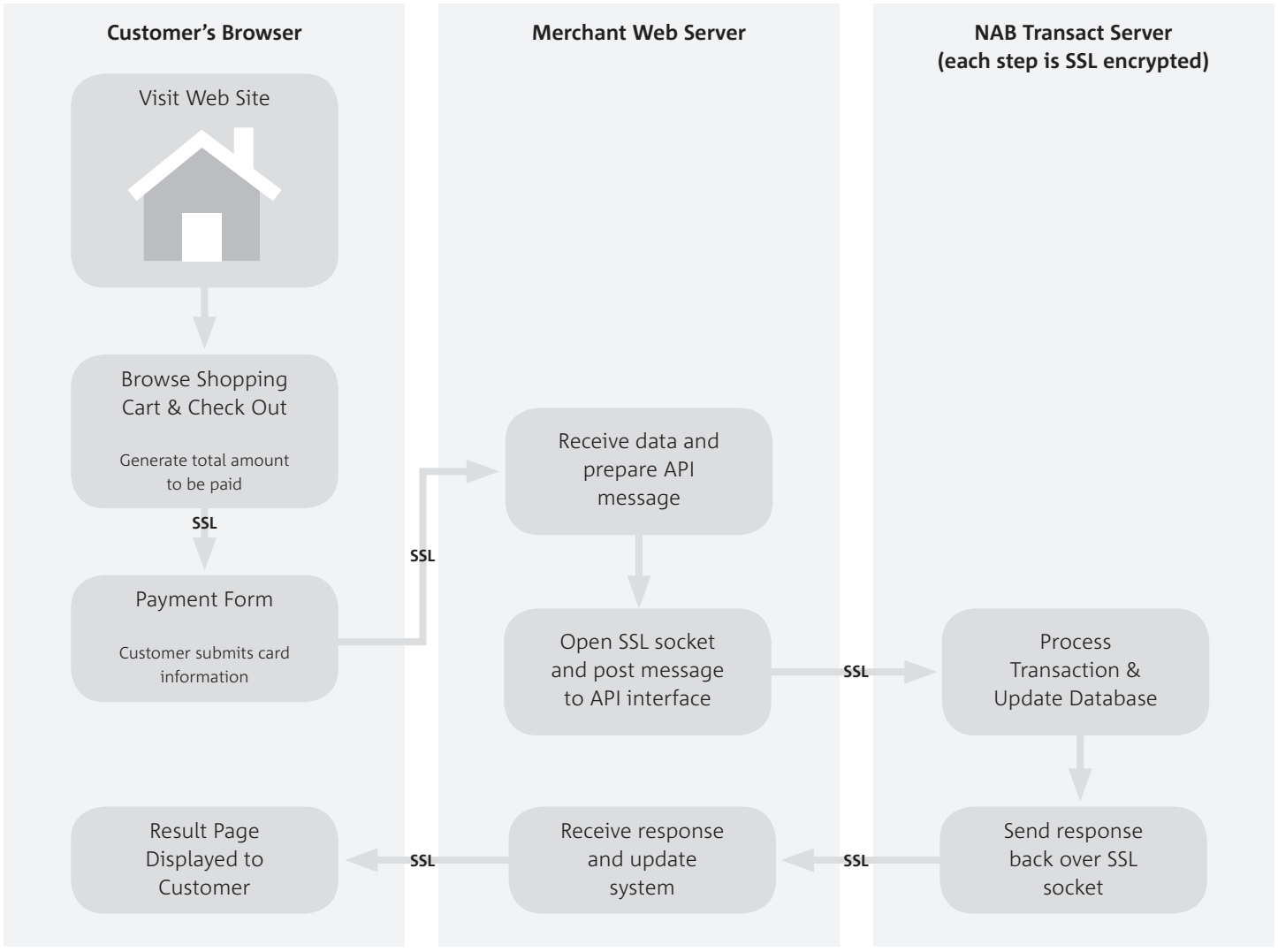
- Missing privacy policy
- No refund policy provided under the documented URL on the payment page
- Missing shipping policy
- Missing security policy

NOTE: If you do not allow refunds, this must be clearly indicated on your Refund Policy page.

1.5 How is NAB Transact XML API Implemented?

1.5.1 Overview

The NAB Transact XML API integrates into a web site via any programming language. A merchant's web site or application captures the credit card information and then posts the details in an XML message format over a secure socket connection to the NAB Transact Payment Gateway for authorisation. The authorisation response is then returned as an XML message over the same secure socket connection.



2. System

2.1 System Overview

NAB Transact XML API uses an XML request and response message and can be run on any platform and in any programming language. The message transport is via HTTP over SSL.

The NAB Transact XML API supports four (4) payment transaction types: payments, refunds, preauthorisation and completions ("advices"). It also allows users to send an Echo request to check the availability of the NAB Transact Payment Gateway.

2.2 Document Audience

This document is intended for developers integrating the NAB Transact XML API interface into their own applications or websites. Knowledge of the XML is required for some sections of this document.

3. Functionality

3.1 Transactions

The NAB Transact XML API offers a "platform-independent" way of processing financial transactions. It supports a number of different transaction types.

3.1.1 Payment Transactions

The payment transaction requests are used to send financial credit card transaction messages to the NAB Transact Payment Gateway. The Gateway then sends a authorisation request and provides a response based on the card issuer's authorisation of the transaction.

The Payment request can be used to send the following credit card transaction types:

- Payment
- Refund
- Preauthorise
- Complete (Advice)

3.1.2 Echo Transaction

The Echo requests are used to verify that the NAB Transact Payment Gateway is available.

3.2 Authentication, Communication & Encryption

To improve security, each merchant is issued with a transaction password. This password is required to be sent in every payment transaction request. All transactions are then authenticated by the NAB Transact Payment Gateway before the payment request can be processed. This helps ensure that unauthorised users are not able to process payments.

The transaction password can be changed by the merchant via the NAB Transact administration and reporting tool.

The XML API interface uses Hypertext Transfer Protocol over Secure Socket Layer (HTTPS) to communicate with the NAB Transact Payment Gateway.

HTTPS mechanism uses SSL to encrypt and decrypt the request and response payload. NAB Transact uses the SSL certificate issued by VeriSign, Inc. The merchant's application should have access to VeriSign Root Certificate to communicate with the NAB Transact Payment Gateway. Majority of the Application Servers, Run Time Environments and Operating Systems are shipped with VeriSign Root Certificate. VeriSign Root Certificate can be downloaded from http://www.verisign.com/support/roots.html Please refer to VeriSign® SSL FAQs located at http://www.verisign.com.au/repository/faq/rootCA_faq.shtml for more information.

4. Message Formats and Contents

4.1 XML Header

The XML document will need to begin with an XML declaration that contains the following data:

<?xml version="1.0" encoding="UTF-8"?>

Markup	Usage	Explanation
<?	required	Begins a processing instruction.
Xml	required	Declares this to be an XML instruction.
Version=""	required	Identifies the version of XML specification in use.
Encoding=""	required	Indicates which international character set is used.
?>	required	Terminates the processing instruction.

IMPORTANT:
The XML document must contain the following top level (root) element:
<NABTransactMessage>

4.2 Element Definitions

4.2.1 Element Codes

The XML Elements outlined in the sections below have the following codes and are used to indicate whether the elements are present in the request or response messages:

Code	Condition
P	Present, the element is required in the message and must be present.
O	Optional, the element is not required in the message but may be present.
X	Not present, the element should not be present.

4.2.2 Element Types and Constraints

The descriptions of the Element Types and their associated constraints are outlined in the table below:

Type	Constraint	Description
String	A	• Alphabetic characters • Value in the element is valid if it only contains characters in the specified set (alphabetic)
	N	• Numeric characters • Value in the element is valid if it only contains characters in the specified set (numeric)
	S	• Special characters • Will be followed with a list of allowed characters • Value in the element is valid if it only contains characters in the specified set (special characters)
	LEN	• Number of characters in the string • Value in the element is valid if the length of the value is equal to the defined length
	MINEN	• Minimum number of characters in the string • Value in the element is valid if the length of the value is greater than or equal to the defined minimum length
	MAXLEN	• Maximum number of characters in the string • Value in the element is valid if the length of the value is less than or equal to the defined maximum length
Integer	DIGNO	• Number of digits in the integer value • Value in the element is valid if the number of digits in the value is less than or equal to the defined digits number
	MINVAL	• Minimum numerical value • Value in the element is valid if it is numerically greater than or equal to the defined minimum value
	MAXVAL	• Maximum numerical value • Value in the element is valid if it is numerically less than or equal to the defined maximum value

4.3 Sample XML Request and Response

4.3.1 Request

```
<?xml version="1.0" encoding="UTF-8"?>
<NABTransactMessage>
 <MessageInfo>
  <messageID>8af793f9af34bea0cf40f5fb5c630c</messageID>
  <messageTimestamp>20041803161306527000+660</messageTimestamp>
  <timeoutValue>60</timeoutValue>
  <apiVersion>xml-4.2</apiVersion>
 </MessageInfo>
 <MerchantInfo>
  <merchantID>XYZ0010</merchantID>
  <password>abcd1234</password>
 </MerchantInfo>
 <RequestType>Payment</RequestType>
 <Payment>
  <TxnList count="1">
   <Txn ID="1">
    <txnType>0</txnType>
    <txnSource>0</txnSource>
    <txnChannel>0</txnChannel>
```

```
   <amount>1000</amount>
   <purchaseOrderNo>test</purchaseOrderNo>
   <CreditCardInfo>
    <cardNumber>4444333322221111</cardNumber>
    <expiryDate>08/14</expiryDate>
    <recurringFlag>no</recurringFlag>
   </CreditCardInfo>
  </ Txn>
 </ TxnList>
</Payment>
</NABTransactMessage>
```

4.3.2 Response

```
<?xml version="1.0" encoding="UTF-8"?>
<NABTransactMessage>
 <MessageInfo>
  <messageID>8af793f9af34bea0cf40f5fb5c630c</messageID>
  <messageTimestamp>200418031613163160000+660</messageTimestamp>
  <apiVersion>xml-4.2</apiVersion>
 </MessageInfo>
 <RequestType>Payment</RequestType>
 <MerchantInfo>
  <merchantID>ABC0001</merchantID>
 </MerchantInfo>
 <Status>
  <statusCode>000</statusCode>
  <statusDescription>Normal</statusDescription>
 </Status>
 <Payment>
  <TxnListcount="1">
   <Txn ID="1">
    <txnType>0</txnType>
    <txnSource>0</txnSource>
    <amount>1000</amount>
    <purchaseOrderNo>test</purchaseOrderNo>
    <approved>Yes</approved>
    <responseCode>00</responseCode>
    <responseText>Approved</responseText>
    <settlementDate>20040318</settlementDate>
    <txnID>009844</txnID>
    <CreditCardInfo>
     <pan>444433...111</pan>
     <expiryDate>08/12</expiryDate>
     <cardType>6</cardType>
     <cardDescription>Visa</cardDescription>
    </CreditCardInfo>
   </Txn>
  </TxnList>
 </Payment>
</NABTransactMessage>
```

5. Common XML Message Elements

5.1 Request Messages

Requests are the payment transaction messages sent to the NAB Transact Payment Gateway. The following sections describe the elements common to all requests.

5.1.1 Message Info Element

Description: Identifies the message.
Format type: (No value)
Format constraints: (No value)
Validated by NAB Transact: Yes
Value: (No value)
Sub-elements: Yes, see table below

<MessageInfo> sub-elements:

Element	Comments	
<messageID>	**Description:** **Format type:** **Format constraints:** **Validated by NAB Transact:** **Value:** **Sub-elements:**	Unique identifier for the XML message. String AN, MINLEN = 0, MAXLEN = 30 Yes Eg: "8af793f9af34bea0cf40f5fb5c630c" No
<messageTimestamp>	**Description:** **Format type:** **Format constraints:** **Validated by NAB Transact:** **Value:** **Sub-elements:**	Time of the request. String, see Appendix E: Timestamp String Format NS ('+', '-'), LEN = 24 Yes Eg: "20041803161306527000+660" No
<timeoutValue>	**Description:** **Format type:** **Format constraints:** **Validated by NAB Transact:** **Value:** **Sub-elements:**	Timeout value used, in seconds. Integer DIGNO = 3, MINVAL = 1 Yes Recommended "60" No
<apiVersion>	**Description:** **Format type:** **Format constraints:** **Validated by NAB Transact:** **Value:** **Sub-elements:**	Version of the product used. String ANS ('-', '.'), MINLEN = 1, MAXLEN = 13 Yes Always "xml-4.2" No

5.1.2 Merchant Info Element

Description: Identifies the merchant.
Format type: (No value)
Format constraints: (No value)
Validated by NAB Transact: Yes
Value: (No value)
Sub-elements: Yes, see table below

<MerchantInfo> sub-elements:

Element	Comments	
<merchantID>	**Description:** **Format type:** **Format constraints:** **Validated by NAB Transact:** **Value:** **Sub-elements:**	Merchant ID is the 7 character merchant number provided by NAB. String AN, LEN = 7 Yes 7 character merchant ID for Credit Card transactions, eg: "ABC0001" No
<password>	**Description:** **Format type:** **Format constraints:** **Validated by NAB Transact:** **Value:** **Sub-elements:**	Transaction Password is used for the authentication of the merchant's request message. **Note:** The password can be changed via the NAB Transact administration, reporting and search tool. String, see Appendix E: Timestamp String Format NS ('+', '-'), LEN = 24 Yes Eg: "2004180316130652700O+660" No

5.1.3 Request Type Element

Description: Defines the type of the request being processed.
Format type: String
Format constraints: **A, MINLEN = 1, MAXLEN = 20**
Validated by NAB Transact: Yes
Value: One of the following:
- "Payment"
- "Echo"

Sub-elements: Yes

5.2 Response Messages

The response messages are sent from the NAB Transact Payment Gateway to the merchant and is the result of an initial request. The following sections describe the elements common to all responses.

5.2.1 Message Info Element

Description: Identifies the message.
Format type: (No value)
Format constraints: **(No value)**
Value: (No value)
Sub-elements: Yes, see table below

<MessageInfo> sub-elements:

Element	Comments	
<messageID>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	Unique identifier for the XML message. Returned unchanged from the request. String AN, MINLEN = 0, MAXLEN = 30 Eg: "8af793f9af34bea0cf40f5fb5c630c" No
<messageTimestamp>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	Time of the response. String, see Appendix E: Timestamp String Format NS ('+', '-'), LEN = 24 Eg: "20041803161306527000+660" No
<apiVersion>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	Version of the product used. Returned unchanged from the request. String ANS ('-', '.'), MINLEN = 1, MAXLEN = 13 Eg: "xml-4.2" No

5.2.2 Merchant Info Element

Description: Identifies the merchant.
Format type: (No value)
Format constraints: (No value)
Value: (No value)
Sub-elements: Yes, see table below

<MerchantInfo> sub-elements:

Element	Comments	
<messageID>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	Merchant ID is the 7 character merchant number ID supplied by NAB and is returned unchanged from the request. String AN, LEN = 7 7 character merchant ID for Credit Card transactions, eg: "ABC0001" No

5.2.3 Response Type Element

Description: Defines the type of the response processed and remains unchanged from the request.
Format type: String
Format constraints: **A, MINLEN = 1, MAXLEN = 20**
Value: One of the following:
- "Payment"
- "Echo"

Sub-elements: No

5.2.4 Status Element

Description: Status of the processing of a transaction response.
Format type: (No value)
Format constraints: (No value)
Value: (No value)
Sub-elements: Yes, see table below

<Status> sub-elements:

Element	Comments	
<statusCode>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	Status code. String, see Appendix F: NAB Transact Gateway Response Codes N, LEN = 3 Eg: "000" No
<statusDescription>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	Status description. String, see Appendix F: NAB Transact Gateway Response Codes ANS (All characters are allowed), MINLEN = 0, MAXLEN = 40 Eg: "Normal" No

6. Payment Message Elements

6.1 Request Messages

The following sections describe the elements used in Payment requests.

NOTE: The following <RequestType> element value must be used for all Payment messages:
<RequestType>Payment</RequestType>

6.1.1 Payment Element

Description: Contains information about financial transactions to be processed.
Format type: (No value)
Format constraints: (No value)
Validated by NAB Transact: Yes
Value: (No value)
Sub-elements: Yes, see table below

<Payment> sub-elements:

Element	Comments
<TxnList>	See TxnList Element

TxnList Element
Description: Contains list of transactions to be processed.
Format type: (No value)
Format constraints: (No value)
Validated by NAB Transact: Yes
Value: (No value)
Attributes: Yes, see table below
Sub-elements: Yes, see table below
Sub-elements: Yes, see table below
<Txn> sub-elements:

Element	Comments	
<TxnList.count>	**Description:**	Transaction count is an attribute of <TxnList> element and specifies number of <Txn> elements. **Note:** Currently only single transactions per request are supported. Payments submitted with more than one <Txn> element will be rejected with the Status code "577".
	Format type:	Integer
	Format constraints:	DIGNO = 1, MINVAL = 1, MAXVAL = 1
	Validated by NAB Transact:	Yes
	Value:	Currently always "1"
	Sub-elements:	No
<Txn>	See Txn Element	

Txn Element
Description: Contains information about a financial transaction.
Format type: (No value)
Format constraints: (No value)
Validated by NAB Transact: Yes
Value: (No value)
Attributes: Yes, see table below
Sub-elements: Yes, see table below

<Txn> sub-elements:
NOTE: Not all <Txn> sub-elements are required for the different types of payments. Please refer to section Transaction Type-Required Element Map for information what elements are required for various payment types.

Element	Comments	
<Txn.ID>	**Description:**	Transaction ID is an attribute of <Txn> element and specifies transaction ID. All transactions should be numbered sequentially starting at "1". **Note:** Currently only single transactions per request are supported. Payments submitted with more than one <Txn> element will be rejected with Status code "577".
	Format type:	Integer
	Format constraints:	DIGNO = 1, MINVAL = 1, MAXVAL = 1
	Validated by NAB Transact:	Yes
	Value:	Currently always "1"
	Sub-elements:	No
<txnType>	**Description:**	Transaction type specifies the type of transaction being processed.
	Format type:	Integer, see Appendix A: Transaction Types
	Format constraints:	DIGNO = 2, MINVAL = 0, MAXVAL = 99
	Validated by NAB Transact:	Yes
	Value:	Eg: "0"
	Sub-elements:	No
<txnSource>	**Description:**	Transaction source specifies the source of transaction being processed via the NAB Transact XML API. The source must always have a value of "23".
	Format type:	Integer, see Appendix B: Transaction Sources
	Format constraints:	DIGNO = 2, MINVAL = 0, MAXVAL = 99
	Validated by NAB Transact:	Yes
	Value:	Always "23"
	Sub-elements:	No
<txnChannel>	**Description:**	Provides the transaction channel for payment. Example Mail/Telephone/Fax/Internet.
	Format type:	String
	Format constraints:	N, LEN = 1
	Value:	Eg: “0”
	Sub-elements:	No
<amount>	**Description:**	Transaction amount in cents.
	Format type:	Integer
	Format constraints:	MINVAL = 1
	Validated by NAB Transact:	Yes
	Value:	Eg: "123" for $1.23
	Sub-elements:	No
<currency>	**Description:**	Transaction currency. **Note:** Currency only needs to be set for payment and preauthorisation. Refund, and Complete transactions are processed in a currency used for the original payment or preauthorisation. If not set for payment or preauthorisation, a default currency is used. Default currency is "AUD" – Australian Dollars.
	Format type:	String
	Format constraints:	A, LEN = 3
	Validated by NAB Transact:	Yes
	Value:	Eg: "AUD" for Australian Dollars
	Sub-elements:	No

<purchaseOrderNo>	**Description:**	Unique merchant transaction identifier, typically an invoice number. **Note:** Must be the same as <purchaseOrderNo> element of the original transaction when performing a refund or advice.
	Format type:	String
	Format constraints:	For Credit Card payments ANS (All characters allowed except spaces and "'" single quote), MAXLEN = 60
	Validated by NAB Transact:	Yes
	Value:	Eg: "order_#000235"
	Sub-elements:	No
<txnID>	**Description:**	Bank transaction ID – it must match and validate the <txnID> element returned in the response to the original payment transaction when performing a refund.
	Format type:	String
	Format constraints:	AN, MINLEN = 6, MAXLEN = 16
	Validated by NAB Transact:	Yes
	Value:	Eg: "TX123456"
	Sub-elements:	No
<preauthID>	**Description:**	Authorisation code of a preauthorisation transaction. **Note:** IT must match the <preauthID> element returned in the response to the original preauthorisation transaction when performing an advice.
	Format type:	String
	Format constraints:	AN, LEN = 6
	Validated by NAB Transact:	Yes
	Value:	Eg: "123456"
	Sub-elements:	No
<CreditCardInfo>	See CreditCardInfo Element	

CreditCardInfo Element

Description:	Contains credit card information.
Format type:	(No value)
Format constraints:	(No value)
Validated by NAB Transact:	Yes
Value:	(No value)
Sub-elements:	Yes, see table below

<CreditCardInfo> sub-elements:

Element	Comments	
<cardNumber>	**Description:**	Credit card number.
	Format type:	String
	Format constraints:	N, MINLEN = 13, MAXLEN = 16
	Validated by NAB Transact:	Yes
	Value:	Eg: "4444333322221111"
	Sub-elements:	No
<cvv>	**Description:**	Card verification value. The CVV value assists NAB with detecting fraudulent transactions based on automatically generated card numbers, as the CVV number is printed on the physical card and cannot be generated in conjunction with a card number. If passed, NAB may check the supplied value against the value recorded against the card. See Appendix D: Location of CVV
	Format type:	String
	Format constraints:	N, MINLEN = 3, MAXLEN = 4
	Validated by NAB Transact:	Yes
	Value:	Eg: "123"
	Sub-elements:	No
<expiryDate>	**Description:**	Credit card expiry date.
	Format type:	String
	Format constraints:	NS ('/'), LEN = 5
	Validated by NAB Transact:	Yes
	Value:	Eg: "05/06" for May 2006
	Sub-elements:	No
<cardHolderName>	**Description:**	Name of the Credit Card Holder.
	Format type:	String
	Format constraints:	AN
	Validated by NAB Transact:	No
	Value:	Eg: “John Smith”
	Sub-elements:	No
<recurringFlag>	**Description:**	Indicates a recurring transaction.
	Format type:	String
	Format constraints:	A, MINLEN = 2, MAXLEN = 3
	Validated by NAB Transact:	Yes
	Value:	“yes” or “no”
	Sub-elements:	No

<xID>	**Description:**	Only for Credit Card transactions. Set the 3D-Secure XID (transaction ID) for this financial transaction. The XID is required only for merchants enrolled in the 3D-Secure program. The XID field must be a 20-byte String, matching the unique XID passed to the card issuer before sending this transaction, using any 3D-Secure-enabled software.
	Format type:	String
	Format constraints:	N, LEN = 20
	Validated by NAB Transact:	Yes
	Value:	Eg: "12345678901234567890"
	Sub-elements:	No
<CAVV>	**Description:**	Only for Credit Card transactions. Set the 3D-Secure Cardholder Authorisation Verification Value for this financial transaction. The CAVV is required only for merchants enrolled in the 3D-Secure program. The CAVV field must be a 28-character Base-64-encoded string, matching the CAVV generated by 3D-Secure-enabled software before sending this financial transaction.
	Format type:	Base-64-encoded string
	Format constraints:	N, LEN = 28
	Validated by NAB Transact:	Yes
	Value:	Eg: "jjdhd73hfdjns38ffh43f834hdsd"
	Sub-elements:	No
<SLI>	**Description:**	Only for Credit Card transactions. Set the 3D-Secure Service Level Indicator for this financial transaction. The SLI is required only for merchants enrolled in the 3D-Secure program. The SLI field must be a 2-digit string, matching the SLI (or ECI) returned by the 3D-Secure-enabled software, prior to sending this financial transaction.
	Format type:	String
	Format constraints:	N, LEN = 2
	Validated by NAB Transact:	Yes
	Value:	Eg: "07"
	Sub-elements:	No

Transaction Type-Required Element Map
The table below summarises which elements are required for each credit card transaction type. Elements are categorised as mandatory, optional, or not required.

TXN TYPE / Element	Standard Payment 0	Refund 4	Unmatched Refund 666	Preauthorise 10	Complete (Advice) 11
<txnType>	M	M	M	M	M
<txnSource>	M	M	M	M	M
<amount>	M	M	M	M	M
<currency>	O	X	X	O	X
<purchaseOrderNo>	M	M	M	M	M
<txnID>	X	M	O	X	X
<preauthID>	X	X	X	X	M
<cardNumber>	M	O	M	M	M
<cvv>	O	O	O	O	O
<expiryDate>	M	O	M	M	M

M – Mandatory
O – Optional
X – Not required (ignored)

6.2 Response Messages

The following sections describe the elements used in Payment responses. The following elements will only be returned if the Status received in the response is "000 – Normal".

6.2.1 Payment Element

Description: Contains information about financial transactions processed.
Format type: (No value)
Format constraints: (No value)
Value: (No value)
Sub-elements: Yes, see table below

<Payment> sub-elements:

Element	Comments
<TxnList>	See TxnList Element

TxnList Element
Description: Contains list of transactions processed.
Format type: (No value)
Format constraints: (No value)
Value: (No value)
Attributes: Yes, see table below
Sub-elements: Yes, see table below

<TxnList> sub-elements:

Element	Comments	
<TxnList.count>	**Description:**	Transaction count is an attribute of <TxnList> element and specifies number of <Txn> elements. Returned unchanged from the request. **Note:** Currently only single transactions per request are supported. Payments submitted with more than one <Txn> element will be rejected with Status code "577".
	Format type:	Integer
	Format constraints:	DIGNO = 1, MINVAL = 1, MAXVAL = 1
	Value:	Currently always "1"
	Sub-elements:	No
<Txn>	See Txn Element	

Txn Element

Description: Contains information about a financial transaction.
Format type: (No value)
Format constraints: (No value)
Value: (No value)
Attributes: Yes, see table below
Sub-elements: Yes, see table below

<Txn> sub-elements:

Element	Comments	
<Txn.ID>	**Description:**	Transaction ID is an attribute of <Txn> element and specifies transaction ID. All transactions returned should be numbered sequentially starting at "1" just as they were in the request message. Returned unchanged from the request. **Note:** Currently only single transactions per request are supported. Payments submitted with more than one <Txn> element will be rejected with Status code "577".
	Format type:	Integer
	Format constraints:	DIGNO = 1, MINVAL = 1, MAXVAL = 1
	Value:	Currently always "1"
	Sub-elements:	No
<txnType>	**Description:**	Transaction type specifies the type of transaction processed. Returned unchanged from the request.
	Format type:	Integer, see Appendix A: Transaction Types
	Format constraints:	DIGNO = 2, MINVAL = 0, MAXVAL = 99
	Value:	Eg: "0"
	Sub-elements:	No
<txnSource>	**Description:**	Transaction source specifies the source of transaction processed. Returned unchanged from the request.
	Format type:	Integer, see Appendix B: Transaction Sources
	Format constraints:	DIGNO = 2, MINVAL = 0, MAXVAL = 99
	Value:	Eg: "23"
	Sub-elements:	No
<amount>	**Description:**	Transaction amount in cents. Returned unchanged from the request.
	Format type:	Integer
	Format constraints:	MINVAL = 1
	Value:	Eg: "123" for $1.23
	Sub-elements:	No

<currency>	**Description:**	Transaction currency. Returned unchanged from the request. If not set in the request, a default value of "AUD" is returned. **Note:** Only applicable to Credit Card payments.
	Format type:	String
	Format constraints:	A, LEN = 3
	Validated by NAB Transact:	Yes
	Value:	Eg: "AUD" for Australian Dollars
	Sub-elements:	No
<purchaseOrderNo>	**Description:**	Unique merchant transaction identifier, typically an invoice number. For refunds and advice transactions the purchase order number returned in response is the bank transaction ID of the original transaction. For payments and preauthorise transactions this value is returned unchanged from the request.
	Format type:	String
	Format constraints:	For Credit Card payments ANS (All characters allowed except spaces and "'" single quote).
	Value:	Eg: "order_#000235"
	Sub-elements:	No
<approved>	**Description:**	Indicates whether the transaction processed has been approved or not.
	Format type:	String
	Format constraints:	A, MINLEN = 2, MAXLEN = 3
	Value:	Always "Yes" or "No"
	Sub-elements:	No
<responseCode>	**Description:**	Response code of the transaction. Either a 2-digit bank response or a 3-digit NAB Transact response. Element <responseText> provides more information in a text format. Refer to Appendix I for a list of the NAB Transact Payment Bank Response Codes.
	Format type:	String
	Format constraints:	AN, MINLEN = 2, MAXLEN = 3
	Value:	Eg: "00"
	Sub-elements:	No
<responseText>	**Description:**	Textual description of the response code received.
	Format type:	String
	Format constraints:	ANS (All characters allowed), MINLEN = 0, MAXLEN = 40
	Value:	Eg: "Approved"
	Sub-elements:	No
<settlementDate>	**Description:**	Bank settlement date is when the funds will be settled into the merchant's account. This will not be returned if NAB did not receive the transaction. (A settlement date may still be returned for declined transactions.)
	Format type:	String
	Format constraints:	N, LEN = 8
	Value:	Eg: "20040326" for 26th March 2004
	Sub-elements:	No

<txnID>	**Description:**	Bank transaction ID will not be returned if the transaction was not been processed or in some cases the transaction request was not received by NAB.
	Format type:	String
	Format constraints:	AN, MINLEN = 6, MAXLEN = 16
	Value:	Eg: "TX123456"
	Sub-elements:	No
<preauthID>	**Description:**	This is the authorisation code of a preauthorisation transaction. It will not be returned if the transaction is not a Preauthorisation or has not been processed or in some cases if the preauthorisation was not received by NAB.
	Format type:	String
	Format constraints:	AN, LEN = 6
	Value:	Eg: "123456"
	Sub-elements:	No
<CreditCardInfo>	See CreditCardInfo Element	

CreditCardInfo Element

Description: Contains credit card information.
Format type: (No value)
Format constraints: (No value)
Value: (No value)
Sub-elements: Yes, see table below

<CreditCardInfo> sub-elements:

Element	Comments	
<pan>	**Description:**	This is the truncated credit card number. It contains the first 6 digits of the card number, followed by "..." and then the last 3 digits of the card number. It will not be returned for transactions with invalid credit card number.
	Format type:	String
	Format constraints:	N, LEN = 12
	Value:	Eg: "444433...111"
	Sub-elements:	No
<expiryDate>	**Description:**	Credit card expiry date. Returned unchanged from the request.
	Format type:	String
	Format constraints:	NS ('/'), LEN = 5
	Value:	Eg: "05/06" for May 2006
	Sub-elements:	No
<cardType>	**Description:**	Card type used. Will not be returned for transactions with invalid credit card number.
	Format type:	Integer, see Appendix C: Card Types
	Format constraints:	DIGNO = 1
	Value:	Eg: "6" for Visa cards
	Sub-elements:	No
<cardDescription>	**Description:**	Card description. Will not be returned for transactions with invalid credit card number.
	Format type:	String, see Appendix C: Card Types
	Format constraints:	A, MINLEN = 0, MAXLEN = 20
	Value:	Eg: "Visa"
	Sub-elements:	No

6.3 Payment URLs

The Payment messages must be sent to the following URLs:
Test URL: https://transact.nab.com.au/test/xmlapi/payment
Live URL: https://transact.nab.com.au/live/xmlapi/payment

6.4 Sample XML Messages

6.4.1 Credit Card Payment Request

```
<?xml version="1.0" encoding="UTF-8"?>
<NABTransactMessage>
 <MessageInfo>
  <messageID>8af793f9af34bea0cf40f5fb750f64</messageID>
  <messageTimestamp>20042303111214383000+660</messageTimestamp>
  <timeoutValue>60</timeoutValue>
  <apiVersion>xml-4.2</apiVersion>
 </MessageInfo>
 <MerchantInfo>
  <merchantID>ABC0001</merchantID>
  <password>changeit</password>
 </MerchantInfo>
 <RequestType>Payment</RequestType>
 <Payment>
  <TxnList count="1">
   <Txn ID="1">
    <txnType>0</txnType>
    <txnSource>23</txnSource>
    <amount>200</amount>
    <currency>AUD</currency>
    <purchaseOrderNo>test</purchaseOrderNo>
    <CreditCardInfo>
     <cardNumber>4444333322221111</cardNumber>
     <expiryDate>08/12</expiryDate>
    </CreditCardInfo>
   </Txn>
  </TxnList>
 </Payment>
</NABTransactMessage>
```

Response

```
<?xml version="1.0" encoding="UTF-8"?>
<NABTransactMessage>
 <MessageInfo>
  <messageID>8af793f9af34bea0cf40f5fb750f64</messageID>
  <messageTimestamp>20042303111226938000+660</messageTimestamp>
  <apiVersion>xml-4.2</apiVersion>
 </MessageInfo>
 <MerchantInfo>
  <merchantID>ABC0001</merchantID>
 </MerchantInfo>
 <RequestType>Payment</RequestType>
 <Status>
  <statusCode>000</statusCode>
  <statusDescription>Normal</statusDescription>
 </Status>
 <Payment>
  <TxnList count="1">
   <Txn ID="1">
```

```
   <txnType>0</txnType>
   <txnSource>23</txnSource>
   <amount>200</amount>
   <currency>AUD</currency>
   <purchaseOrderNo>test</purchaseOrderNo>
   <approved>Yes</approved>
   <responseCode>00</responseCode>
   <responseText>Approved</responseText>
   <settlementDate>20040323</settlementDate>
   <txnID>009887</txnID>
   <CreditCardInfo>
    <pan>444433...111</pan>
    <expiryDate>08/12</expiryDate>
    <cardType>6</cardType>
    <cardDescription>Visa</cardDescription>
   </CreditCardInfo>
  </Txn>
 </TxnList>
</Payment>
</NABTransactMessage>
```

6.4.2 Credit Card Refund Request

```
<?xml version="1.0" encoding="UTF-8"?>
<NABTransactMessage>
 <MessageInfo>
  <messageID>8af793f9af34bea0cf40f5fb7510fd</messageID>
  <messageTimestamp>20042303111359163000+660</messageTimestamp>
  <timeoutValue>60</timeoutValue>
  <apiVersion>xml-4.2</apiVersion>
 </MessageInfo>
 <MerchantInfo>
  <merchantID>ABC0001</merchantID>
  <password>changeit</password>
 </MerchantInfo>
 <RequestType>Payment</RequestType>
 <Payment>
  <TxnList count="1">
   <Txn ID="1">
    <txnType>4</txnType>
    <txnSource>23</txnSource>
    <amount>200</amount>
    <purchaseOrderNo>test</purchaseOrderNo>
    <txnID>009887</txnID>
    <CreditCardInfo>
     <cardNumber>4444333322221111</cardNumber>
     <expiryDate>08/12</expiryDate>
    </CreditCardInfo>
   </Txn>
  </TxnList>
 </Payment>
</NABTransactMessage>
```

Response

```
<?xml version="1.0" encoding="UTF-8"?>
<NABTransactMessage>
 <MessageInfo>
  <messageID>8af793f9af34bea0cf40f5fb7510fd</messageID>
  <messageTimestamp>20042303111409395000+660</messageTimestamp>
  <apiVersion>xml-4.2</apiVersion>
 </MessageInfo>
 <MerchantInfo>
  <merchantID>ABC0001</merchantID>
 </MerchantInfo>
 <RequestType>Payment</RequestType>
 <Status>
  <statusCode>000</statusCode>
  <statusDescription>Normal</statusDescription>
 </Status>
 <Payment>
  <TxnList count="1">
   <Txn ID="1">
    <txnType>4</txnType>
    <txnSource>23</txnSource>
    <amount>200</amount>
    <currency>AUD</currency>
    <purchaseOrderNo>009887</purchaseOrderNo>
    <approved>Yes</approved>
    <responseCode>00</responseCode>
    <responseText>Approved</responseText>
    <settlementDate>20040323</settlementDate>
    <txnID>009890</txnID>
    <CreditCardInfo>
     <pan>444433...111</pan>
     <expiryDate>08/12</expiryDate>
     <cardType>6</cardType>
     <cardDescription>Visa</cardDescription>
    </CreditCardInfo>
   </Txn>
  </TxnList>
 </Payment>
</NABTransactMessage>
```

7. Echo Message Elements

7.1 Request Messages

Echo requests do not have any additional elements.
NOTE: The following <RequestType> element value must be used for all Echo messages:
<RequestType>Echo</RequestType>

IMPORTANT:
We recommend that the Echo messages should only be sent every 5 minutes if there were no payment transactions processed in the previous 5 minutes.

7.2 Response Messages

Echo responses do not return any additional elements. The <Status> element will return a response code "000" if the service is available.

7.3 Echo URLs

Echo requests can be sent to any of the Payment URLs to verify if the service is available. The Status Code returned in the Echo response will be "000" if the service is up.

7.4 Sample XML Messages

7.4.1 Echo

Request

```
<?xml version="1.0" encoding="UTF-8"?>
<NABTransactMessage>
 <MessageInfo>
  <messageID>8af793f9af34bea0cf40f5fb79f383</messageID>
  <messageTimestamp>20042403095953349000+660</messageTimestamp>
  <timeoutValue>60</timeoutValue>
  <apiVersion>xml-4.2</apiVersion>
 </MessageInfo>
 <MerchantInfo>
  <merchantID>ABC0001</merchantID>
  <password>changeit</password>
 </MerchantInfo>
 <RequestType>Echo</RequestType>
</NABTransactMessage>
```

Response

```
<?xml version="1.0" encoding="UTF-8"?>
<NABTransactMessage>
 <MessageInfo>
  <messageID>8af793f9af34bea0cf40f5fb79f383</messageID>
  <messageTimestamp>20042403095956732000+660</messageTimestamp>
  <apiVersion>xml-4.2</apiVersion>
 </MessageInfo>
 <MerchantInfo>
  <merchantID>ABC0001</merchantID>
 </MerchantInfo>
 <RequestType>Echo</RequestType>
 <Status>
  <statusCode>000</statusCode>
  <statusDescription>Normal</statusDescription>
 </Status>
</NABTransactMessage>
```

8. XML Over HTTP

The structure of the HTTP request and response messages will need to conform to the HTTP 1.1 network protocol. Some examples of the expected HTTP exchange are outlined below.

IMPORTANT:
The HTTP communication between the client and NAB Transact Payment Gateway must be done via SSL socket so that sensitive information included in the request and response messages are encrypted.

8.1 Request

POST /test/payment HTTP/1.1
host: www.NAB Transact.com.au
content-type: text/xml
content-length: 677

<?xml version="1.0" encoding="UTF-8"?><NABTransactMessage><MessageInfo><messageID>8af793f9af34bea0cf40f5fc011e0c</messageID><messageTimestamp>20041904145505116000+600</messageTimestamp><timeoutValue>60</timeoutValue><apiVersion>xml-4.2</apiVersion></MessageInfo><MerchantInfo><merchantID>abc0001</merchantID><password>abc123</password></MerchantInfo><RequestType>Payment</RequestType><Payment><TxnList count="1"><Txn ID="1"><txnType>0</txnType><txnSource>23</txnSource><amount>200</amount><purchaseOrderNo>test</purchaseOrderNo><CreditCardInfo><cardNumber>444433332222
1111</cardNumber><expiryDate>08/12</expiryDate></CreditCardInfo></Txn></TxnList><Payment><NABTransactMessage>

8.2 Response

The initial HTTP server response (100 continue) is to indicate that the request has been received and should be ignored. The 200 response should follow with the XML response message. If content length is 0 and no XML response is included then the request could not be understood and no response was produced.

HTTP/1.1 100 Continue
Server: Microsoft-IIS/5.0
Date: Mon, 19 Apr 2004 06:19:48 GMT

HTTP/1.1 200 OK
Server: Microsoft-IIS/5.0
Date: Mon, 19 Apr 2004 06:20:01 GMT
Content-Type: text/xml;charset=ISO-8859-1
Content-Length: 929

<?xml version="1.0" encoding="UTF-8"?>
<NABTransactMessage><MessageInfo><messageID>8af793f9af34bea0cf40f5fc011e0c</messageID><messageTimestamp>20041904161959849000+600</messageTimestamp><apiVersion>xml-4. 2</apiVersion></MessageInfo><RequestType>Payment</RequestType><MerchantInfo><merchantID>ABC0001</merchantID></MerchantInfo><Status><statusCode>000</statusCode><statusDescription>Normal</statusDescription></Status><Payment><TxnList count="1"><Txn ID="1"><txnType>0</txnType><txnSource>23</txnSource><amount>200</amount><currency>AUD</currency><purchaseOrderNo>test</purchaseOrderNo><approved>Yes</approved><responseCode>00</responseCode><responseText>Approved</responseText><settlementDate>20040419</settlementDate><txnID>009729</txnID><CreditCardInfo><pan>444433...111</pan><expiryDate>08/12</expiryDate><cardType>6</cardType><cardDescription>Visa</cardDescription></CreditCardInfo></Txn></TxnList></Payment></NABTransactMessage>

9. Glossary

Client Id	Your NAB Transact access code ("vendor_name") for use of NAB Transact Administration tools. Also used in your payment form as your account identifier. Also used when calling NAB Transact Service Centre on 1 300 138 313
Merchant Number	Your 8-digit National Australia Bank Merchant number. E.g. 22123456. Used when calling for banking support 1 300 138 313 Option 1.
HTML	Hypertext Markup Language. The language interpreted by web browsers. This is the language used to create your NAB Hosted Payments Page payment form.
FORM	The HTML tag used to mark the start and end of the area of your payment page that passes name/value data pairs to NAB Transact
FTP	File Transfer Protocol. The method by which files are transferred from one computer to another. This is the common method used for uploading web pages to a web hosting environment.
Input Field	HTML tags that define Form input fields. Used to submit information to NAB Transact from your order form.
SSL	Secure Sockets Layer. The mechanism used to encrypt data and provide secure communications on the internet.
Verified by Visa & MasterCard SecureCode	Methods used to authenticate a cardholder during an online card payment. Cardholders that are enrolled in Verified by Visa and MasterCard SecureCode will be asked to enter their password during the payment process.
CVV	Cardholder Verification Value. This is an extra code printed on the back of a Visa or MasterCard, typically shown as the last three digits on the signature strip. It is used during a payment as part of the cardholder authentication process. You may also know it as the Card Verification Code (CVC), the Card Security Code or the Personal Security Code. American Express and Diner Club Cards use a 4 digit Security Code in much the same manner.
GST	Australian Goods and Services Tax.
DTD	Document Type Definition: It contains the elements, attributes, entities, and notations used in the XML document.
HTTP	Hypertext Transfer Protocol. This is a communications protocol for the transfer of information on the intranet and the World Wide Web.
HTTPS	Hypertext Transfer Protocol over Secure Socket Layer. Refers to the combination of a normal HTTP interaction over an encrypted Secure Sockets Layer.

10. Risk Management

Risk Management features assist merchants in evaluating the risk of a transaction based on rules set within the NAB Transact management portal. Each Risk Management payment request must be submitted to the Risk Management payment URL listed in this section. In addition each request will require further fields submitted in order to evaluate against the configured ruleset.

10.1 Payment URLs

Live: https://transact.nab.com.au/riskmgmt/payment
Demo: https://transact.nab.com.au/test/riskmgmt/payment

10.2 Request Elements

The following additional element **must** be included for all Risk Management payment requests:

<BuyerInfo>

Element	Comments	
<BuyerInfo>	**Description:**	Contains buyer information.
	Format type:	(No value)
	Format constraints:	(No value)
	Validated by NAB Transact:	Yes
	Value:	(No value)
	Sub-elements:	Yes, see table below

The BuyerInfo element must contain the following **mandatory** sub-element:

Element	Comments	
<ip>	**Description:**	IP address from which the transaction originated.
	Format type:	String
	Format constraints:	NS (Must contain three periods), MAXLEN = 15
	Validated by NAB Transact:	Yes
	Value:	Eg: “203.89.101.20”
	Sub-elements:	No

The BuyerInfo element may contain the following **optional** sub-elements:

Element	Comments	
<firstName>	**Description:**	Buyer’s first name. ANS (All characters allowed), MINLEN = 0, MAXLEN = 40
	Format type:	String
	Format constraints:	N, LEN = 3 or A, MINLEN = 2, MAXLEN = 3
	Validated by NAB Transact:	Yes
	Value:	Eg: “John”
	Sub-elements:	No
<lastName>	**Description:**	Buyer’s last name.
	Format type:	String
	Format constraints:	ANS (All characters allowed), MINLEN = 0, MAXLEN = 40
	Validated by NAB Transact:	Yes
	Value:	Eg: “Smith”
	Sub-elements:	No

<zipcode>	**Description:** **Format type:** **Format constraints:** **Validated by NAB Transact:** **Value:** **Sub-elements:**	Buyer's postal code. String ANS (All characters allowed), MINLEN = 0, MAXLEN = 30 Yes Eg: "3000" No
<town>	**Description:** **Format type:** **Format constraints:** **Validated by NAB Transact:** **Value:** **Sub-elements:**	The billing or delivery town of the buyer. String ANS (All characters allowed), MINLEN = 0, MAXLEN = 30 Yes Eg: "Melbourne" No
<billingCountry>	**Description:** **Format type:** **Format constraints:** **Validated by NAB Transact:** **Value:** **Sub-elements:**	Billing country. Can contain the 3 digit numeric ISO code or the 2 or 3 alpha character ISO code. See Appendix K: ISO 3166 Country Codes String N, LEN = 3 or A, MINLEN = 2, MAXLEN = 3 Yes Eg: "AU" No
<deliveryCountry>	**Description:** **Format type:** **Format constraints:** **Validated by NAB Transact:** **Value:** **Sub-elements:**	Delivery country. Can contain the 3 digit numeric ISO code or the 2 or 3 alpha character ISO code. See Appendix K: ISO 3166 Country Codes String N, LEN = 3 or A, MINLEN = 2, MAXLEN = 3 Yes Eg: "AU" No
<emailAddress>	**Description:** **Format type:** **Format constraints:** **Validated by NAB Transact:** **Value:** **Sub-elements:**	Email address of the buyer. String ANS, MAXLEN = 100 Yes Eg: "johnsmith@somedomain.com" No

10.3 Response Elements

All Risk Management payment responses will contain additional elements as a result of evaluating the transaction against a merchants Risk Management rules and settings.

Additional <Txn> sub-elements:

Element	Comments	
<antiFraudResponse Code>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	Result of the antifraud verification check. It will be returned for transactions submitted to the Risk Management Service. Refer to NAB Transact Payment Response Codes documents for details of codes returned. String AN, LEN = 3 Eg: "000" No

<antiFraudResponse Text>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	Textual description of the antifraud response code received. It will be returned for transactions submitted to the Risk Management Service String ANS (All characters allowed), MINLEN = 0 Eg: “Antifraud check passed” No
<FraudGuard>	See <FraudGuard> Element below.	

Element	Comments	
<FraudGuard>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	Contains Risk Management check information. <No value> <No value> <No value> Yes, see table below

<FraudGuard> sub-elements:

Element	Comments	
<score>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	Total of checks performed by the Risk Management service. A score greater than or equal to 100 will be declined. String N, MINLEN = 1, MAXLEN = 3 Eg: “50” No
<infolpCountry>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	ISO 3166 three letter country code of IP address submitted in request element <IP>. String A, LEN = 3 Eg: “AUS” No
<inforCardCountry>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	ISO 3166 three letter country code of issuing bank location for the credit card number submitted in request element <cardNumber>. String A, LEN = 3 Eg: “AUS” No
<ipCountryFail>	**Description:** **Format type:** **Format constraints:** **Value:** **Sub-elements:**	Country returned in <infoIpCountry> is blocked in the Risk Management settings. Element only returned if the Risk Management rule is triggered. String A, LEN = 3 Eg: “YES” No

<minAmountFail>	**Description:**	Amount submitted in request element <amount> is less than the minimum amount set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	A, LEN = 3
	Value:	Eg: “YES”
	Sub-elements:	No
<maxAmountFail>	**Description:**	Amount submitted in request element <amount> is more than the maximum amount set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	A, LEN = 3
	Value:	Eg: “YES”
	Sub-elements:	No
<openProxyFail>	**Description:**	IP address submitted in request element <IP> is from a known open proxy. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “15”
	Sub-elements:	No
<IpCountryCardCountry Fail>	**Description:**	Values for response elements <infoIpCountry> and <infoCardCountry> do not match. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “20”
	Sub-elements:	No
<ipCardFail>	**Description:**	Values for response elements <infoIpCountry> and <infoCardCountry> do not match. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “15”
	Sub-elements:	No
<ipRiskCountryFail>	**Description:**	IP address submitted in request element <IP> is from a high risk country. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “20”
	Sub-elements:	No

<ipBillingFail>	**Description:**	Response element <infoIpCountry> and billing county submitted in request element <billingCountry> do not match. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “25”
	Sub-elements:	No
<ipDeliveryFail>	**Description:**	Response element <infoIpCountry> and delivery county submitted in request element <deliveryCountry> do not match. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “30”
	Sub-elements:	No
<billingDeliveryFail>	**Description:**	Values for request elements <billingCountry> and <deliveryCountry> do not match. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “20”
	Sub-elements:	No
<freeEmailFail>	**Description:**	Email address submitted in request element <emailAddress> is from a free domain. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “10”
	Sub-elements:	No
<tooManySameBank>	**Description:**	Too many transactions from same issuing bank within specified time frame. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “30”
	Sub-elements:	No
<tooManyDeclined>	**Description:**	Too many declined transactions from the same IP Address within specified time frame. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “20”
	Sub-elements:	No

<tooManySameIp>	**Description:**	Too many transactions from the same IP Address within specified time frame. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “15”
	Sub-elements:	No
<tooManySameCard>	**Description:**	Too many transactions from the same full card number within specified time frame. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “20”
	Sub-elements:	No
<lowHighAmount>	**Description:**	Low Amount followed by a high amount from the same card number within specified time frame. Value returned is the score set in the Risk Management. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “20”
	Sub-elements:	No
<tooManySameEmail>	**Description:**	Too many declined transactions with same customer email within specified time frame. Value returned is the score set in the Risk Management settings. Element only returned if the Risk Management rule is triggered.
	Format type:	String
	Format constraints:	N, LEN = 3
	Value:	Eg: “30”
	Sub-elements:	No

10.4 Sample XML Messages

10.4.1 Sample Request with Risk Management fields

```
<?xml version="1.0" encoding="UTF-8"?>
<NABTransactMessage>
 <MessageInfo>
  <messageID>8af793f9af34bea0cf40f5fb750f64</messageID>
  <messageTimestamp>20112303111214383000+660</messageTimestamp>
  <timeoutValue>60</timeoutValue>
  <apiVersion>xml-4.2</apiVersion>
 </MessageInfo>
 <MerchantInfo>
  <merchantID>XYZ0010</merchantID>
  <password>abcd1234</password>
 </MerchantInfo>
 <RequestType>Payment</RequestType>
 <Payment>
  <TxnList count="1">
   <Txn ID="1">
    <txnType>0</txnType>
    <txnSource>23</txnSource>
    <amount>200</amount>
    <currency>AUD</currency>
    <purchaseOrderNo>test</purchaseOrderNo>
    <CreditCardInfo>
     <cardNumber>4444333322221111</cardNumber>
     <expiryDate>08/14</expiryDate>
    </CreditCardInfo>
    <BuyerInfo>
     <firstName>John</firstName>
     <lastName>Smith</lastName>
     <zipCode>3000</zipCode>
     <town>Melbourne</town>
     <billingCountry>GBR</billingCountry>
     <deliveryCountry>NZL</deliveryCountry>
     <emailAddress>test@example.com</emailAddress>
     <ip>XXX.XXX.XXXX.XXXX</ip>
    </BuyerInfo>
   </Txn>
  </TxnList>
 </Payment>
</NABTransactMessage>
```

10.4.2 Sample Response with Risk Management fields

```
<?xml version="1.0" encoding="UTF-8"?>
<NABTransactMessage>
 <MessageInfo>
  <messageID>8af793f9af34bea0cf40f5fb5c630c</messageID>
  <messageTimestamp>20111803161316316000+660</messageTimestamp>
  <apiVersion>xml-4.2</apiVersion>
 </MessageInfo>
 <RequestType>Payment</RequestType>
 <MerchantInfo>
  <merchantID>XYZ0010</merchantID>
 </MerchantInfo>
 <Status>
```

```
 <statusCode>000</statusCode>
 <statusDescription>Normal</statusDescription>
</Status>
<Payment>
 <TxnListcount=”1”>
  <Txn ID=”1”>
   <txnType>0</txnType>
   <txnSource>0</txnSource>
   <amount>1000</amount>
   <purchaseOrderNo>test</purchaseOrderNo>
   <approved>Yes</approved>
   <responseCode>00</responseCode>
   <responseText>Approved</responseText>
   <antiFraudResponseCode>000</antiFraudResponseCode>
  <antiFraudResponseText>Antifraud check passed</antiFraudResponseText>
  <FraudGuard>
   <score>85</score>
   <infoIpCountry>AUD</infoIpCountry>
   <infoCardCountry>NZL</infoCardCountry>
   <ipCountryFail>yes</ipCountryFail>
   <minAmountFail>yes</minAmountFail>
   <maxAmountFail>yes</maxAmountFail>
   <openProxyFail>5</openProxyFail>
   <IpCountryCardCountryFail>5</IpCountryCardCountryFail>
   <ipCardFail>5</ipCardFail>
   <ipRiskCountryFail>5</ipRiskCountryFail>
   <ipBillingFail>5</ipBillingFail>
   <ipDeliveryFail>5</ipDeliveryFail>
   <billingDeliveryFail>5</billingDeliveryFail>
   <freeEmailFail>5</freeEmailFail>
   <tooManySameBank>5</tooManySameBank>
   <tooManyDeclined>5</tooManyDeclined>
   <tooManySameIp>5</tooManySameIp>
   <tooManySameCard>5</tooManySameCard>
   <lowHighAmount>5</lowHighAmount>
   <tooManySameEmail>5</tooManySameEmail>
  </FraudGuard>
   <settlementDate>20040318</settlementDate>
   <txnID>009844</txnID>
   <CreditCardInfo>
    <pan>444433...111</pan>
    <expiryDate>08/14</expiryDate>
    <cardType>6</cardType>
    <cardDescription>Visa</cardDescription>
   </CreditCardInfo>
  </ Txn>
 </ TxnList>
</Payment>
</NABTransactMessage>
```

11. Appendices

11.1 Appendix A: Transaction Types

Transaction type codes define the type of financial transaction processed by NAB Transact.

Codes in **bold** are permitted in Payment transactions processed using the NAB Transact XML API.
All other codes are provided for completeness.

Code	Description
0	**Standard Payment**
1	Mobile Payment
2	Batch Payment
3	Periodic Payment
4	**Refund**
5	Error Reversal (Void)
6	Client Reversal (Void)
10	**Preauthorise**
11	**Preauth Complete (Advice)**
14	Recurring Payment
15	Direct Entry Debit
17	Direct Entry Credit
19	Card-Present Payment
20	IVR Payment
666	**Unmatched Refund**

11.2 Appendix B: Transaction Sources

The transaction source codes track the origin of financial transaction processed by NAB Transact.

Codes in **bold** are permitted in the NAB Transact XML API. All other codes are provided for completeness.

Code	Description
0	Unknown (default)
2	Virtual Terminal
8	API (NAB Transact Java API)
10	Batch Payments
23	**XML API**
24	Hosted Payments Page
25	Antifraud Server
90	Reserved

11.3 Appendix C: Transaction Channels

Code	Description
0	Internet
1	Telephone
2	Mail
3	Fax

11.4 Appendix D: Card Types

NAB Transact uses numeric codes to identify the credit card types supported in the system. The following codes should be used (where applicable) to identify the card type:

Code	Description
0	Unknown
1	JCB
2	American Express (Amex)
3	Diners Club
5	MasterCard
6	Visa

11.5 Appendix E: Location of CVV

The Card Verification Value (CVV) is an anti-fraud measure used to prevent the fraudulent use of cards. The CVV number is printed on the physical card and is randomly assigned. The CVV number is located differently for the various card types. The location of the CVV on each card type is outlined below:

Card Type	Location
Visa	It is the last 3 digits printed on the signature strip on the back of the card.
MasterCard	It is the last 3 digits printed on the signature strip on the back of the card.
Amex	It is the 4 digits printed above card number on the front of the card.
Diners Club	It is the last 3 digits printed on the signature strip on the back of the card.
JCB	Not used

11.6 Appendix F: Timestamp String Format

The format of the Timestamp or Log Time strings returned by the NAB Transact Payment Gateway is:

YYYYDDMMHHNNSSKKK000sOOO

where:

YYYY	is a 4-digit year
DD	is a 2-digit zero-padded day of month
MM	is a 2-digit zero-padded month of year (January = 01)
	HH is a 2-digit zero-padded hour of day in 24-hour clock format (midnight = 00)
NN	is a 2-digit zero-padded minute of hour
SS	is a 2-digit zero-padded second of minute
KKK	is a 3-digit zero-padded millisecond of second
000	is a Static 0 characters, as NAB Transact does not store nanoseconds
sOOO	is a Time zone offset, where s is "+" or "-", and OOO = minutes, from GMT.

E.g. June 24, 2002 5:12:16.789 PM, Australian EST is:

20022406171216789000+600

11.7 Appendix G: NAB Transact Gateway Response Codes

The response codes returned by the NAB Transact Payment Gateway are outlined below:

Gateway Response Code	Response Text	Description
000	Normal	Message processed correctly (check transaction response for details)
504	Invalid Merchant ID	If Merchant ID does not follow the format XXXDDDD, where X is a letter and D is a digit, or Merchant ID is not found in NAB Transact database
505	Invalid URL	The URL passed to either the Echo, Query, or Payment object is invalid
510	Unable To Connect To Gateway	Produced by the NAB Transact Client API when unable to establish connection to the NAB Transact Payment Gateway
511	Gateway Connection Aborted During Transaction	Produced by the NAB Transact Client API when connection to the NAB Transact Payment Gateway is lost after the payment transaction has been sent
512	Transaction timed out by the Client API	Produced by the NAB Transact Client API when no response to the payment transaction has been received from the NAB Transact Payment Gateway within the predefined time period (default 80 seconds)
513	General Database Error	Unable to read information from the database
514	Error loading properties file	The Payment Gateway encountered an error while loading configuration information for this transaction
515	Fatal Unknown Error	Transaction could not be processed by the Payment Gateway due to unknown reasons
516	Request type unavailable	The NAB Transact Payment Gateway does not support the requested transaction type
517	Message Format Error	The NAB Transact Payment Gateway could not correctly interpret the transaction message sent
524	Response not received	The client could not receive a response from the Payment Gateway
545	System maintenance in progress	The system maintenance is in progress and the system is currently unavailable and unable to process transactions
550	Invalid password	The Client API has attempted to process a request with an invalid password
575	Not implemented	This functionality has not yet been implemented
577	Too Many Records for Processing	The maximum number of allowed events in a single message has been exceeded
Status Code	Response Text	Description
580	Process method has not been called	The process() method on either the Echo, Payment or Query object has not been called
595	Merchant Disabled	NAB Transact has disabled the merchant and the requests from this merchant will not be processed

11.8 Appendix H: XML Request DTD

```
<!ELEMENT NABTransactMessage (MessageInfo, MerchantInfo, RequestType Payment?)>

<!-- define elements for NABTransactMessage -->
<!ELEMENT MessageInfo (messageID, messageTimestamp, timeoutValue, apiVersion)>
<!ELEMENT MerchantInfo (merchantID, password)>
<!ELEMENT RequestType (#PCDATA)>
<!ELEMENT Payment (TxnList)>

<!-- define elements for MessageInfo -->
<!ELEMENT messageID (#PCDATA)>
<!ELEMENT messageTimestamp (#PCDATA)>
<!ELEMENT timeoutValue (#PCDATA)>
<!ELEMENT apiVersion (#PCDATA)>

<!-- define elements for MerchantInfo -->
<!ELEMENT merchantID (#PCDATA)>
<!ELEMENT password (#PCDATA)>

<!-- define elements for Payment -->
<!ELEMENT TxnList (Txn)>
<!ATTLIST TxnList
   count CDATA #REQUIRED>

<!-- define elements for TxnList -->
<!ELEMENT Txn (txnType, txnSource, amount, currency, purchaseOrderNo, txnID?,
   preauthID?, CreditCardInfo)>
<!ATTLIST Txn
   ID CDATA #REQUIRED>

<!-- define elements for Txn -->
<!ELEMENT txnType (#PCDATA)>
<!ELEMENT txnSource (#PCDATA)>
<!ELEMENT amount (#PCDATA)>
<!ELEMENT currency (#PCDATA)>
<!ELEMENT purchaseOrderNo (#PCDATA)>
<!ELEMENT txnID (#PCDATA)>
<!ELEMENT preauthID (#PCDATA)>
<!ELEMENT CreditCardInfo (cardNumber, cvv?, expiryDate?)>

<!-- define elements for CreditCardInfo -->
<!ELEMENT cardNumber (#PCDATA)>
<!ELEMENT cvv (#PCDATA)>
<!ELEMENT expiryDate (#PCDATA)>
```

11.9 Appendix I: XML Response DTD

```
<!ELEMENT NABTransactMessage (MessageInfo, MerchantInfo, RequestType, Status, Payment)>

<!-- define elements for NABTransactMessage -->
<!ELEMENT MessageInfo (messageID, messageTimestamp, apiVersion)>
<!ELEMENT MerchantInfo (merchantID)>
<!ELEMENT RequestType (#PCDATA)>
<!ELEMENT Status (statusCode, statusDescription)>
<!ELEMENT Payment (TxnList)>

<!-- define elements for MessageInfo -->
<!ELEMENT messageID (#PCDATA)>
<!ELEMENT messageTimestamp (#PCDATA)>
<!ELEMENT apiVersion (#PCDATA)>

<!-- define elements for MerchantInfo -->
<!ELEMENT merchantID (#PCDATA)>

<!-- define elements for Status -->
<!ELEMENT statusCode (#PCDATA)>
<!ELEMENT statusDescription (#PCDATA)>

<!-- define elements for Payment -->
<!ELEMENT TxnList (Txn*)>
<!ATTLIST TxnList
   count CDATA #REQUIRED>

<!-- define elements for TxnList -->
<!ELEMENT Txn (txnType, txnSource, amount, currency, purchaseOrderNo,
   approved, responseCode, responseText, settlementDate,
   txnID, preauthID?, CreditCardInfo)>
<!ATTLIST Txn
   ID CDATA #REQUIRED>

<!-- define elements for Txn -->
<!ELEMENT txnType (#PCDATA)>
<!ELEMENT txnSource (#PCDATA)>
<!ELEMENT amount (#PCDATA)>
<!ELEMENT currency (#PCDATA)>
<!ELEMENT purchaseOrderNo (#PCDATA)>
<!ELEMENT approved (#PCDATA)>
<!ELEMENT responseCode (#PCDATA)>
<!ELEMENT responseText (#PCDATA)>
<!ELEMENT settlementDate (#PCDATA)>
<!ELEMENT txnID (#PCDATA)>
<!ELEMENT preauthID (#PCDATA)>
<!ELEMENT CreditCardInfo (pan, expiryDate?, cardType?, cardDescription?)>

<!-- define elements for CreditCardInfo -->
<!ELEMENT pan (#PCDATA)>
<!ELEMENT expiryDate (#PCDATA)>
<!ELEMENT cardType (#PCDATA)>
<!ELEMENT cardDescription (#PCDATA)>
```

11.10 Appendix J: NAB Transact Bank Response Codes

Code	Response Text	Code	Response Text
	Approved		
00	Approved	08	Approved
11	Approved (not used)	16	Approved (not used)
	Declined		
01	Refer to Card Issuer	41	Lost Card—Pick Up
02	Refer to Issuer's Special Conditions	42	No Universal Amount
03	Invalid Merchant	43	Stolen Card—Pick Up
04	Pick Up Card	44	No Investment Account
05	Do Not Honour	51	Insufficient Funds
06	Error	52	No Cheque Account
07	Pick Up Card, Special Conditions	53	No Savings Account
09	Request in Progress	54	Expired Card
10	Partial Amount Approved	55	Incorrect PIN
12	Invalid Transaction	56	No Card Record
13	Invalid Amount	57	Trans. not Permitted to Cardholder
14	Invalid Card Number	58	Transaction not Permitted to Terminal
15	No Such Issuer	59	Suspected Fraud
17	Customer Cancellation	60	Card Acceptor Contact Acquirer
18	Customer Dispute	61	Exceeds Withdrawal Amount Limits
19	Re-enter Transaction	62	Restricted Card
20	Invalid Response	63	Security Violation
21	No Action Taken	64	Original Amount Incorrect
22	Suspected Malfunction	65	Exceeds Withdrawal Frequency Limit
23	Unacceptable Transaction Fee	66	Card Acceptor Call Acquirer Security
24	File Update not Supported by Receiver	67	Hard Capture—Pick Up Card at ATM
25	Unable to Locate Record on File	68	Response Received Too Late
26	Duplicate File Update Record	75	Allowable PIN Tries Exceeded
27	File Update Field Edit Error	86	ATM Malfunction
28	File Update File Locked Out	87	No Envelope Inserted
29	File Update not Successful	88	Unable to Dispense
30	Format Error	89	Administration Error
31	Bank not Supported by Switch	90	Cut-off in Progress
32	Completed Partially	91	Issuer or Switch is Inoperative
33	Expired Card—Pick Up	92	Financial Institution not Found
34	Suspected Fraud—Pick Up	93	Trans Cannot be Completed
35	Contact Acquirer—Pick Up	94	Duplicate Transmission
36	Restricted Card—Pick Up	95	Reconcile Error
37	Call Acquirer Security—Pick Up	96	System Malfunction
38	Allowable PIN Tries Exceeded	97	Reconciliation Totals Reset
39	No CREDIT Account	98	MAC Error
40	Requested Function not Supported	99	Reserved for National Use

11.11 Appendix K: EBCIDEC Character Set

Description	Characters allowed
Numeric	0 – 9
Alphabetic	a – z, A – Z
Oblique slash	/
Hyphen	-
Ampersand	&
Period	.
Asterisk	*
Apostrophe	‘
Blank space	

11.12 Appendix L: Dynamic Card Acceptor

If enabled on your NAB Transact account, the Dynamic Card Acceptor details will be accepted via metadata tags added to your XML request. Note that permission for this feature must be enabled on your account or you will receive a response of "555 – Permission denied".

Element	Comments	
<metadata>	**Description:**	Area for placing additional information.
	Sub-Element Of:	<Txn>
	Format type:	(No value)
	Format constraints:	(No value)
	Validated by NAB Transact:	Yes
	Value:	(No value)
	Sub-elements:	Yes

Acceptable metadata:

Element	Comments	
ca_name	**Description:**	Replaces merchant name.
	Format type:	String
	Format constraints:	MAXLEN = 25(Visa), MAXLEN = 22(MasterCard) EBCDIC (see appendix J)
	Validated by NAB Transact:	Yes
	Value:	Eg: "Merchant Special Name"
ca_location	**Description:**	Replaces merchant location.
	Format type:	String
	Format constraints:	MAXLEN = 13, EBCDIC (see appendix J)
	Validated by NAB Transact:	Yes
	Value:	Eg: "Replaces Loc"
	Note:	Currently only available for Visa. MasterCard will be available by end 2010.

Example Dynamic Card Acceptor Usage:

```
<Txn ID="1">
<txnType>0</txnType>
<txnSource>2</txnSource>
<amount>7581</amount>
<currency>AUD</currency>
<purchaseOrderNo>"Cust Ref 12345689"</purchaseOrderNo>
<metadata>
    <meta name="ca_name" value="Merchant Special Name"/>
    <meta name="ca_location" value="1800-000-000"/>
</metadata>
</Txn>
```

This transaction would appear on a merchant's statement as:

Merchant Special Name 1800-000-000 AU $75.81

Rather than the name the might normally be on the statement (for example):

MERCHANT STANDARD NAME MELBOURNE AU $75.81

11.13 Appendix M: Public Test Account

NAB Transact offers a testing and demonstration system that can be accessed using the following details:

NAB Transact Portal – Test Login URL
https://transact.nab.com.au/demo/index.jsp

NAB Transact Portal – Public Test Login Details
Client ID: XYZ
Username: demo
Password: abcd1234

NAB Transact XML API – Test Payment URL
https://transact.nab.com.au/test/xmlapi/payment

NAB Transact XML API – Public Test Account Details
Merchant ID: XYZ0010
Transaction Password: abcd1234

Example XML:
<merchantID>XYZ0010</merchantID>
<password>abcd1234</password>