



Merchant Integration Guide
VAU & ABU CSV File Upload - v.1.0.0



Revision Number	Date	Description
V0.0.3	May 2, 2013	- Update ABU response code – CONTACT to CONTAC
V0.0.4	May 8, 2013	- Added new ABU response codes – VALID, UNKNWN - Updated Integration support email to eproducts@moneris.com
V1.0.0	May 27, 2014	- Emphasized the GPG key requirement - Revised parts of Section 4 - Noted the gpg file upload process - Created and referenced Appendix C. Generating a Key Using GPG4win - Updated file name conventions to the standard in Section 7 - Added a note on VAU/ABU behavior when PAN is too short or too-long - Changed the order of VAU/ABU response fields according to production responses - Revised Section 10 to indicate that upload schedules apply to both production and test environments - Changed the order of Variable Names to reflect the response field order - Revised Appendix B VAU/ABU field headers, 0 padded fields, added VAU Z reason code as cause for new_pan blank new_exp_date - Added Appendix C - Generating a Key Using GPG4win - Changed all notes in the document to the same format

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****** PLEASE READ CAREFULLY******

You have a responsibility to protect cardholder and merchant related confidential account information. Under no circumstances should ANY confidential information be sent via email while attempting to diagnose integration or production issues. When sending sample files or code for analysis by Moneris staff, all references to valid card numbers, merchant accounts and transaction tokens should be removed and or obscured. Under no circumstances should live cardholder accounts be used in the test environment.

1. Introduction

In an effort to alleviate merchants' effort in obtaining account information updates for recurring and card on file transactions, Visa and MasterCard introduced "Visa Account Updater (VAU)" and "Automatic Billing Updater (ABU)", respectively. VAU and ABU support account updates for online, offline and recurring payments. The updates include:

1. Brand conversion
2. Expiry date changes
3. Card Upgrades
4. Re-issued cards due to fraud or new programs
5. Lost or stolen cards

The VAU and ABU products offer merchants a secure mechanism to exchange and to update cardholder account information. These programs support the processing of recurring payment transactions or any card on file program. Using VAU or ABU, issuers can communicate changes to cardholder account information to Moneris and their participating merchants. These merchants can then quickly and easily update their billing records and significantly reduce the number of authorization request declines.

The CSV Batch File refers to the ability to upload batch files where the fields are presented in a comma delimited format.

There are a number of pieces of information that must be included in the batch file in a specific order. The following outlines the fields and the order in which they are expected for each VAU and/or ABU request. The last section of this document describes the information that will be provided back to you in the response file of processed batch files.

2. System and Skill Requirements

Before you start you will need to:

1. Have SFTP client software which must use SSH2
2. Create the VAU Batch request CSV File
3. Create the ABU Batch request CSV File
4. Create and use GPG public and private key (encryption)

3. What is the Process I will need to follow?

You will need to follow these steps in the test environment before moving to production

1. Request a VAU/ABU test SFTP account
2. Create a GPG public and private key
3. Upload the GPG public key to your SFTP home directory
4. Upload your test VAU batch request file to your SFTP home directory
5. Upload your test ABU batch request file to your SFTP home directory
6. Download the test VAU response file
7. Download the test ABU response file
8. Decrypt the files

Once the above is done and approved by Moneris you will need to follow the same in production, before you can process real files.

**NOTE**

To receive your Test and/or production SFTP Username and Password, please have your main contact person e-mail the eSELECTplus Integration Support department.

E-mail: eproducts@moneris.com

When e-mailing, please provide your merchant name, merchant number, store ID, as well as your business address, phone and fax number. Your SFTP account information will be sent via fax to the number provided.

4. GPG keys

The VAU and ABU response files will be encrypted using the GPG public key method. Below are the required steps. Please refer to Appendix C. Generating a Key Using GPG4win for an example.

1. Merchant will create public/private key pair with encryption software that will create a “comments” field when the public key is generated. The comment filed is a prompt when creating the key.
2. The merchant must place the merchant id into the comment field. For test environment, please use your production merchant id. Otherwise, your response files will not be generated.

**NOTE**

Note for PGP users: The merchant ID will have to be added in the Full Name field when you are creating a public/private key pair). Please refer to Appendix C. Generating a Key Using GPG4win for an example.

3. Merchant will export the public key in ASCII key file format and rename the file name extension **.gpg** (e.g merchant1.gpg)
4. Merchant SFTP's the public key into merchant's SFTP home directory on Moneris server
5. Moneris will use the public key to encrypt the response file
6. Any new gpg public key uploaded to the Moneris server will replace the previous public key and will be used from that moment onwards.

**NOTE**

Note: When the public encryption key is uploaded into merchant's SFTP Home Directory on the Moneris Server, it will disappear after a few seconds. At this point, merchant-created public key is updated.

** Please note that only the response file will be encrypted. The request file should not be encrypted

5. What Information Do I Need to Include in the Request File

When creating the batch request files, one file will be created with Visa data for VAU and one with MasterCard data for ABU.

The request files will contain accounts that the merchant is requesting updates for. The request file should be in CSV format and the file name must end with the following extensions:

- csv.abu (e.g. file_name.csv.abu)
- csv.vau (e.g. file_name.csv.vau)

The following table illustrates the fields that you must send for each request. For a full description of each field please refer to Appendix A. Please note that the fields must be in the correct order.



Note: If a defective card number (PAN) is sent in the request file where the PAN is too long or too short, the eSelectPlus VAU/ABU system will reject the particular record and not send it to VAU/ABU system for processing. This means that there will be no response returned nor any error messages in the response file for that particular card number. All other card numbers will be processed in the request file.

Transaction Type	Required Fields
ABU Request	merchant_trans_id, old_pan, old_exp_date
VAU Request	merchant_trans_id, old_pan, old_exp_date

6. What Information Do I get in the response File

The batch response file will be encrypted using your public GPG key. Once downloaded the merchant must decrypt it using their private GPG key. The response file will be in the "out" directory in your SFTP account. Moneris will add the extension '.out' to the original file name, for example:

- file.csv.abu.out
- file.csv.vau.out

For a full description of each field please refer to Appendix B. The .out file will contain a response for each request regardless if a match was found or not, please review the response file for all of the transactions.

Please note, separate VAU and ABU response files will be generated.

Transaction Type	Response Fields
ABU Response	merchant_trans_id, old_pan, new_pan, old_exp_date, new_exp_date, mc_reason_id
VAU Response	merchant_trans_id, old_pan, new_pan, old_exp_date, new_exp_date, service_id, prev_sent

7. Filename Conventions

When you are uploading a file the filename must conform to certain standards. The file name must be alphanumeric. It cannot contain any spaces. The extension must be “.csv.abu” or “.csv.vau”, depending on the program, and it must be lowercase. Filenames that do not meet these requirements will not be processed.

When uploading a file it must be put in your home directory. Do not put it in any other directory – it will not get processed. When a response file is ready the file will be put in the /out folder. The filename will be identical to what was uploaded but will have an extension “.out”

**NOTE**

Note: An incremented sequence number will be appended to the file_name to differentiate the response files from each other when VAU/ABU processing occurs over several days with large Request Files. Ex. Merchant_original_file_name_1.csv.(abu|vau).out, Merchant_original_file_name_2.csv.(abu|vau).out

Program	Request File	Response File
ABU	file_name.csv.abu	file_name.csv.abu.out
VAU	file_name.csv.vau	file_name.csv.vau.out

8. How do I send a Batch request file?

We have an SFTP account setup in our test environment that you can use to upload test data for processing. To upload the file you will need to connect to:

	Test Environment	Production
Host	esqa.moneris.com	www3.moneris.com
Port	22	22
Server Type	SFTP using SSH2	SFTP using SSH2
Username	Provided by Moneris	Provided by Moneris
Password	Provided by Moneris	Provided by Moneris

**NOTE**

To receive your Test and/or Production SFTP Username and Password, please have your main contact person e-mail the eSELECTplus Integration Support department.

E-mail: eproducts@moneris.com

When e-mailing, please provide your merchant name, merchant number, store ID, as well as your business address, phone and fax number. Your SFTP account information will be sent via fax to the number provided.

9. How Do I Test My Solution?

A testing environment is available for you to connect to while you are testing uploading the GPG keys and the “.csv.abu” and/or “.csv.vau” request files. The test environment is generally available 7x24; however since it is a test environment we cannot guarantee 100% availability.

When testing you may use the following test card numbers with any future expiry date.

Test Card Numbers	
Card Plan	Card Number
MasterCard	5454545454545454
MasterCard	5454545442424242
Visa	4242424242424242
Visa	4242424254545454

The test environment has been designed to replicate our production environment as closely as possible. One major difference is that we are unable to send test transactions onto the production ABU and VAU networks and thus responses are simulated.

10. Time frame

To increase your chances of receiving the response file within the next day you must submit your request files into the Moneris test environment or into Moneris production environment as follows:

- ABU
 - submit the request file between 1:00AM and 3:30PM EST
 - the output file will be available for pick up by 9AM EST the following day
- VAU
 - submit the request file between 1:00AM and 7:00AM EST
 - the output file will be available for pick up by 9AM EST the following day

11. How Do I Get Help?

If you require technical assistance while integrating your store, please contact the eSELECTplus Helpdesk:

Phone: 1-866-562-4354

Email: eproducts@moneris.com

When sending an email be sure to include your name, phone number, a clear description of the problem as well as the type of batch file that you are using. **For security reasons, please do not send us your password combined with your store id, or your merchant number and device number in the same email.**

12. Appendix A. Definitions of Request Required Fields

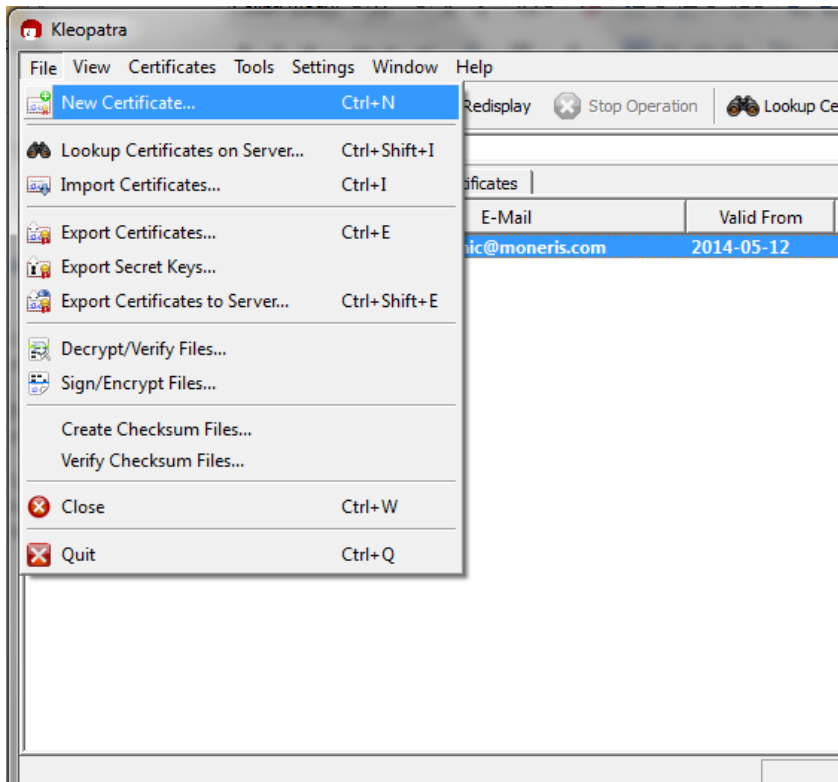
Required Fields		
Variable Name	Size/Type	Description
merchant_trans_id	20/ an	Merchant defined unique request identifier - must be unique for every request.
old_pan	20 / numeric variable	Current Credit Card Number - no spaces or dashes. Most credit card numbers today are 16 digits in length but some 13 digits are still accepted by some issuers. This field has been intentionally expanded to 20 digits in consideration for future expansion and/or potential support of private label card ranges.
old_exp_date	4 / num	Expiry Date - format YYMM no spaces or slashes. PLEASE NOTE THAT THIS IS REVERSED FROM THE DATE DISPLAYED ON THE PHYSICAL CARD WHICH IS MMY

13. Appendix B. Definitions of Response Fields

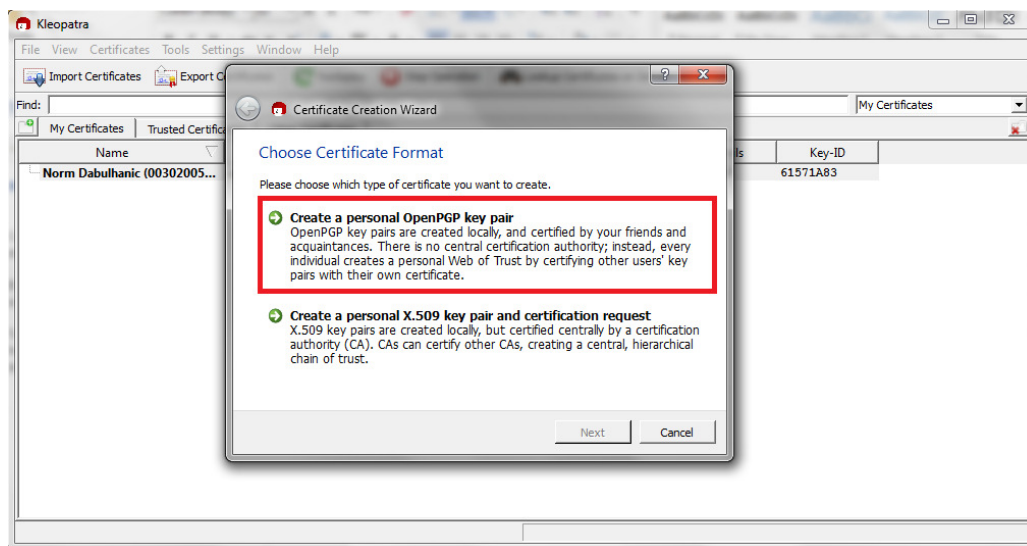
Response Fields																								
Variable Name	Size/Type	Description																						
merchant_trans_id	20/an	specified in request																						
old_pan	20/num Variable	specified in request																						
new_pan	20/num variable	<div>This field contains one of the following:<ul style="list-style-type: none">The account number when new information is availableAll spaces for messages that indicate one of the following conditions:<ul style="list-style-type: none">Closed AccountContact CardholderParticipating BIN, No MatchNon-participating BIN, No MatchVAU Z Reason Code“0” padded for ABU NOMATH Reason Code</div>																						
old_exp_date	4/num	specified in request																						
new_exp_date	4/num	<div>This field contains one of the following:<ul style="list-style-type: none">The expiration date when new information is available (YYMM format)Spaces for messages that indicate one of the following conditions:<ul style="list-style-type: none">Closed AccountContact CardholderParticipating BIN, No MatchNon-participating BIN, No MatchVAU Z Reason Code“0” padded for ABU NOMATH Reason Code</div>																						
mc_reason_id (ABU only)	6 A/N	<div>This response is returned by MasterCard. Valid values are:<table><tr><th>Reason Code</th><th>Definition</th></tr><tr><td>UPDATE</td><td>Update was made, updated data is returned</td></tr><tr><td>EXPIRY</td><td>Expiry date changed on the card</td></tr><tr><td>NOMATH</td><td>No match was found in MasterCard's system</td></tr><tr><td>CONTAC</td><td>Account closed, contact card holder for updated information</td></tr><tr><td>VALID</td><td>No updates were found but the account is valid</td></tr><tr><td>UNKNWN</td><td>The account number could not be found in the ABU database</td></tr><tr><td>000101</td><td>(ERROR) Non-numeric Account Number</td></tr><tr><td>000102</td><td>(ERROR) Bad Check Digit for Account</td></tr><tr><td>000103</td><td>(ERROR) Invalid Expiration Date</td></tr><tr><td>000104</td><td>(ERROR) Merchant Not Registered</td></tr></table></div>	Reason Code	Definition	UPDATE	Update was made, updated data is returned	EXPIRY	Expiry date changed on the card	NOMATH	No match was found in MasterCard's system	CONTAC	Account closed, contact card holder for updated information	VALID	No updates were found but the account is valid	UNKNWN	The account number could not be found in the ABU database	000101	(ERROR) Non-numeric Account Number	000102	(ERROR) Bad Check Digit for Account	000103	(ERROR) Invalid Expiration Date	000104	(ERROR) Merchant Not Registered
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service_id (VAU only)	1 alpha	<div>This response is returned by Visa. Valid values are:<table><tr><th>Reason Code</th><th>Definition</th></tr><tr><td>A</td><td>Account number change message</td></tr><tr><td>C</td><td>Closed account advice</td></tr><tr><td>E</td><td>Expiration date change message</td></tr><tr><td>N</td><td>Non-participating BIN</td></tr><tr><td>Q</td><td>Contact cardholder advice</td></tr><tr><td>P</td><td>Participating BIN, no match</td></tr><tr><td>V</td><td>Match made, account number and expiration date unchanged</td></tr><tr><td>Z</td><td>No match found in the system</td></tr></table></div>	Reason Code	Definition	A	Account number change message	C	Closed account advice	E	Expiration date change message	N	Non-participating BIN	Q	Contact cardholder advice	P	Participating BIN, no match	V	Match made, account number and expiration date unchanged	Z	No match found in the system				
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prev_sent (VAU only)	Y/N	<div>This field will return a value of “Y” which indicates that exactly the same account information was requested during the previous 40 days (the retention period), excluding the current day.</div>																						

14. Appendix C. Generating a Key Using GPG4win

1. Install GPG4win and make sure GPA is also installed with the utility
2. Launch Kleopatra
3. Go to File menu – select New Certificate



4. Select Create a Personal OpenPGP key pair



5. Fill in the Full Name, Email, and Comment.

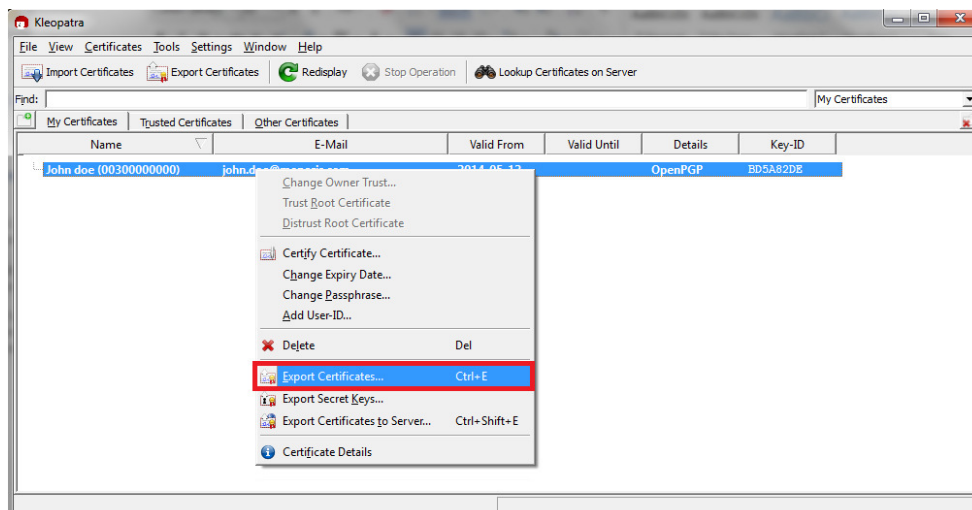


Note: the comment field is the most important and the **13 digit Moneris merchant number** has to be placed in there.

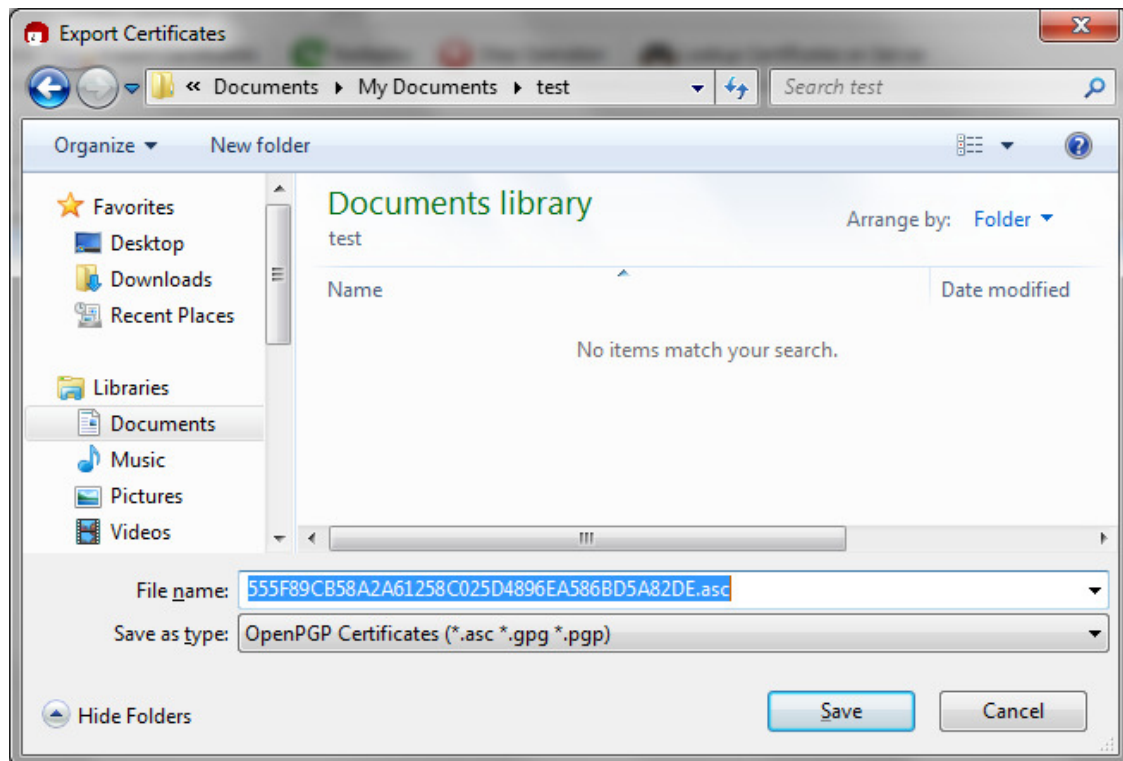
6. Click Create key

The screenshot shows the 'Certificate Creation Wizard' window. The 'Enter Details' section contains three input fields: 'Name' with the value 'John doe', 'EMail' with the value 'john.doe@moneris.com', and 'Comment' with the value 'merchant#'. Each field is highlighted with a red rectangle. Below the fields, the text 'John doe (merchant#) <john.doe@moneris.com>' is displayed. At the bottom right, there is an 'Advanced Settings...' button. At the bottom center, there are 'Next' and 'Cancel' buttons.

7. Enter the same passphrase twice
8. Click the finish button
9. In Kleopatra, right click the certificate you just created and select Export Certificate



10. Browse to the folder you are exporting the certificate to and Save the certificate



11. Open Windows Explorer and browse to the certificate you just created.
12. Rename the certificate to **.pgp** extension
13. Upload the file into the root directory of your account on our SFTP server.

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