

The webinar will begin shortly



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Industry Awareness on the Adoption of the EMV L3 Testing Framework

February 2022

U.S. Payments Forum Mission

- *... the cross-industry body focused on supporting the **introduction and implementation of payment technologies** that protect the security of, and enhance opportunities for payment transactions within the U.S.*

Current Topics and Issues

- COVID-era changes impacting the payments experience for consumers and merchants
- Petro, Transit and Hospitality merchants EMV-enablement issues
- EMV contactless/mobile acceptance testing & certification standards
- The latest trends and practices for fraud mitigation – EMV 3-D Secure, Secure Remote Commerce, PAR and other online mitigation tools

Beyond EMV – Advanced Payments Topics and Issues

- Mobile payment and tokenization
- Identity and authentication in payments: use of biometrics, mobile data elements, digital ID and payment at electric charging stations
- Digital currencies (crypto), blockchain and artificial intelligence tools (AI)

Forum Activities & Resources

- **8 Working Committees meet on regular basis**
- **Collaboration on projects to develop resources to assist with a variety of payments technology topics**
 - White papers, educational resources
 - Best practices and technical recommendations
- **Education programs for members and the industry**
 - Webinars, workshops, Forum member meeting tutorials, published resources
- **Communications**
 - Market outreach with recommended best practices and industry positions
- **Networking**
 - Forum for industry stakeholders to interact with all payments industry stakeholders

Information and resources available at www.uspaymentsforum.org

Introduction: Today's Panel Speakers



Dave Blust
DISCOVER



Jason Bohrer
U.S. PAYMENTS FORUM



Andy Patania
ELAVON



Ed Perez
VERIFONE



Alex Pierre
VISA



Marc Regan
ICC SOLUTIONS



Clyde Van Blarcum
AMERICAN EXPRESS



Henk van Dam
UL





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February 2022

Agenda

- Goal
- Setting the Stage: EMV L3 Testing Framework
- Q&A for our Roundtable
- Appendix Review
 - L3 Test Tool Sample Screen Shots
 - Definitions and Acronyms
- Q&A for our Audience



GOAL

This presentation is meant to bring awareness to the payments eco-system on the adoption of the EMV Level 3 (L3) Testing framework by Participant Systems (e.g. Payment Networks) and its new capabilities and benefits.

What is this new L3 Test Tool Framework?

- Simply put, it is the first major attempt to standardize L3 Test Tool based on machine-readable formats for each technical components.
 - L3 Test Selection Engine
 - L3 Test Tool engine
 - L3 Card Simulator
- Designed as an option to be used by all Participant Systems
- Allows interoperability between test tools and plans.

General Information Recap

- Tool usage for the end user will remain the same in most cases – the running of tests is the same.
- Test Case list generation will be different via TSE Files.
- Data Collection still needs to be done.
 - Test plans still need to know Terminal support so that correct test selection is performed.
 - Reports still need to be generated detailing the Terminal support.

General Information Recap

- Test Tools now have a consistent common file format utilizing TSE for all major Participant Systems.
- The Acquirer/Processor still needs to be able to get the correct answers to the questions to input into the TSE and do the necessary due diligence to ensure validity.
 - Although this could be pushed down the eco-system to the Merchant to answer, they may not have the required knowledge, so will need the current Acquirer help as it stands today.

Benefits Adopting New EMV L3 Framework

- **For Test Tool Vendors:**
 - A streamlined process for L3 Test Tool development and subsequent qualification.
- **For Users and Participant Systems:**
 - Improved data entry format, automation, test execution, results submission and validation efforts during L3 testing.
 - Pass criteria input analysis logic, and machine-readable files for test tool import building test scripts and images.
 - Interoperability among test tools with common format
 - Potential usage for a Common Question feature to help reduce redundant questions.
 - USPF Members Only White Paper: “Common Intake Form Questionnaire and Terminology for EMV L3 POS Certification”

What the L3 Framework is NOT:

- Not a new test tool
- Not a new L3 certification process
- Not a large change for the end user tester
 - The same list of applicable test cases still need to be run.
- Not a mandate for all Participant Systems to implement together.
- Not a new Intake process (at this point)
 - Data Input screens may look different for the Acquirer/processor but their forms ***may*** stay the same.
 - NOTE: Acquirer/processors should use the opportunity to review intake forms and question and insure it still aligns. New questions may be added if needed.

Q&A for our Roundtable



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Why are these changes
being made?

Will the new L3 Test Plans have different test cases
or
will it be the same, only using a different format
to generate applicable test cases?

Will I be required to use this new L3 certification approach?

What exactly is being changed?



What are the benefits for using the L3 Framework?

Does an Acquirer need to change their Intake Form and/or Intake Process in order to support this new L3 TSE?

Is there any
special training needed?

I am an Acquirer and use a Host Authorizer Test Simulator for L3 certification.
Do I need to make any changes to it?

Will any existing output
be changed?

APPENDIX

Test Tool Sample Screen Shots #1



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L3 Test Tool Sample Screen Shot

Screen showing that logic can be applied. In the first screen CDA is not applicable therefore data entry ends there – the second shows that it is applicable so further questions will be shown

Test Session: EMVCoL3_02_210729-115222440
Test Set: Discover Discover Global Network: Acquirer Terminal Integration Test Plan Build: Series 0 Version 170

Progress: 34%

Card Authentication Methods

Terminal is SDA capable
 Yes
 No

Terminal is DDA capable
 Yes
 No

Terminal is CDA capable
 Yes
 No

Terminal is DDA capable
 Yes
 No

Terminal is CDA capable
 Yes
 No

CDA Mode supported:

- Terminal is configured for CDA mode 1: request CDA on ARQC and request CDA on 2nd GEN AC (TC) after approved online authorisation
- Terminal is configured for CDA mode 2: request CDA on ARQC but do not request CDA on 2nd GEN AC (TC) after approved online authorisation
- Terminal is configured for CDA mode 3: do not request CDA on ARQC and do not request CDA on 2nd GEN AC (TC) after approved online authorisation

CDA Mode supported:

L3 Test Tool Sample Screen Shot

Answers will be automatically answered where applicable and the 'Obs' are observation checks (i.e. user validation checks).

TSE Test Session Test Scripts Testing Analysis

Test Case: DGN_L3_CT_07
Test Log: DGN_L3_CT_07_Disc.log

Tree Log Test Plan **D-PAS Questions**

Please answer the following questions for log: DGN_L3_CT_07_Disc

1. The transaction shall be declined.	Obs
<input checked="" type="radio"/> PASS <input type="radio"/> FAIL	
2. The terminal shall not require swiping the card by displaying the message "PLEASE SWIPE CARD" or "USE MAG STRIPE".	Obs
<input checked="" type="radio"/> PASS <input type="radio"/> FAIL	
4. The following TVR bits shall be set: TVR Byte 1, bit 7 = 0 -> SDA did not fail	Tree
<input checked="" type="radio"/> PASS <input type="radio"/> FAIL	
5. The following TVR bit shall be set: TVR Byte 2, bit 7 = 1 -> Expired application	Tree
<input checked="" type="radio"/> PASS <input type="radio"/> FAIL	
6. The terminal shall perform the transaction online	AIRC
<input checked="" type="radio"/> PASS <input type="radio"/> FAIL	
7. The terminal requests an AAC in the 2nd GenAC	AAC
<input checked="" type="radio"/> PASS <input type="radio"/> FAIL	
13. The host sends three PUT DATA commands (Updating the UCOL, LCDA and UCOA) in the Authorization Response	
<input checked="" type="radio"/> PASS <input type="radio"/> FAIL	

Analysis Log **Test Plan** Receipt

Test Plan

Test: DGN_L3_CT_07

Objectives

Expired Application on SDA card:

- To verify that the terminal is able to correctly manage a card with SDA.
- To verify that the terminal functions as intended with an expired card.
- To verify that the terminal will not perform a fallback transaction when the transaction is completed with a chip and declined by the host.
- To verify that the terminal is able to send several issuer script commands received in the Authorization Response.

Applicable

Contact interface in scope

Test Actions

Step Number	Action
1	Insert test card 07 or the probe in the chip reader and follow the instructions displayed on the screen
2	Enter a transaction amount containing the pattern *26*
3	If offline authorization is supported: Enter a transaction amount below the floor limit
4	If prompted for a PIN, enter 1234

APPENDIX

Test Tool Sample Screen Shots #2



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Questionnaire – Question Overview tab

The **Question Overview** tab shows all questions that need to be answered for the test plan and the currently available answers.

Questionnaire

Information Report

Applicable Test Cases

TSER Import

Question Overview | Edit Answers

<input checked="" type="checkbox"/> Select country of deployment	Netherlands
<input checked="" type="checkbox"/> Acquirer/Processor Name	Acquirer
<input checked="" type="checkbox"/> Enter a contact name	contact
<input checked="" type="checkbox"/> Enter a contact email address	contact@email.com
<input checked="" type="checkbox"/> Select all modes of testing to be performed	[Contact testing]
<input checked="" type="checkbox"/> Select type of deployment	POS
* <input checked="" type="checkbox"/> Contact Chip: Select authorization process(es) supported	[Online authorizations supported][Offline authorizations supported]
<input type="checkbox"/> Merchant Name	<no answer>
<input type="checkbox"/> Payment Application Name and Version	<no answer>

OK Apply Cancel

Questionnaire – Edit Answers Tab

On the **Edit Answers** tab, you can complete the questionnaire by providing answers to the questions. The overall completion progress percentage is shown on top.

Edit EMVCo L3 Test Session - Questionnaire

VisaL3Testing series 01 build 005

48%

Questionnaire

Information Report

Applicable Test Cases

TSE Import

Question Overview Edit Answers

Region selection

Please complete the following region selection details.

select country of deployment Netherlands

This is the country where the device is going to be deployed in production.

For U.S. territories, if your device supports the Visa U.S. Common Debit AID, select "United States" as your country so that you can receive the test cases associated with that AID.

Previous Next

OK Apply Cancel

Questionnaire – Warning and Error Messages

This screen shot shows that while filling in the questionnaire, if there is a conflict between the answers to different questions, a Warning or Error message may be displayed. An error needs to be resolved before you can proceed to the next question group.

86%

Warning message

Error message

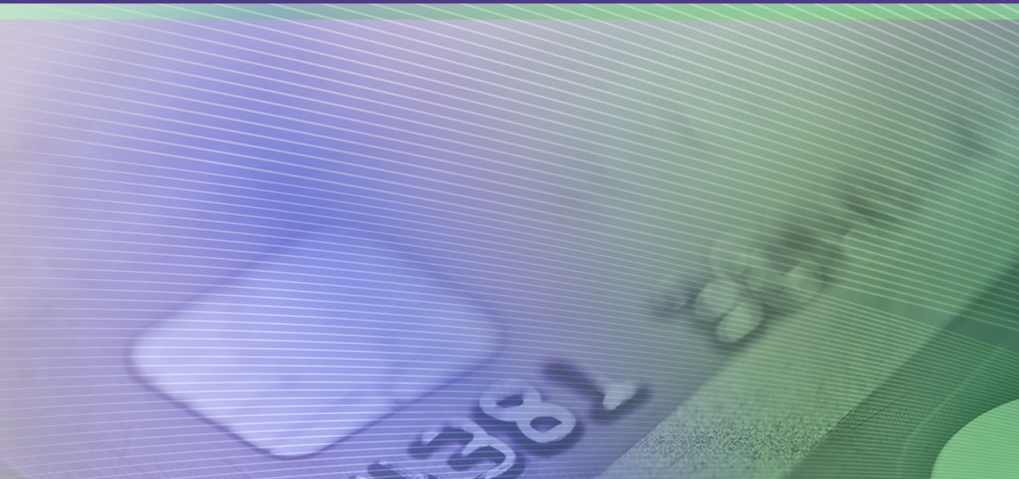
Suggested answer

APPENDIX

Definitions and Acronyms



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Definitions and Acronyms

- **APDU:** Application Protocol Data Unit
- **CDA:** Combined Dynamic Data Authentication
- **ICS:** Implementation Conformance Statement
- **L3:** Level 3 testing
- **L3 LOA:** Letter of Approval for L3 testing
- **L3 TSE:** Third-party vendor-provided Test Selection Engine provides Clients (that often support multiple Participant Systems) a convenient means of preparing applicable Test Session files for individual Payment Systems. The Test Session files are in a machine-readable format that will be compatible with any EMVCo-qualified L3 Test Tool.
- **L3 TT:** The L3 Test Tool Engine is a 3rd-party vendor-provided test tool, qualified by EMVCo for the purpose of executing the selected Level 3 Test Cases required by clients or their service providers, takes as input the output from the TSE engine.

Definitions and Acronyms

- **L3 CS:** The L3 Card Simulator is a 3rd-party vendor-provided test tool, qualified by EMVCo for the purpose of simulating the personalization images and behaviours of physical, non-programmable test cards.
- **OBS:** Observation checks or validation checks
- **Participant Systems:** EMVCo term for TSE participants (e.g. Payment Networks)
- **TSE:** Test Selection Engine
- **TSER:** Test Selection Engine Validation Report file
- **TSEZ:** Test Selection Engine Report file which contains applicable results documentation for L3 validation submission.

Q&A for our Audience



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- **Get Contactless**
 - <https://www.getcontactless.com>
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