



may 2011

executive committee welcome

contactless payment update

EMVCo continues to advance its work within the contactless payment landscape. As part of its standardisation efforts, work has been undertaken to review the certification procedures of EMVCo's member-owners, and to collectively agree universal requirements applicable to the global payments industry.

1) The publication of security evaluation guidelines for platforms

The Security Evaluation Working Group (SEWG) has expanded its focus from common payment applications (CPA) and devices to include certifying platform compliance - i.e. the secure element (SE) that is form factor neutral. The new Security Evaluation Guidelines clearly outline the security functions and models a vendor needs to achieve to be compliant to EMVCo, and to date guidelines have been prepared for platforms based on Java Card and GlobalPlatform standards. Other platforms may still be used and evaluated.

EMVCo recognises this work item as a significant step forward for the contactless payments landscape. It provides reassurances to issuers that adherence to these requirements will ensure compliance to the standards of the global payments industry. The guidelines are available to EMVCo approved developers on request via EMVCo's Security Evaluation Secretariat, and the SEWG is now accepting SE products for certification. Once a platform has been approved by EMVCo, vendors are then responsible for evaluating their final products according to the approval programmes of individual payment systems.

2) EMVCo's roadmap for approving common contactless terminals

The Terminal Approval Working Group (TAWG) has been advancing a migration strategy towards a common EMV contactless kernel that will effectively result in EMVCo managing the approval processes of contactless terminals on behalf of American Express, JCB, MasterCard and Visa. The group is currently qualifying laboratories and aims to launch an official approval process for contactless terminals in July 2011. Further information on this initiative and current progress is detailed in the TAWG update in this newsletter.

EMVCo welcomes elected technical associates to its board of advisors

EMVCo has announced the expansion of its Board of Advisors (BoA) to include elected representatives from the EMVCo Technical Associates programme, which will serve a one year term. The EMVCo Executive Committee welcomes the new contributors and recognises that they will enrich dialogue on strategic issues amongst the BoA by representing the views of card and point-of-sale vendors, merchants and the wider EMVCo Technical Associate programme participants.

EMVCo is pleased to announce the first organisations elected in this capacity are:

- Ingenico - payment solutions provider;
- Inside Secure - semiconductor solutions provider for secure transactions and digital identity;
- Smart Payment Association - trade body representing the smart, secure and personalised payment systems and services providers;
- Walmart - global retailer.

The remaining seats on the BoA will continue to be assigned to EMVCo's Business Associates.



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card approval working group update

In December 2010, the Card Approval Working Group (CAWG) published new versions of the EMVCo Card Type Approval Administration for Common Payment Applications (CPA) and Common Core Definitions (CCD). The latest versions – 2.2 – include changes to adding EMVCo Card Type Approval for evaluating applications that have been modified and / or updated, yet have previously demonstrated sufficient conformance to the EMV Specifications. The documents, which can be downloaded from www.emvco.com, also reference recent precisions, clarifications, testing framework for dual interface cards and derivatives to ensure consistency with the work being completed by the Security Evaluation Working Group (SEWG).

The CAWG is progressing its work to create a programme that supports contactless card testing for Level 1 Analogue and Digital. This activity follows the publication by the group of the EMVCo Card Testing Framework for Contactless in 2010, which reviewed the boundary of responsibilities between EMVCo and the payment systems for testing and type approving contactless cards. It is envisaged that both the first test tools and test laboratories qualified by EMVCo to undertake Level 1 Analogue and Digital evaluation will be accredited and announced later this year.

Following the publication of the EMVCo Mobile Contactless - EMV Profiles of GlobalPlatform UICC Configuration and EMV Contactless Mobile Payment - Application Activation User Interface by the Mobile Payments Working Group (MPWG), and the subsequent work of the SEWG to complete the new security guidelines for Java Card and GlobalPlatform-based implementations, the CAWG is investing resources to ensure the card approval process aligns with EMVCo's most recent mobile payment advancements. To achieve this and create an updated compliance programme, the group is cross-referencing the work of the published documents and developing test cases for the application activation user interface. Documentation referencing this work initiative and related evaluation processes will be released during 2011.

security evaluation working group update

The Security Evaluation Working Group (SEWG) continues to progress the Security Evaluation Process for chip, platform and common payment application (CPA) products. In the last 12 months a further 25 IC devices and eight CPA cards have successfully completed the evaluation. The recognised laboratories list has seven IC, and nine platform and ICC laboratories, with two more provisionally recognised.

The group completed a new release of the Security Evaluation Process document, which extends the evaluation process to include platform products. Platform products that successfully pass are assigned a unique Platform Certificate Number (PCN). This release also updates the renewal policy and product approval policy. Process Bulletin 5 announcing the updates was posted onto the EMVCo website for download in February 2011.

In addition to the management of the Security Evaluation Process and laboratories audit, the SEWG completed the new security guidelines for Java Card

and GlobalPlatform implementations, which enhances the EMVCo process in supporting mobile payments. This document is available to EMVCo approved developers on request via EMVCo's Security Evaluation Secretariat.

A successful laboratory meeting was held in December 2010 in Paris, where a whole range of issues which had arisen throughout the past year were tabled. These included new attacks, the commencement of EMVCo Platform Evaluations and leveling of evaluation methodology. Several laboratories made presentations at the meeting. Due to the success of these gatherings, the SEWG plans to host two meetings in 2011 – one to coincide with the annual EMV User Meeting in June and the other regular gathering in Paris towards the end of the year.

The SEWG also continues to define and maintain security guidelines by assessing emerging threats and vulnerabilities. The SEWG successfully handled several attacks which were shared confidentially with vendors and EMVCo laboratories.

interoperability working group update

General Bulletin 46 was published by the Interoperability Working Group (IWG) in October 2010 to outline EMVCo's work efforts in addressing reported interoperability issues related to electrostatic discharge (ESD). Following a period of assessing the cause and impact, the IWG has formed an ESD Task Force to introduce new requirements and testing to resolve ESD-related issues in terminals.

Due to the specialist expertise required, the group is in the process of appointing a laboratory and will work with this external party to deliver draft testing requirements and processes in Q2 2011. At this point EMVCo will seek input and feedback from its Technical Associates. The testing processes will then be used to evaluate a representative sample of current cards and devices to develop evaluation criteria. As the issue is isolated to colder geographical locations, and not all terminal manufacturers operate in these regions, it is envisaged that devices will be graded on ESD rather than assigning an EMVCo pass or fail certification. Laboratory evaluation is expected to be available to the vendor community in early 2012.

In addition to reacting to interoperability concerns highlighted by the marketplace, the IWG also endeavours to pro-actively forecast and address issues. An example of this is the IWG's work related to electromagnetic disturbance (EMD) and electromagnetic compatibility (EMC), which is due to several communication technologies competing with one another and interfering with the online authorisation processes. While there are

some standards existing today, there are none that are global or directly applicable to the payments environment.

Following the formation of an EMD/EMC Task Force, two laboratories have been selected to assist EMVCo in its work. This initiative has been divided into three phases:

- **Phase 1:** The production of a report which will highlight the risk inventory and risk assessment for both intentional and unintentional radiation. Activity is to be completed in Q2 2011.
- **Phase 2:** Using the measurement methodologies produced in Phase 1, activity will be undertaken to characterise the set of terminal samples to assess the results, and to draft immunity requirements for cards.
- **Phase 3:** Once the recommended card requirements have been approved at EMVCo Board level, work will commence to review existing standards and their suitability for addressing the needs of the payments industry.

The expected outcome of this work includes a defined process which will allow the industry to anticipate EMD/EMC issues, an appreciation of which EMD/EMC issues can occur, requirements which reflect the current market, and a testing methodology which will ensure these issues are kept to a minimum with future product launches.

Finally, resources continue to be invested into the on-going management of interoperability issues. Since the inception of the working group 87 incidents have been reported, and, of those, 12 remain open and are undergoing IWG investigation.

EMVCo publishes 'a guide to EMV'

EMVCo has released a paper entitled 'A Guide to EMV' to provide an overview of the EMV Specifications, processes and the role of the technology within the context of the wider payments industry. The publication has been developed by the EMVCo Associates Programme Working Group (EAP WG) to provide clear and unambiguous material to EMV's increasing stakeholder community that will enhance and clarify understanding of why EMV was developed, how it works and the responsibilities of different parties operating within this ecosystem.

The document details EMVCo's collaboration with other industry bodies including ISO, PCI, NFC Forum

and GlobalPlatform, as well as clarifies the boundaries of responsibility between EMVCo and its payment system member-owners.

Of particular interest to parties migrating to EMV, the guide provides implementation considerations for issuers, acquirers and merchants. It also offers an insight into technology requirements defined by EMVCo and the body's on-going maintenance efforts to achieve long-term interoperability and sustainability through the delivery of its compliance programme.

The paper is available for download from the EMVCo website.

mobile payments working group update

The Mobile Payments Working Group (MPWG) incorporated EMVCo Subscriber feedback and finalised the previously published draft documents mentioned in November's newsletter. The new finalised document can be downloaded from www.emvco.com and are as follows:

1. EMVCo Mobile Contactless - EMV Profiles of GlobalPlatform UICC Configuration. The document is an extension of the GlobalPlatform UICC Configuration and reflects EMVCo's requirements to support contactless mobile payments.
2. EMV Contactless Mobile Payment - Application Activation User Interface. The document will assist with the standardisation of a mechanism for financial application selection by the user on mobile payment capable handsets.

There are three documents that the MPWG is currently focusing on:

1. The extension of the recently published UICC document to non-UICC secure elements. Since this will reference work being undertaken by GlobalPlatform in relation to non-UICC profiles, the document timetable is dependent on the activity undertaken by GlobalPlatform.
2. The updating of two white papers:
 - A. EMV Mobile Contactless Payment White Paper: The Role and Scope of EMVCo in Standardising the Mobile Payments Infrastructure (version 1.0).
 - B. EMV Contactless Mobile Payment: Technical Issues and Position Paper (version 1.0).

These were both previously published on the EMVCo public website in 2007. The revised white paper will outline EMVCo's position on contactless mobile payments and the surrounding ecosystem. The initial draft of the updated document was discussed as part of the EMVCo Technical Associate call on 21 February 2011 and the group is now finalising for publication.

The MPWG along with the Security Evaluation Working Group (SEWG) and Card Approval Working Group (CAWG) continue their joint effort to develop a consistent EMV contactless mobile payment type approval approach and related processes. This includes extension of EMVCo traditional roles from cards to mobile, in particular:

- Extension of EMVCo security evaluation requirements to include UICC and non-UICC based secure elements -> SEWG has published the Security Guidelines for Java Card and GlobalPlatform implementations.
- Develop testing requirements and an approval approach to ensure interoperability with existing and new contactless acceptance infrastructure -> CAWG is defining a Contactless Mobile Payment Compliance process and developing mobile specific proximity payment standard environment (PPSE) test cases.

The MPWG has also continued collaboration with various industry bodies such as GlobalPlatform, GSMA, Global Certification Forum (GCF), NFC Forum and other industry participants around defining the ecosystem for testing and certification requirements related to mobile contactless payments.

terminal approval working group update

The Terminal Approval Working Group (TAWG) has mainly been investing resources into streamlining existing terminal licensing and approval processes to meet the requirements outlined in General Bulletin 43 EMVCo Common Contactless Terminal Roadmap - Phase 1.

The activity has involved licensing current American Express, JCB, MasterCard and Visa contactless terminal specifications and testing to EMVCo, and creating a migration strategy towards a common EMV contactless kernel. Once phase 1 is completed and the processes are approved and established, EMVCo will effectively manage the requests for approval based on test reports issued by their accredited laboratories.

The TAWG has contributed expertise to the release of **Book A Architecture and General Requirements**, and **Book B Entry Point**. These documents represent an update to the current Entry Point 1.0 Specification and lay the groundwork for future EMVCo contactless developments. The TAWG has also initiated the tool qualification process which is on-going, and finalised the first draft of the administrative process.

The aim of the TAWG is to have an official contactless terminal approval process completed and ready for public release by July 2011. The advancement of this activity will continue to be a priority for the group in the coming months.

security working group update

The Security Working Group (SWG) has completed a revision of the EMV Issuer and Application Security Guidelines. The document has been updated to meet the evolving needs of the market and will replace the previous version, which was first published in May 2009. The guidelines will be available from the subscriber-only section of the EMVCo website in the coming months.

Recently, the SWG began work on the development of EMV Acquirer and Terminal Security Guidelines. To ensure synergy with other industry standards and that work is not progressed in isolation, these guidelines will be consistent with, and complementary to PCI Security Documents.

Following the initial public review of draft specifications for using Elliptic Curve Cryptography (ECC) in EMV, including new ECC-based mechanisms for offline data authentication and PIN encipherment, the SWG received feedback which has resulted in the creation of an advancement of this draft. The current revision is being considered by the EMV Technical Associates, with the aim of publishing this document towards the end of 2011 and going live with the specification in 2013. This timeline, however, is dependent on other activities within EMVCo.

The SWG has recently published a bulletin on the common payment application (CPA) processing of the 'verify command'. This can be downloaded from the EMVCo website - Specification Bulletin 84. The group is also expected to publish a forthcoming bulletin on how to implement the Advance Encryption Standard (AES) within the common core definitions (CCD) during the second quarter of 2011. This will be available for download at www.emvco.com.

contactless working group update

Phase 1 of the EMVCo Common Contactless Terminal Roadmap has been finalised by the Contactless Working Group (CLWG) with the completion of the EMV Contactless Specification version 2.1.

With the public release of these specifications, EMVCo will be able to manage the testing and approval of the contactless kernels in accordance to them. Moving forward they will also provide the foundation for future development work within this area.

In addition to the new specifications, the CLWG has published the EMV Contactless Specification version 2.1 Disposition of Comments and separately, a Registration Process and Form for the EMVCo Contactless Kernel ID. The documents can be downloaded from www.emvco.com under 'recent updates / bulletins'.

With the conclusion of Phase 1, resources are now being invested into Phase 2, which aims to lead to the development of a common contactless kernel for online-only markets. The first task that has been initiated is a feasibility analysis for developing a common online-only kernel, and assessing if this can be used as an interim solution as EMVCo finalises Phase 3 of the roadmap - addressing offline capable markets. The outcomes of the study will culminate in an update to the Common Contactless Roadmap and be shared with the EMVCo community.

To find out more about EMVCo's vision and roadmap for the standardisation of contactless acceptance and its proposed work plan, view General Bulletin 43 edition 3 at www.emvco.com.

card and terminal working group update

The Card and Terminal Working Group (CTWG) is currently maintaining and updating many of its documents for the benefit of the industry. As part of this process the group has:

- Finalised and published Specification Bulletin 83, which states the acceptable behaviour for a terminal during normal processing when it encounters a non-critical formatting error in certain ICC data objects. This bulletin can be downloaded at www.emvco.com.
- Recently released a new Draft Specification Bulletin (DSB) 85, which clarifies how the cardholder verification method results should be set if a CVM fails and subsequent CVM is performed. It also clarifies how the terminal verification results (TVR) should be set if PIN entry was required and the PIN pad was not present or not working. The DSB, which will be of particular interest to terminal vendors, describes proposed changes to the EMV ICC Specifications for payments systems and also clarifies currently ambiguous wording on this subject. Feedback on this bulletin is welcomed and can be provided on the 'draft specifications and bulletins' section of the EMVCo website.
- Reviewed and revised its Specification Update Bulletin 70, which addresses Selectable Kernel Configurations, following feedback from users. This latest update will remove the EMV-defined kernel selection criteria while still allowing terminals to vary their capabilities depending on the particular characteristics of the transaction being processed. This enhanced level of flexibility will simplify use of this terminal functionality to support particular business requirements. The document is undergoing final review and will be released in the coming weeks.

In addition to bulletin updates the CTWG has nominated a project manager from the group to advance and further develop the relevant frequently asked questions (FAQ) sections on www.emvco.com. This activity will bring the available information up-to-date, and will improve its relevance by aligning it to

current enquiries being received by EMVCo. New FAQs will cover both technical and operational topics, and will offer a more educational introduction and context to the specifications.

To address a potential future shortage of tags for new EMVCo-defined data objects, the CTWG has commenced efforts to reserve a new range of tags for constructed data objects. It is also working to identify existing EMV-defined data objects that are currently unused so that their tags may be reclaimed for future use. Further updates on this activity will be provided via the EMVCo website.

Finally, the CTWG is liaising with the other EMVCo working groups to undertake an editorial update of the EMV Specifications with the view to releasing version 4.3 during 2011. This will incorporate all bulletins and updates published since the release of the current version of the specifications – version 4.2 – in June 2008. To be published in PDF format, the new document will be formatted in such a way as to allow interested parties to easily annotate the specifications with personal notes and text from Specification Bulletins that may be released post-specification launch.