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European Cards Stakeholders Group

Report

Annual Stock Taking Exercise

26 November 2020

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1 Executive Summary

The European Cards Stakeholders Group (ECSG) welcomes the opportunity to report to the ERPB, the status of the last 12 months work on SEPA Cards standardisation.

Cards Standardisation, and collaboration across the payments industry generally, remains critical to ensuring timely adoption of a consistent payment experience across the region. The collaboration between regulators and the industry in raising contactless limits in response to the COVID19 crisis is a notable example of this.

Since the previous stock taking exercise report presented in November 2019, the ECSG has published v9 of its SEPA Cards Standardisation Volume.

Interest by the market in demonstrating their conformance to the Volume continues, with additional conformance Labels being granted. In order to further increase interest, the ECSG continues to review the labelling process and to deal with any issues encountered, to ensure the process remains clear, transparent and simple to implement.

Ensuring compliance to European regulation was another major exercise performed by the ECSG in developing v9, both in terms of analysing Volume requirements against regulatory requirements, and also engaging with the EBA and NCAs, either directly, or through ECSG members. Regulatory conformance remains an ongoing task for the ECSG going forward.

In 2021 and beyond, the ECSG will focus on new and emerging technologies that may be included in the 10th version of the Volume books. As an example, in addition to the ongoing collaboration with other international standards bodies, the ECSG is co-operating with the ERPB on a Framework of Instant Payment at the POI.

2 Update on the Card standardisation in Europe

This section presents the main changes in the last 12 months in relation to Volume conformance and card standardisation in Europe.

2.1 Release of the Volume v.9

In line with its 3 year release schedule, Version 9 of the SEPA Cards Standardisation Volume was published on 15 January 2020. The Volume version 9 updates include important changes due to regulatory requirements. Industry updates include the introduction of Tokenisation and the release of ISO20022 ATICA Version 2. As with previous releases of the Volume it included an open consultation and comment period with review and update based on comments received.

2.2 Regulatory Updates

Dedicated ECSG working groups constantly review the impact of all relevant EU regulation such as the GDPR and PSD, and their delegated regulations on SCA.

In v9 of the SCS Volume two important achievements were included:

- The integration of Tokenisation
- A recommendation to support EMV 3DS for 3 Domain Security

ECSG working groups continue to work to identify and address any harmonisation needs resulting from the PSD2 regulation in general and the SCA/RTS in particular.

The ECSG addressed three questions to the EBA Q&A tool and continues to analyse EBA responses.

2.3 Progress in Volume Conformance

2.3.1 Volume Conformance Management Committee (VCMC) Updates

The VCMC has continued its regular activity of evaluating and granting labels for implementation specifications submitted to the labelling process. During 2019 the total number of labelled specifications continued to increase gradually, including submissions from different markets and organisations.

A table showing Labelled Specifications can be found at [Annex A](#). The up to date version of the table is available on the [VCMC webpage](#).

2.3.2 Next steps to the ECSG Labelling process

The ECSG continues to work on a number of enhancements to the overall labelling process.

The improvements identified so far include:

- **ELIGIBILITY CRITERIA:** the Volume makes reference to global standards such as EMV or ISO. Whilst it refers to these standards, it does so to highlight the fact that conformance to those standards is often a pre-requisite to meeting the requirements of the Volume.

However, the purpose of Labelling is to demonstrate conformance to **SEPA card standards** through meeting the requirements defined in the Volume. On review, it was determined that this might not have been made clear and so the eligibility criteria were clarified.

- **CHECK-LIST OF REQUIREMENTS:** The labelling process described in the Volume required that the submitting organisations execute a detailed check of exactly which Volume requirements their specifications comply with during their self-evaluation, and attest to that in their submission. However, this attestation was only implicit in the formal set of documentation to be provided, by the submitter to the VCMC. This has now been rectified.

The ECSG noted the comment made by the ECB regarding the future of Labelling¹. After investigation by the VCMC it was determined that the ECSG will continue to improve the Labelling process as the process matures. An opportunity to re-evaluate the process may occur in 2021 as the Labelling process completes its first 3 year cycle. It is to be anticipated that submitting organisations may want to renew their labels and “upgrade” to conformance with the current version of the Volume.

2.4 Annual Report on ISO 20022 initiatives in the Acquirer to Issuer Domain

2.4.1 Context

Following the analyses performed by the ECSG on the potential adoption of ISO 20022 as an Acquirer-to-Issuer protocol, the ECSG Board decided in May 2017 to task the Volume Sub-Group to monitor the relations with ISO and carry out the following activities:

- Identify new initiatives to use ISO 20022 in the A2I domain in the market
- Monitor existing initiatives to use ISO 20022 in the A2I domain in the market
- Identify specific SEPA requirements to be taken into account, e.g. triggered by Schemes or by Regulation

¹ This suggestion was made as part of the [Eurosystem report on Card payments in Europe – current landscape and future prospects](#).

- Assess those specific SEPA requirements
- Define a proposal on how to handle those specific SEPA requirements and submit it to the ECSG Board
- Produce an annual report to the ERPB, which describes the evolution of the market initiatives

2.4.2 Current status

At the date of the report, compared to last year, no new initiative using ISO 20022 in the A2I domain has been identified in the market.

The same two initiatives as last year are using ISO 20022 in the A2I domain.

- The SEPA Card Clearing (SCC) Framework, which specifications have been labelled as conformant towards the SCS Volume Version 8.0.
- ATICA provides a specification covering the full transaction life cycle (Authorisation, Clearing, Settlement and Disputes) within the Acquirer to Issuer environment. In May 2020, ISO formally adopted the new version 2 that contains significant enhancements. The formal adoption of ATICA version 2 by ISO allows the market to evaluate the specification and determine how this can be implemented in Europe.

Part of the Volume Sub-Group's activity in the Acquirer to Issuer domain regards **specific SEPA requirements** on ISO 20022, and in particular:

- The identification of any specific SEPA requirements to be taken into account, e.g. triggered by Schemes or by Regulation
- The assessment of those specific SEPA requirements
- The definition of any appropriate proposal on how to handle those specific SEPA requirements and submit it to the ECSG Board

The ECSG Book 3 Expert Team has restarted working on the recently approved version 2 of ATICA, and completed the update of the data-element list in the Volume. From that work the Expert Team may identify new specific SEPA requirements or even new functionalities on ISO 20022.

2.5 Standardisation progress in the Card-to-Terminal, Terminal-to-Acquirer and Acquirer-to-Issuer domains

After its approval by ISO in May 2020 and subsequent publication, the ECSG is now able to integrate ATICA version 2 in Book 3 of the Volume and further work on the interoperability of card message formats. This will contribute to achieving a better level of interoperability for the Terminal-to-Acquirer and Acquirer-to-Issuer domains.

2.6 Standardisation progress in the Terminal Security domain

A comparison of the ECSG Book4 high-level security requirements against the latest versions of the Industry PCI PTS and Common.SECC requirements, demonstrated further alignment between the different standards. There is now an almost 100% harmonised set of requirements available to terminal vendors in the European and worldwide markets which will simplify the development of future POIs from a security perspective.

The ECSG will continue to monitor the development of security standards as new innovative classes of POI are developed.

3 Ongoing ECSG activities for Volume v10

The ECSG has already turned its attention to the impact of technological innovation, payment-related regulations and the initiatives of other standards bodies on the development of Card payment in SEPA.

3.1 EMV 2nd Generation and Standardisation of Contactless Kernel

In October 2019, EMVCo announced to its Board of Advisors that its EMV 2nd Gen plan was no longer the best approach for evolving the EMV specifications. The decision was reached having monitored recent developments in payment technology and following extensive consultation with the EMVCo Board of Advisors to understand industry needs today, and predictions for long-term requirements.

Rather than proceeding with EMV 2nd Gen which was a full re-design of the card payment platform, EMVCo instead plans to 'unbundle' relevant features of the EMV 2nd Gen draft specifications and incorporate selected 2nd Gen functions in today's EMV Chip Specifications. This approach supports the continued evolution of the EMV card payment ecosystem in a more time-effective and cost-efficient manner by allowing selective implementation of features by those that are interested, without unduly impacting backward compatibility with the existing infrastructure.

In addition, EMVCo also committed to launching an EMV Contactless Kernel Viability Assessment looking at 2 potential options:

- a) A new kernel that is specified, owned, and maintained by EMVCo and, at least initially, could be added to the existing kernels already supported by contactless terminals. There would be no guarantee that the kernel would be compatible with any currently deployed contactless payment devices (e.g. cards, wearables and consumer-owned mobile devices)
- b) A unified kernel, which in addition to new functionality supports a limited but sufficient set of functions from existing kernels to be backward compatible with all current card or mobile contactless payment applications

3.2 Evolution towards enhanced cryptography

Current cryptographic algorithms used in the payments industry are coming under increasing threat due to developments in cryptanalysis that may require a substantial response at industry level within the next decade.

Whilst the threat is recognised and work is underway at the international level, the ECSG are undertaking their own review to understand the implications for payments in Europe. This work includes identifying any actions the ECSG could undertake to minimise the potential impact to the industry.

There are 2 cryptography methods used in payments, Asymmetric and Symmetric.

- **Asymmetric**

EMV asymmetric cryptography uses the RSA algorithm with a maximum key length of 1984 bits. Performance issues with this algorithm preclude the extension of the key length. Annual security analysis by EMVCo only allows for a 10-year window where the security of this key length can be guaranteed. Therefore, there are no guarantees that this key will be secure beyond 2030, though this date is re-evaluated annually.

EMVCo is revising the EMV v4.3 specifications to include the use of Elliptic Curve Cryptography (ECC) for payment cards and terminals. ECC is an optional alternative to RSA and is more efficient in terms of transaction times and allows for longer key lengths. However, it is important to point out that this algorithm is also susceptible to the developments in cryptanalysis and so the industry also needs to consider longer term alternatives.

- **Symmetric**

After an extensive review of the most recent documentation produced by relevant security organisations and standard bodies it is proposed that new payment cards and terminals move from Triple DES and AES128 towards AES256. AES 256 is considered as the only cryptographic primitive resistant to future Quantum Computing technology available to attackers.

The migration effort to support new cryptographic algorithms on the payments infrastructure is major, and so the ECSG, with EMVCo's collaboration, took on the task to look into potential migration strategies. As a result of this investigation, the ECSG has produced an initial evaluation of the available strategies (see [ECSG website](#)).

Simultaneously, the ECSG is going to closely monitor developments in the area of cryptography including Quantum-Resistant algorithms from NIST that could be relevant for the SEPA cards market in the medium term.

3.3 Cooperation with the ERPB

- Following the creation of the new ERPB Working Group on a framework for instant payments at the POI, the ECSG Board decided to accept the ERPB's invitation to participate in a joint Task Force between the ERPB and the ECSG, and appointed 10 cross-sector participants
- The ECSG continues to report on the implementation of standards related to payment cards (the present document)

3.4 Regulation

The ECSG continues its work plan during 2020, addressing issues as they are identified, for example:

- Dynamic Linking in situations where the final amount may be over the amount at the time of authentication
- Potential exemptions for Electric Vehicle Charging
- Clear definition of MIT (Merchant Initiated Transaction) and the different types of “MIT Mandates”

3.5 Innovations in Card Payments

The Volume will continue to evolve as the payments industry continues to innovate. Developments identified for investigation include the following:

- **Enhanced Cryptography for cards and terminals** (see section 3.2)
- **QR-code based card payments**
In 2021 the ECSG will continue their investigation of QR codes in SEPA based on both consumer-presented and merchant-presented modes.
- **Internet of Things Card Payments Environment**
The ECSG is examining IoT use cases for card payments in order to prepare a realistic programme of work for the Volume.
- **The EMVCo Secure Remote Commerce (SRC) Framework**
The EMVCo SRC Framework published in June 2019 provides for a flexible, highly configurable architecture to sustain remote e- and m-commerce payments. The ECSG will work to incorporate the framework into the Volume.
- **FIDO**
In 2021 the ECSG’s intention is to investigate FIDO’s authentication technology in more details in order to identify new use cases for FIDO in the SEPA for Cards market, and if needed, to derive new requirements for inclusion in Volume v10.
- **The use of SCT Inst for the Settlement of Card Payments**
The ECSG is trying to better understand the potential role of the SEPA Instant Credit Transfers for clearing and settlement resulting from card payments transactions.
- **PCI Software based PIN Entry on Commercial off-the-shelf devices (COTS) and PCI Contactless Payments on COTS (CPoC™)**
These new innovative standards allow for smart consumer devices such as smartphones and tablets to be used for card acceptance. The ECSG will check the impact of these new programmes on the Volume.

3.6 Collaboration with standardisation bodies and specification providers

The ECSG will continue to collaborate with internationally recognised Standards bodies with whom they have already established formal liaisons, such as EMVCo and PCI-SSC.

In addition, the ECSG will reach out to other standards bodies such as ISO, EPC and FIDO where appropriate.

4 Conclusion

The ECSG looks back to a very specific year of SEPA standardisation.

The permanent exchange of regulatory updates and views among all stakeholders that was established in the last years evolved to be one of the main assets of the ECSG. It enables the ECSG to achieve a common understanding of the regulations' targets and measures and to create a sustainable perception of them in the Volume.

The Labelling process, which is still evolving, starts to benefit from lessons learnt. Better defined requirements in the Volume will provide for more transparency and attractiveness.

The list of innovative technologies analysed this year for the next Volume v10 is promising. The 2020 discussion about how to handle the major challenge of new crypto methodologies coming up within the next decade created a European view on strategies, migration aspects and special environments in this regard.

Throughout Europe 2020 has been hugely impacted by the COVID-19 outbreak. The shutdown starting in March 2020 and the pandemic conditions decided by European governments changed everyday life enormously including the card payment sector.

Due to the functional and security requirements defined as SEPA standards in the Volume, the fundamental changes that COVID-19 caused in payment habits could be undertaken across Europe almost seamlessly. Examples of this are the massive switch to online shopping as well as the move away from cash to the use of contactless cards, aided significantly by raising the maximum transaction value before the Cardholder needs to enter his PIN.

These clearly demonstrate that even in unforeseen circumstances the positive impact of harmonised standards achieved within the Volume enable card based payments to continue smoothly, securely and uninterrupted.

A next stage in this regard is the cooperation with the ERPB continued in 2020 in the field of "SCT Inst at the POI". The ECSG is looking forward to bringing in its deep knowledge in card payments in this and other ERPB topics.

ANNEX A

ECSG Granted Conformant Labels

The following table lists the specifications that were successfully submitted. For more information on the Labelling process, please refer to [this web page](#).

ECSG Label Number ↕	Submitter (Organisation) ↕	Submitter (Contact)↕	Labelled Specification ↕	Conformant to Volume ↕	Granted Date** ↕	URL Link to the Specifications (Optional) ↕
ECSG L 001	nexo	Arnaud Crouzet	nexo Acquirer v6.0	version 8.0	20/12/2017	N/A
ECSG L 002	nexo	Arnaud Crouzet	nexo FAST 3.1 & nexo bulletins	version 8.0	20/12/2017	N/A
ECSG L 003	nexo	Arnaud Crouzet	nexo IS v4.0	version 8.0	20/12/2017	N/A
ECSG L 004	GBIC	Matthias Hoenisch	The global girocard specifications*	version 8.0	20/12/2017	N/A
ECSG L 005	IFSF	Ian Brown	IFSF POS to FEP Interface Specification Part 3-40 version 2.0	version 8.0	22/05/2018	N/A
ECSG L 006	IFSF	Ian Brown	IFSF Host to Host Interface Specification Part 3-50 version 2.0	version 8.0	22/05/2018	N/A
ECSG L 007	nexo	Arnaud Crouzet	nexo FAST 3.2	version 8.0	26/10/2018	N/A
ECSG L 008	Berlin Group	Wijnand Machielse	SEPA Card Clearing (SCC) Framework	version 8.0	11/07/2019	ISO20022 SEPA Card Clearing
ECSG L 009	RedSys	Carlos Gomez	PUC (Protocolo Unificado Comercios) Version 5.6	version 8.0	26/09/2019	N/A

*Technischer Anhang zum Vertrag über die Zulassung als Netzbetreiber im electronic-cash-System der deutschen Kreditwirtschaft, abbr. TA 7.2 - v. 7.2, 15.08.2016
And its annexes

- Schnittstellenspezifikation für chip-basierte EMV Debit/Credit-Anwendungen - POS-Terminals, abbr. DC POS 3.0 v3.0, 15.08.2016
- Terminalmanagement für EMV-Applikationen, Fachkonzept, abbr. TM DC v1.6, 15.08.2016

** These Labels are valid for three years from their granted date.

DISCLAIMER

The ECSG, its officers, staff and the members of the VCMC accept no responsibility for the accuracy of the information provided through self-declaration by the Submitters of the Labelled Specifications listed above. It is the responsibility of each Submitter to ensure that its Labelled Specification(s) comply with the relevant requirements set out in the Volume. The inclusion of a Labelled Specification in the above list does not imply any undertaking, warranty or representation by the ECSG, its staff or members of the VCMC as to the Volume-conformance of such specification.