

eNETS Payment Services UMAPI Lite Merchant Integration Manual

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1 Change History

Version	Description	Date
1.0	<ul style="list-style-type: none"> Initial release 	05 Mar 2008
1.1	<ul style="list-style-type: none"> Remove Vcard features Add in warning statement for merchant does not utilize the feature of http post notification. 	28 Apr 2008
1.2	<ul style="list-style-type: none"> Put in the clarification for "notification url" in Notification Means session 	11 Jun 2008
1.3	<ul style="list-style-type: none"> Changes of parameters value in the post url. Amend email notification format Updated FAQ list Updated Appendix A: Sample of Merchant Field Setup form Added Credit Acquirer Response Codes Added eNETS Credit Response Codes Added Debit Acquirer Response Codes 	12 Jun 2008
1.4	<ul style="list-style-type: none"> Remove empty page between session 3 and 4 Update parameter names for post url Add in error code 1035 – invalid http method 	19 Jun 2008
1.4.1	<ul style="list-style-type: none"> Updated parameter(umapiType) from "lite" to "lite" on pages 7 and 8. 	10 Sep 2008
1.4.2	<ul style="list-style-type: none"> Remove "URL" under Notification means on pages 6 Change "Notification means" to "EMAIL Notification" on page 10 Remove NETS Test UMAPI Lite URL on page 7 Remove "Post URL" feature on page 10 Change "Error code" to "Response Code" on page 11 	10 Oct 2008
1.4.3	<ul style="list-style-type: none"> Updated the format and the grammar of the entire document. Updated the images and the forms 	29 Dec 2008
1.4.4	<ul style="list-style-type: none"> Added a FAQ with answer Changed the meaning of the credit acquirer response code "79" 	15 Jan 2009
1.4.5	<ul style="list-style-type: none"> Updated some information in section 6. Changed all NETS to eNETS Added FAQ 	13 May 2009
1.4.6	<ul style="list-style-type: none"> Updated contact information in Section 5. 	04 March 2011
1.4.7	<ul style="list-style-type: none"> Updated figure 3 in section 7. 	22 Sep 2011
1.4.8	<ul style="list-style-type: none"> Updated for UMID changes for Sections 3, 7, 9, 10 & 15 	04 Nov 2011

2 Documents and Reference Materials

Document	Reference	Date
MerchantManual_NMM_V1R4.doc		
eNETS Credit -eNPS Merchant Migration Guide_v1.2.doc		

3 Terminology and Convention

Term / Abbreviation	Description
Shopping Cart	Located at the merchant's web page that displays a list of items / services that the merchant sells or provides, selected by the consumer for payment
Web Site	Used to denote the presence of the merchant's business in the internet. Typically, merchants will host several web pages on their web-servers or request for third party service providers to host the web pages.
Collection Page (also known as Payment Order Page)	This page is a eNETS UMAPI Lite web page that displays order information for consumers to verify or enter. This page also provides consumers a choice of payment methods to effect the payment for the order.
UMID	Universal Merchant ID

4 Overview

The eNETS Payment Service or UMAPI Lite, was introduced by eNETS to act as a common entry point for merchants, to access the full spectrum of eNETS payment methods (eNETS Credit and eNETS Debit).

Merchants with internet shopping web sites or merchants with no internet web sites but has a physical retail shop, can provide Internet Credit and Debit methods to their customers through the use of the eNETS Payment Service (UMAPI Lite).

This document aims to provide merchants with the necessary information on how to integrate with the eNETS Payment Service (UMAPI Lite).

For more information about eNETS payment methods, go to the eNETS web site, <http://www.nets.com.sg/enets>

5 Contact Point

Merchants can contact the following for any queries on eNETS Payment Service (UMAPI Lite) and the eNETS payment methods (Credit, Debit) it offers.

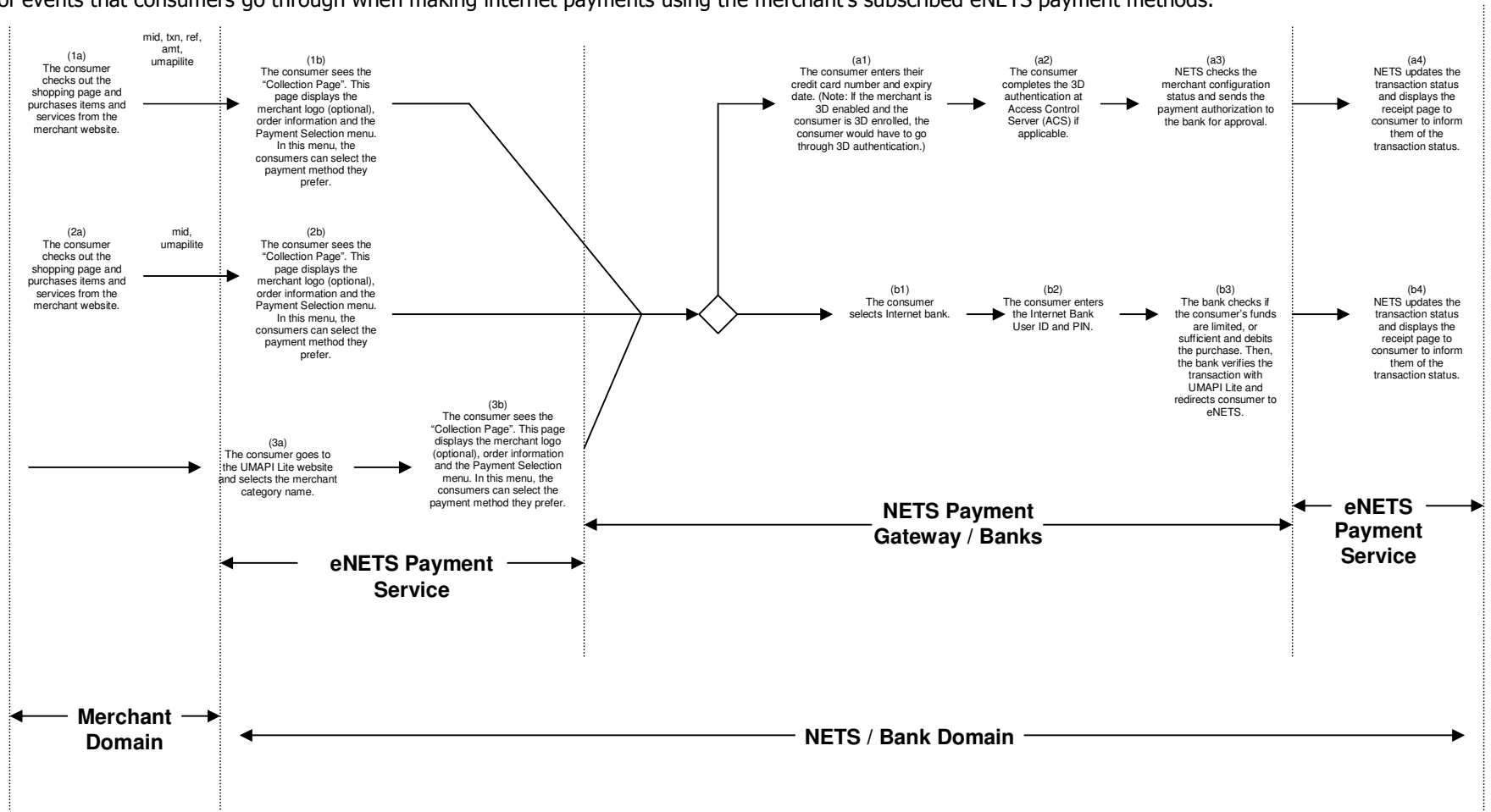
Post: ENETS Pte Ltd
298 Tiong Bahru Road
#04-01/06 Central Plaza
Singapore 168730

Email: info@nets.com.sg

Hotline:(65) 6274 1212
Operating Hours:
8:30am to 6:00pm Mondays - Fridays.
Closed on Saturdays, Sundays and Public Holidays.

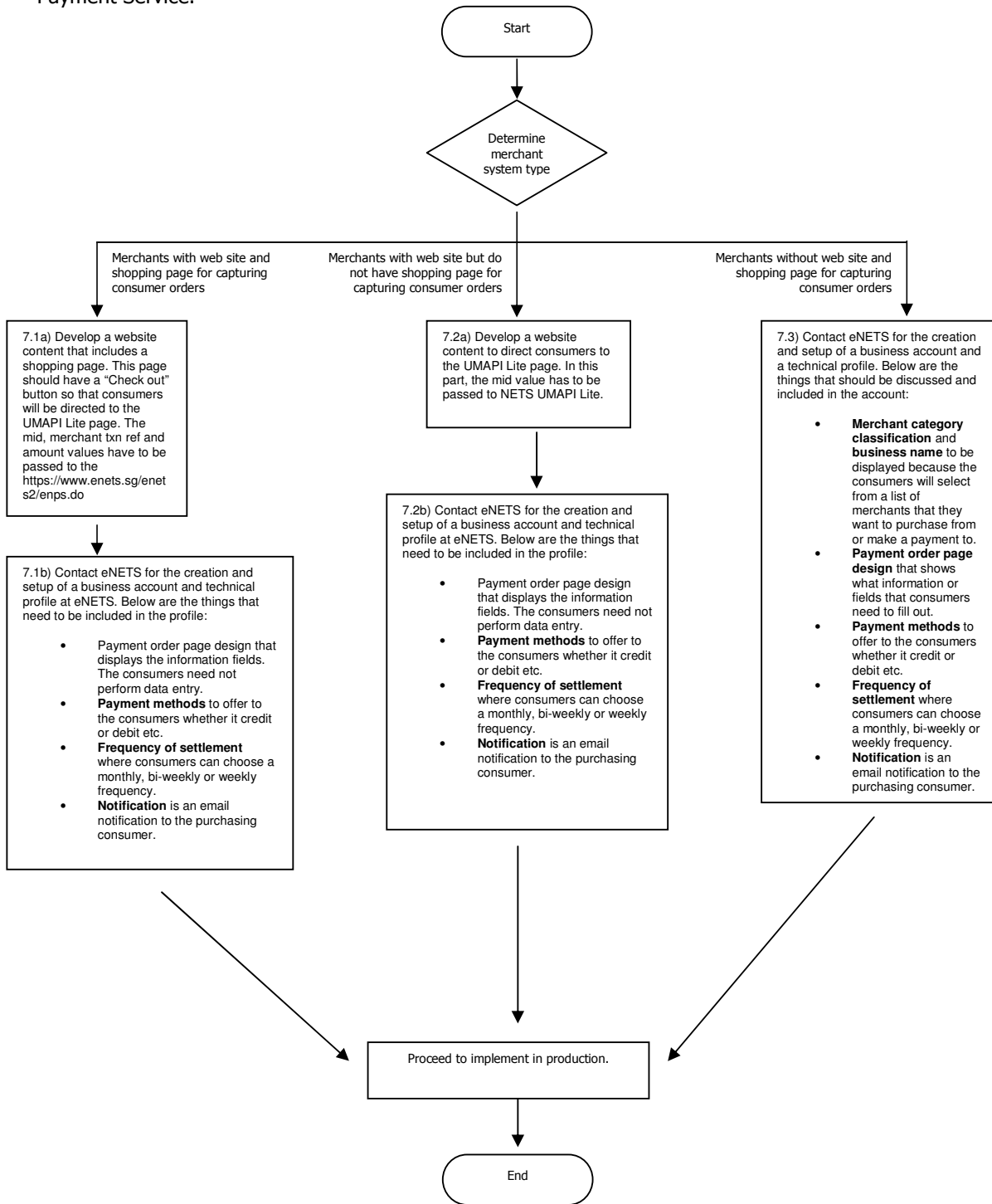
6 eNETS Payment Service (UMAPI Lite)

The diagram below shows and describes the various entry points where merchants can access the eNETS Payment Service. This diagram also shows the sequence of events that consumers go through when making internet payments using the merchant's subscribed eNETS payment methods.



7 Implementation Steps

The flowchart below describes the actions or decisions that merchants make to integrate with the UMAPI Lite Payment Service.



Merchants With a Web Site and a Shopping Cart

Merchants with their own websites and shopping carts for capturing consumer orders need to direct their consumers to the eNETS UMAPI Lite system. This is done after consumer orders have been confirmed.

Below is the **Uniform Resource Locator (URL)** where merchants direct their consumers. This URL is only for the merchant to integrate with the eNETS UMAPI Lite system. Consumers cannot click this URL directly.

eNETS Production UMAPI Lite URL:

<https://www.enets.sg/enets2/enps.do>

Fig. 1 shows the list of mandatory parameters to pass to eNETS UMAPI Lite:

Parameter Name	Max Length	Remark
mid	-	Unique merchant ID issued by an eNETS administrator (For UMID transactions, mid field should contain the UMID)
amount	50	The transaction amount format must be \$\$\$.cc where \$ stands for dollar and c stands for cents.
txnRef	30	The transaction reference number must be unique to enable merchants to identify each particular transaction. <i>Note: If merchants wish to support 3D credit transactions, the transaction reference number is limited to 20 characters.</i>
umapiType	4	The constant value is 'lite'

Fig 1: Parameters List

Below is the sample code for a merchant's shopping cart integrating with the eNETS UMAPI Lite system.

Note: Only http post method is accepted.

```
<form name="cart" method="post" action="<a href="https://www.enets.sg/enets2/enps.do">https://www.enets.sg/enets2/enps.do</a>">
<input type="hidden" name="amount" value="xxx">
<input type="hidden" name="txnRef" value="xxxxxxxxxx ">
<input type="hidden" name="mid" value="xxxxxxxxxx ">
<input type="hidden" name="umapiType" value="lite">
</form>
```

Fig 2: Sample Code for Merchant with Web Site and Shopping Cart

After merchants direct the consumers to the eNETS UMAPI Lite system, the consumers will see a Payment Order Page, also known as the Collection Page, for them to view or enter order details and select payment method (see Fig. 3). This payment order page will be setup by a eNETS personnel according to the merchant's requirements (see Section 11, Merchant Setup Form).

Fig 3: eNETS UMAPI Lite Payment Order Page (Collection page) sample

Aside from the mandatory parameters seen on Fig 1: Parameter List, merchants can also choose to submit additional fields up to a maximum of 10 fields. This includes the mandatory parameters, with corresponding values (name value pair), to eNETS UMAPI Lite for display to consumer on UMAPI Lite payment order page.

Note: These additional fields submitted by merchants to eNETS UMAPI Lite are strictly for display and will not be stored in eNETS UMAPI Lite database for future retrieval. Merchants should store the additional field values in their own systems if such information retrieval is necessary.

Merchants With Web Sites but do not have a Shopping Cart

For merchants with their own web sites but do not have shopping carts, they need to direct their consumers to the eNETS UMAPI Lite system. This should be done after the consumers have stated their intention to purchase the good and services. The order information will be entered at the eNETS UMAPI Lite.

Below is the URL that merchants should direct their consumers to go. As part of the direction, pass to eNETS UMAPI Lite the following mandatory parameters (see Fig. 4).

eNETS UMAPI Lite URL:

<https://www.enets.sg/enets2/enps.do>

Parameter Name	Max Length	Remark
mid	-	Unique merchant Identify ID issued by eNets administrator (For UMID transactions, mid field should contain the UMID)
umapiType	4	Constant value "lite"

Fig 4: Parameters List

Fig. 5 shows a sample code for a merchant with a shopping cart integrating with the eNETS UMAPI Lite system

Note: Merchants can also choose to redirect and perform post processing before directing consumer to eNETS UMAPI Lite system

```
<form name="cart" method="post" action="<https://www.enets.sg/enets2/enps.do">">
<input type="hidden" name="mid" value=" xxxxxxxxxx ">
<input type="hidden" name="umapiType" value="lite">
</form>
```

Fig 5: Sample Code for Merchant with Web Site but does not have a Shopping Cart

After merchants direct the consumers to eNETS UMAPI Lite system, consumers will see a payment order page (also known as collection page) for them to view / enter order details and select payment method (see fig 3). This payment order page will be setup by eNETS personnel in accordance to the merchant’s requirements (see Section 11, Merchant Setup Form).

Aside from the above mandatory parameters, merchants can also choose to submit additional fields up to a maximum of 10 fields (mandatory parameters inclusive) with corresponding values (name value pair) to eNETS UMAPI Lite for display to consumer on UMAPI Lite payment order page.

Note: These additional fields submitted by merchants to eNETS UMAPI Lite are strictly for display and will not be stored in eNETS UMAPI Lite database for future retrieval. Merchants should store the additional field values in their own systems if such information retrieval is necessary.

Merchants Without a Web Site and a Shopping Cart

Merchants without their own websites and shopping carts need to advise eNETS about the category of their business, and their desired business name. Consumers who wish to make payments for goods and services from such merchants should be advised to pay at the eNETS UMAPI Lite production website at:

<https://www.enets.sg/enets2/PaymentListener.do>

From this website, consumers will select the category then the merchant business name and then enter the order information (as per setup made in agreement with merchant at point of registration – see Section 11, Merchant Setup Form), as well as select the payment method they wish to effect payment.

Merchants do not need to pass any parameters to eNETS UMAPI Lite. They can view their transactions from eNETS UMAPI Lite reporting facility and fulfill the orders based on the transaction status.

8 eNETS UMAPI Lite Merchant Reports Interface

The eNETS UMAPI Lite Merchant Reports Interface provides merchants with a reporting service that tracks the successful transactions and details such as amount, status etc. that merchants have.

Merchants must first login to the eNETS UMAPI Lite Merchant Reports Interface at the URL https://admin.enets.sg/enets2_admin/login.do, using the merchant ID, user ID and password given by eNETS personnel.



For more details when using enets2 report, please refer to the Merchant User Guide document

9 eMAIL notification and Notification URL (Optional Service)

eNETS UMAPI Lite can notify a merchant via email, sms or url whenever a successful transaction belonging to the merchant is conducted. **Note: notification via url requires merchants to have their own web sites.**

a) Example of an email notification:

```
A Success transaction has been received.
Txn Details
Currency           : SGD
Amount            : 11.00
Merchant Reference Code : 20090415 13:44:24.665
NETS Reference Code  : 20090415134441149
Txn Date          : 20090415
Txn Time          : 13:44:56
Payment Method    : Credit
```

```
A Success transaction has been received.
Txn Details
Currency           : SGD
Amount            : 11.00
Merchant Reference Code : 20090414 17:46:05.064
NETS Reference Code  : 20090414174620120
Txn Date          : 20090414
Txn Time          : 17:46:32
Payment Method    : Debit
```

b) Example of notification URL:

```
amount::11,222.00
TxnRef::20090417 13:26:35.122
PayMethod::Credit
txnStatus::fail
TxnDate::20090417
parameter1::enets2_test
errorCode::-1204
htmlMethod::post
TxnTime::13:27:43.000
```

*Note: Data collected must be CORRECT during first application. Any request for amendment will cause delay in the application

c) Example of UMID email notification:

Dear Valued Customer ,

Thank you for using eNETS for payment.

We are pleased to inform you that the following transaction has been successful

```
Txn Date       : 20111103
Txn Time       : 14:10:27
Merchant Reference Code : 20111103141027792
Transaction Amount   : SGD 23.00
Payment Type        : Credit
```

Thank You
eNETS Pte Ltd

10 URL Redirection (Success, Failure and Cancel)

Merchants need to prepare their own success, fail and cancel page and send these pages to eNETS and the merchant administrator will record them into database.

On the merchant page, when the transaction is completed, the browser will be redirected automatically to merchant's successful page, failure page or cancel page based on the transaction status.

The following parameters will be passed to the merchants when performing the redirection.

Note: For UMID transactions, URL for success, fail and cancel should be same for individual MIDs grouped under UMID.

Name	Meaning
txnRef	If the merchants pass the merchant transaction reference code to eNETS, it will be Merchant Transaction reference Code. If the merchants did not pass the merchant transaction reference code to eNETS, it will be eNETS's transaction reference code.
mid	The mid of the merchant (For UMID transactions, mid field should contain the UMID)
amount	Transaction amount.
payment	Payment method.

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txnDate	Transaction Date.
txnTime	Transaction Time.
errorCode	The error code of the transaction.
status	The transaction status. "succ": transaction successful, "fail": transaction fail.
All other parameters consumer entered in the collection page.	Name value pair of all the parameters the consumer entered in the collection page.

11 Merchant Setup Form

eNETS UMAPI Lite Merchants are given a Merchant Setup Form, (refer to Appendix A for the sample), to assist the eNETS personnel in creating the payment order page (collection page).

The merchant setup form allows merchants to decide on the parameter names and expected values (i.e. order information), they intend to pass to eNETS UMAPI Lite. It also shows them how they want to display to and/or require consumers to perform order / payment entry.

Merchants can seek further advice from the eNETS personnel (see Section 5 – Contact Point) on how they should design the payment order page.

An explanation of the possible parameter types and logic checks that eNETS UMAPI Lite can accept / perform are shown below.

Required information for each parameter:

1. **Field name:** This is the name of the parameter (e.g. Name, Contact Number)
2. **Field length:** This defines the maximum length of the field.
3. **Display Type:** Refer to table 1 below.
4. **Default Value:** This is usually left blank but you can choose to have a default value displayed. When the consumer reaches this page (e.g. if season parking fees default value is \$180, you can choose to enter the default value in the amount field as 180.00)
5. **Checking Criteria:** Refer to table 2 below.

***Note:** MID amount and txn ref are mandatory parameters to be passed to eNETS UMAPI Lite for merchants with web sites and shopping carts. MID is a mandatory parameter to be passed to eNETS UMAPI Lite for merchants with web sites but do not have shopping carts.*

Table 1

Display Type	Description
Label	This field type is used as a text field to convey a certain messages. The consumers cannot enter any information in this field. This field is usually used for "Thank you" messages or for instructions.
Text Box	This field type is a "free field" where consumers can enter or capture anything. Examples: Name, Address, Contact Information.
Password	Information typed in this field will appear as an asterisk. However, the information typed in this field will be seen clearly by the merchant in the Merchant Report Page.
Radio Button	This field type allows the merchant to define up to 10 options for radio button.
Check Box	This field type allows the merchant to define up to 10 options for check.
Select Box	This field type allows the merchant to define up to 10 options and will be displayed as dropdown box to the consumer.
Title	This field type is similar to the Label field type but the words will appear in BOLD Red letters.
Amount	This field is used to define the amount field.

Table 2

Checking Criteria	Description
NRIC	Check Singapore NRIC HASH Value
Phone	Any 8 Digit number beginning with "6" (Fax, Phone etc.)
Mobile Phone	Any 8 Digit number beginning with "8"
Alpha	Allows the characters of the alphabet
Numeric	Allows numerical characters
Email	This field checks if there is an "@" sign in the information typed

12 Appendix A: Sample of Merchant Field Setup form

1. New Application Update
 2. UMAPI Lite Collection Page

The following form will enable us to setup your payment page. Please fill in the necessary field, for more details on each field please refer to the Merchant Integration and Operations Manual.

Merchant Name :

eNETS MID :

Field #	Display Name	Max Length	Display Type	Default Value	Checking Criteria	Is Compulsory	Field Show on Receipt
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

13 Appendix B: FAQ List

1. What is ACS? Does it belong to eNETS?

Access Control Server (ACS) is located at the Visa and MasterCard International cards. All e-commerce transactions will be routed to ACS and from there will determine the Electronic Commerce Indicator level.

2. What is the objective of 3-D secure transaction?

3-D secure transaction benefits merchants by providing consumers with the ability to authenticate cardholders during an on-line purchases, This reduces the likelihood of fraudulent usage of credit cards.

3. We are getting "Invalid URL" message. How do I resolve this issue?

Below are the possible indications of this message:

You may be accessing the payment page from a web site, which is not registered under our system. You need to state the correct registered URL during the application

4. Can we pass any parameters to the collection page?

Yes, you can pass up to 10 parameters with name value pairs to the collection page from your web site. These extra parameters will not be passed with an email notification but would be passed to URL Notification and also can be shown on our admin portal under Detail Transaction Report.

5. I am not redirected back to the Merchant page after entering my bank detail for debit payment. How do I resolve this issue?

To resolve this issue, ensure the pop-up blocker of your browser is disabled. This is also to avoid debit transaction issues in the future.

6. What is Notify URL used for?

It is used to receive notification message from eNETS. It is mandatory for merchants to acknowledge them so as to prevent the transaction from being reversed for Credit services. You may use acknowledge "OK" for this instance. However, acknowledge is not necessary for Debit services.

7. Can UMAPI Lite support Server to Server mode?

No. UMAPI Lite can only support Browser to Server mode. This applies to both debit and credit.

14 Credit Acquirer Response Codes

The following table shows the different values that will be returned by the Acquirer Host in field 39 of the host response message.

Response Code (P-39)	ISO8583 Definition
00	Approval
01	Refer to Card Issuer
02	Refer to Card Issuer's Special Condition
03	Invalid Merchant
04	Pick-up
05	Do not honour
08	Approved, Verify ID & Signature
12	Invalid transaction
13	Invalid amount
14	Invalid card number
19	Re-enter transaction
21	No Transaction
25	Unable to locate record on file
30	Format error
31	Bank not supported by switch
41	Lost card
43	Stolen card, pickup
51	Not sufficient funds
52	No cheque account
53	No savings account
54	Expired card
55	Incorrect PIN
56	No card record
58	Transaction not permitted to terminal
61	Exceeds withdrawal amount limit
63	Security violation
75	Allowable number of PIN tries exceeded
76	Invalid product code
77	Reconcile error
78	Trans. Number not found
79	Invalid CVV2/CVC2
80	Batch number not found
85	Batch not found
88	Approved, Have cm call AMEX
89	Bad terminal ID
91	Issuer or switch is inoperative
94	Duplicate transmission
95	Reconcile error. Batch upload started
96	System malfunction

15 eNETS Credit Response Codes

Error Code(-ve)	Error Message
1000	Missing NetsMid
1001	Invalid NetsMid
1002	Invalid Merchant Id
1003	Merchant is not registered
1004	Merchant is not active
1005	Invalid Terminal Id
1006	Invalid Payment Mode
1007	Missing Txn Amount
1008	Invalid Txn Amount
1009	Invalid Currency Code
1010	Missing Merchant Reference
1011	Invalid Merchant Reference
1012	Invalid Merchant Txn DateTime
1013	Invalid Submission Mode
1014	Invalid Merchant Cert ID
1015	Invalid Credit Card Number
1016	Missing Credit Card Number
1017	Invalid Expiry Date
1018	Missing Expiry Date
1019	Invalid CVV/CVC2
1020	Invalid Card Holder Name
1021	Missing Payment Type
1022	Invalid Payment Type
1023	Invalid Success Url
1024	Invalid Success Url Params
1025	Invalid Failure Url
1026	Invalid Failure Url Params
1027	Invalid Notify Url
1028	Invalid Notify Url Params
1029	Invalid Cancel Url
1030	Invalid Cancel Url Params
1031	Invalid Post Url
1032	Invalid Post Url Params
1033	Invalid Stan
1034	This page is currently UNDER CONSTRUCTION. Please try again later.
1035	Invalid http method. Only accept http post method for UMAPi lite merchant
1100	Malformed XML Input
1101	Invalid XML Schema
1102	Schema Validation Error
1103	PGP Error
1104	Unable to Sign With PGP
1105	Unable to Encrypt With PGP
1106	Unable to Decrypt With PGP
1107	Unable to Verify Signature With PGP
1108	Invalid PGP Signature
1109	XML Utility Error
1110	Unable to Generate Transaction Reference
1111	Merchant Not Subscribing to This Service
1112	Payment Mode Not Supported
1113	Unable to Decode

Error Code(-ve)	Error Message
1114	Unable to Encode
1115	Unable to Format Merchant Message
1116	Invalid Certificate ID
1200	Invalid login
1201	Error retrieving consumer info
1202	Credit Card Number not allowed
1203	Transaction Amount not within allowed range
1204	Reversal Amount not equal to original amount
1205	Capture Amount more than original Authorization amount
1206	Credit Amount more than original Sale/Capture amount
1207	Transaction Not Allowed
1208	Batch Close in Progress
1209	Bank not active
1210	BITMAP ERROR
1211	Reversal not allowed in different batch
1212	No Mapping found for Txn Type
1213	Unknown Merchant Type
1214	Error getting HostMID
1215	No acquiring bank found
1216	No HostTID configured for merchant
1217	Host Mid not found in database
1218	Host Tid not found in database
1219	Error occurred during batch close
1220	Error instantiating processor
1221	Error instantiating acquirer
1234	Transaction does not exist
1222	Duplicate transaction
1223	Transaction already processed (Applicable to UMID transactions also)
1224	Transaction has already been reversed
1225	Transaction has already been credited
1226	Transaction has already been captured
1227	Transaction has already been charged back
1228	Transaction Locked
1229	Transaction has already been cancelled
1230	System Error
1231	System Error
1232	System Error
1233	Your Credit Card has expired
1290	Comm channel type not defined
1291	Comm channel info not defined
1300	Comms Timeout
1301	Comms Error
1401	Stan does not tally with request
1402	Terminal ID does not tally with request
1403	MTID does not tally with request
1404	Missing Response code
1405	Unable to parse response
4035	Transaction Failed.Please try again.
1501	Cannot Notify Merchant. Contact NETS
1502	Cannot Notify Merchant. Contact NETS
1503	Cannot Notify Merchant. Contact NETS
1504	Cannot Process Transaction. Contact Merchant
1505	Reversal failed

Error Code(-ve)	Error Message
1600	EzProtect parameters are required
1601	Product Details are required
1602	Product Format is required
1603	Shopper ip address is required
1604	Billing First name is required
1605	Billing Last name is required
1606	Billing Address is required
1607	Billing City is required
1608	Billing State required
1609	Billing ZipCode is required
1610	Billing Country is required
1611	Biling Phone no is required
1612	Billing Email is required
1613	EzProtect Risk Threshold is exceeded
1614	Error occured with the EzProtect service
1700	Error in determining enrollment/3D transaction status
1701	Card not enrolled
1702	Authentication failed
1703	Unable to connect to ParesListener
1704	Card Type not recognized
1705	Acquirer not 3D secure enrolled
1706	Merchant not 3D secure enrolled
1707	Acquirer's password missing
1708	Acquirer's password is invalid
1709	Invalid currency code
1710	Invalid transaction data
1711	PAReq not received by ACS
1712	Can not find serial number
1713	Invalid 3D merchant Id
1714	Invalid credit card number
1715	Invalid credit card expiry date
1716	Invalid order number
1717	Invalid purchase amount
1718	Recurrence frequency is invalid
1719	Authorization number is invalid
1720	Card not supported
1721	Validation Error
1722	3D processing error. Kindly contact your issuing bank to investigate
1723	System Error during Secure3D authentication
2000	A System Error occurred
2001	A Database Error occurred
2002	Invalid Session. Please contact Merchant to check your transaction status.
2003	Txn cancelled at service selection page (UMID)

16 Debit Acquirer Response Codes

Code	Error Description	Reasons	Action
00000	Transaction Successful		Merchant to proceed with fulfillment of order.
20001	Internal System Error	Internal processing errors such as Database unavailability and network problem, etc.	If Gateway returns this status for Notification Acknowledgement Message, the Bank will have to initiate a reversal of the transaction.
20002	Data Validation Error	Invalid data sent from either party	The bank will not proceed with the transaction and will initiate a reversal. It will inform customer the transaction is unsuccessful.
20003	XML Related Error	Either XML parsing error or invalid/missing DTD etc.	If Gateway returns this status for Notification Acknowledgement Message, DBS will have to initiate a reversal of the transaction.
20004	Transaction Failed	Transaction is not successful, due to reasons such as customers has entered invalid PIN or insufficient funds, etc.	Customers will be notified of the status and be redirected back to the Merchant page.
20005	Communication Errors	Open connection type of errors, broken pipe errors or time out errors.	For notification message, the Bank will retry a configurable number of times.
20006	Digital Certificate Errors	Either party's certificate is either expired or invalid.	The Bank/Gateway will not accept the message and if the notification message has already been sent, the Bank will initiate a reversal.
20007	Invalid digital Signature	Verification of either party's signature failed.	The Bank/Gateway will not accept the message and if the notification message has already been sent, the Bank will initiate a reversal.
20008	Session Errors	Time out due to customer inactivity.	Customer will not be allowed to proceed and will be informed that his/her session has expired. They will then be redirected back to the Merchant site.
20009	Bank API configuration error		SS should tell Banks to reconfigure API.
20010	Failed to receive acknowledgement from Gateway		SS should check Gateway
20011	No match for Gateway public certificate.		Double check Gateway public certificates.

Code	Error Description	Reasons	Action
40001	Unable to retrieve Bank' URL from Bank_Profile table.		Check Gateway database
40002	Merchant Ref code gotten from Bank is null.		Check that BankMgr is running.
40003	Unable to retrieve Bank's Public key from Database		Check Gateway database
40004	Unable to verify Bank Signature.		The Gateway will not accept the message. Check with the respective bank
40005	Unable to save Txn End html to BankArchive table.		Check Gateway database
40006	Unable to save Txn End html to ASPArchive table.		Check Gateway database
40007	Unable to insert transaction into Log_Merchant_Trans_End table.		Check Gateway database
40008	Unable to update status in Merchant_Txn_Info table.		Check Gateway database
40009	Unable to retrieve Merchant_URL in Merchant_Notify_URL table.		Check Gateway database
40010	Duplicate Txn End	The payment request consists of a bank reference code that was used before.	Bank to advice consumer to wait before trying again.
40011	Transaction timeout	The Gateway has no response in specified time.	Check Gateway itself and link between Gateway and bank.
40012	Gateway private key has been revoked		
40013	Bank private key has been revoked		
40014	Merchant private key has been revoked.		
40099	Transaction Unsuccessful	Transaction cancelled by user at Gateway's Bank selection page.	Merchant can show the same payment page again.
100	Unable to generate Merchant Signature		Merchant should check why cannot generate merchant signature.
101	Unable to verify Gateway Signature		Gateway check that the public key sent to Merchant is correct

Code	Error Description	Reasons	Action
00000	Transaction Successful		Merchant to proceed with fulfillment the order.
30001	Merchant not found in Merchant_Profile table	No merchant record in the merchant_profile table.	SS should Check Gateway database.
30002	Merchant Failure_URL not found in Merchant_Notify_URL table.		SS should Check Gateway database.
30003	Unable to retrieve Merchant's Public key from Merchant_Cert table.		SS should Check Gateway database.
30004	Signature Error	Unable to verify Merchant signature due to different keys used.	Merchant to check that the public key sent to the Gateway is correct.
30005	Duplicate Transaction	The payment request consists of a Merchant reference code that was used before.	Merchant to advise consumer to wait before trying again.
30006	Merchant Ref Code generated is not unique.		Merchant to advise consumer to wait before trying again.
30007	Unable to insert transaction to MerchantArchive table.		SS should check gateway database
30008	Unable to save transaction to ASPArchive table.		SS should check gateway database
30009	Unable to insert transaction into Merchant_Txn_Info and Merchant_DD_Txn_Info tables.		SS should check gateway database
30010	Unable to insert ASP Txn Time into ASP_Txn_Info table.		SS should check gateway database
30011	Unable to generate gateway signature		Merchant should check the public key of Gateway.
30012	Bank ID not found.	Transaction cancelled by user at Gateway's Bank selection page.	Merchant can show the same payment page again.
30013	Bank ID not enabled		Fill in the problem log and escalate Adroit
30014	Client-side HTTP error when notifying Merchant.		SS should check Gateway HTTP.
30015	Server-side HTTP error when notifying Merchant.		SS should check Gateway HTTP.

Code	Error Description	Reasons	Action
1001	Wrong merchant or customer identification.		SS should check whether this merchant's records are in the database or not.
1002	Wrong bank PIN keyed-in by user.		User should key in again.
1003	Internet Banking transaction failed. Please check with the Bank concerned.		SS should check with the Bank.
1004	Session timeout.	Transaction has taken or user is inactive for too long	Customer will not be allowed to proceed and will be informed that his/her session has expired. They will then be redirected back to the Merchant site.
1005	Database access error.		SS should check Gateway database.
1006	Error in re-direction of web page.		SS should check Gateway connection with Banks or Merchants.
1007	Invalid digital signature.	Verification of Gateway signature failed	The Gateway will not accept the message.
1008	Network error.		SS should check Gateway network.
1009	Unable to connect to bank server.		SS call respective bank to check his bank.
1010	Error due to user PC shutdown unexpectedly.		Nil
1011	User cancelled transaction before completion.		Nil
50001	Registry Access Error		Fill in the problem log and escalate Adroit.
50002	Database Access Error		Fill in the problem log and escalate Adroit
50003	Page forward Error		Fill in the problem log and escalate Adroit
60001	Unable to get the CRL		Fill in the problem log and escalate Adroit
60002	Unable to send e-mail to Administrator		Fill in the problem log and escalate Adroit
60003	Unable to validate the merchant Certificate		Fill in the problem log and escalate Adroit

Code	Error Description	Reasons	Action
60004	Unable to update revoked flag in database for Merchants		Check the database
60005	Unable to validate the Gateway Certificates		Fill in the problem log and escalate Adroit
60006	Unable to update revoked flag in database for Gateway		Check the database
60007	Unable to validate the Bank Certificates		Fill in the problem log and escalate Adroit
60008	Unable to update revoked flag in database for Banks		Check the database
60009	No certificate Authority ID specified		Fill in the problem log and escalate Adroit
70001	Unable to connect to the Password Server		Double check password.
70002	Invalid database password		Key into the correct password.
70003	Failed to check connection to the database		Fill in the problem log and escalate Adroit
80001	Error loading data into context		Fill in the problem log and escalate Adroit
90001	Invalid URL for reloading data into context		Fill in the problem log and escalate Adroit