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SEPA CARDS STANDARDISATION (SCS) "VOLUME"

BOOK 7

CARDS PROCESSING FRAMEWORK

*Payments and Cash Withdrawals with Cards in SEPA
Applicable Standards and Conformance Processes*

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42 **1 GENERAL**

43 **1.1 Book 7 - Executive summary**

44 **1.1.1 Purpose of this document**

45 This book defines business principles and requirements for market access and participation in card
46 payment domain services, with the main objective of facilitating an open and transparent market.

47 **1.1.2 Migration Roadmap**

48 A migration roadmap will be proposed after discussion and alignment with the CSG and will be
49 defined later.

50 **1.1.3 Structure of this book**

51 This book contains three main parts

- 52 1. Description of existing Cards Processing Framework
- 53 2. Business objectives expected via the production of this Book of the SCS Volume
- 54 3. Business Principles applying to the different parts of the card payment value chain (e.g.,
55 Scheme, Acquirer/processor, Issuer/processor) aiming to achieve the defined business
56 objectives

57

58 **1.2 Description of changes since the last version of Book 7**

59 This version of Book 7 is unmodified from the v7.1 release (December 2015). Feedback on this
60 release during the 2016 public consultation is welcomed by the CSG.

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61 **2 CARDS PROCESSING FRAMEWORK**

62 **2.1 Introduction**

63 The market model described is the traditional four party card scheme, where

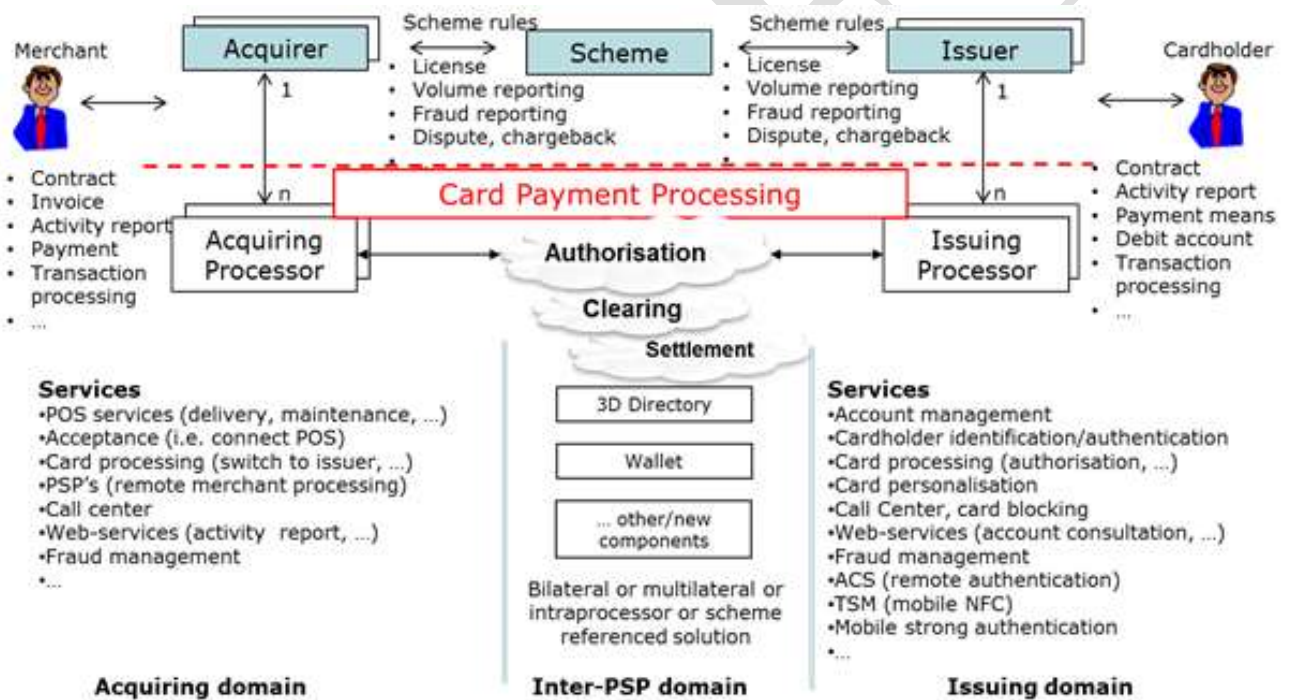
- 64 - Acceptor has contractual relationship with Acquirer;
- 65 - Cardholder has contractual relationship with Issuer;
- 66 - Acquirer and Issuer interact for authorisation, clearing and financial settlement of
- 67 transaction.

68 The Cards Processing Framework should apply to all SEPA card schemes, however the three party

69 card scheme model is not covered in this version.

70 **2.2 Context and Environment**

71 The diagram below depicts main actors and services of the four party card scheme.



72 **Figure 1: The main actors and services of the four party card scheme**

73 This model applies to card based payment transactions, on ATM, physical POI, remote payment

74 environment (PC, mobile device), in other words any medium that allows the initiation of a Card

75 based transaction

76

77 Service providers may provide one or several services in one or several domains; type of services

78 are defined within contractual agreements between Acceptors / Acquirers / Issuers and their

79 service providers

80 **2.2.1 Schemes play an important role**

81 Card Payment Schemes are key players; they define for each of their card brands the rules
82 (business, functional, security, procedural) governing the use and deployment of the products and
83 services associated with those brands and, through oversight requirements, they bear
84 responsibility for operational reliability (business continuity), security levels and commercial
85 accountability (financial liabilities and risks).

86 Acquirers and Issuers are Scheme Participants. They sign License Agreements with the Scheme,
87 follow the Scheme rules and implement the mandatory services, such as Volume reporting, Fraud
88 reporting, Dispute and Chargeback procedures. In most cases, Acquirers and Issuers support
89 several card brands potentially from several Card Payment Schemes.

90 Processors provide services to Scheme Participants for the acquiring of transactions and/or issuing
91 of payment applications for one or several Card Payment Brands for one or several Card Payment
92 Schemes. For the sake of clarity, an Acquirer or an Issuer may be its own processor for some or all
93 services (or may subcontract those services to an external supplier).

94 **2.2.2 Three main domains**

95 Three domains are identified in the cards processing landscape:

- 96 - Acquiring domain: services provided to Acquirers and their merchant customers for
97 acceptance of transactions (acquiring domain also covers merchant acceptance)
- 98 - Issuing domain: services provided to Issuers and their cardholder customers for issuance of
99 card payment products
- 100 - Inter-PSP domain (also called inter-bank domain): services allowing Acquirer Processors to
101 interact with Issuing Processors for the execution of the transactions

102 In each domain, the services are quite broad and can be provided by several suppliers. Scheme
103 Participants (e.g., acquirers, issuers) may use services from different processors, some being more
104 specialized in some activities. For instance, services related to delivery of POI and services related
105 to provisioning of a payment application on a Secure Element of a mobile device are quite specific,
106 independent and in general provided by different suppliers.

107 **2.2.3 Several solutions possible in the 'inter-PSP' domain**

108 The 'inter-PSP' domain covers the interactions between Acquirer (Processors) and Issuers
109 (Processors) and ensures the full reachability of any issuer by any acquirer for a specific scheme:

- 110 - An acquirer must be able to reach any issuer
- 111 - An issuer must be reachable by all acquirers.

112 For the Authorisation, Clearing and Settlement services, several solutions are operational on the
113 market

- 114 - Bilateral agreements between one acquirer and one issuer for the use of a specific solution
- 115 - Multilateral agreements between several acquirers and several issuers to use a common

- 116 solution, either based on a common interface standard and several connections between
117 each party or via connection to a central switch
- 118 - Intraprocessor solution provided by one processor (acting as acquirer and issuer processor)
 - 119 for its acquirer and issuer customers
 - 120 - Scheme default solution referenced by Scheme (e.g., central solution, multilateral solution)

121 The current market situation already illustrates the fact that a Scheme may not impose the sole
122 use of its Scheme default Inter-PSP solution. The different solutions may use different technical
123 standards and implementations provided they are compliant with the Scheme rules, which is also
124 in line with the standardisation and conformance ecosystem defined within the Volume.

125 **2.2.4 Some services are scheme/brand specific, others are generic**

126 Many services supported by Scheme Participants and/or their Processors are not scheme
127 dependent; the services are generally performed in a similar manner regardless of the scheme.
128 Examples of these services include but are not limited to:

- 129 - Acceptor payment, reporting, contracting, invoicing
- 130 - POI acceptance (e.g., POI to Acquiring processor protocol, acquiring processing)
- 131 - Card processing (e.g., EMV processing)
- 132 - Financial part of the authorisation process (rather specific per card product type, e.g., a 'pay
133 before', a 'pay now' or a 'pay later' product, than typically per brand)

134 Other services are 'scheme/brand dependent', mainly for interactions with the Payment Schemes.
135 Examples of such Scheme/brand dependent services usually include but are not limited to:

- 136 - Interface with the Scheme default brand reachability solution (Switch, Clearing &
137 Settlement for interaction between acquirer and issuer, Directory for remote transactions
138 ...) are currently specific per scheme. However, scheme/brand independent
139 Implementation Specifications can already be used provided they take into consideration
140 the scheme governed specific business rules (e.g., real time clearing mandated versus batch
141 clearing).
- 142 - Scheme reporting (e.g., volume of transactions, number of cards)
- 143 - Fraud reporting (e.g., information on cases of frauds encountered)
- 144 - Dispute management, chargeback processes (between Acquirer and Issuer)

145 Some Scheme rules can be specific per payment scheme, for instance the concept of on-line
146 clearing rather than batch clearing, the support of specific transactions types which are mostly
147 optional.

148 In the context of emerging products and services, e.g., wallets, mobile payments, it is expected that
149 in the initial phases specific products and services will be developed with non-standard features.
150 These products and services would ideally be aligned to SEPA-wide (scheme independent)
151 standards once the CSG, through its own process, has determined that they are sufficiently mature
152 to be included in the Volume.

153 **2.2.5 SCS Volume aims to ease deployment of brand/scheme independent standards**

154 The Standardisation ecosystem is described in Book 5, with some key principles, such as:

- 155 - Several Implementation Specifications per domain of value chain (e.g., POI-acquirer part),
- 156 with some exceptions, e.g., EMV for card-POI part
- 157 - Role of Specification Provider highlighted – independently of Scheme related bodies
- 158 - Optional Labelling process to demonstrate conformance of the Implementation Standard
- 159 with the Volume (requirements and governance)
- 160 - Schemes to make public the list of Implementation Specifications they support
- 161 (transparency objective)
- 162 - Approval process by Schemes of products certified by Specification Providers

163

164 The combination of those principles with the fact that several card payment services are similar for
165 different schemes (same functional and security requirements) will ease the development of
166 brand/scheme independent Implementation Specifications by Specification Providers which may
167 be independent of Scheme organisations.

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168 **3 BUSINESS OBJECTIVES**

169 The Standardisation and conformance ecosystem developed by CSG within this SCS Volume aims
170 to ease the development of 'brand independent' Implementation Specifications (e.g., EMV, POI-
171 acquirer protocol, ...) and solutions for the benefit of all stakeholders.

172 The description of the context and environment highlights some key characteristics of card
173 payment services:

- 174 - Clear separation of roles between the actors : schemes, acquirers, issuers, processors
- 175 Several services by different suppliers for one acquirer/issuer illustrate that competition
176 already exists
- 177 - Most services are 'brand independent' and instead are specific to the card product type
- 178 - Cooperation already exists, as demonstrated by the use of common technical and security
179 standards (e.g., EMV, 3D Secure for remote payment) in a competitive context (e.g., specific
180 scheme rules).

181 In addition to the books related to requirements (functional, security) and the conformance
182 verification process, this book defines additional business principles and requirements for market
183 access and participation with the main objective of further facilitating an **open and transparent**
184 **market**, which

- 185 - maintains competition
- 186 - improves efficiency
- 187 - fosters interoperability

188 and are based on scheme independent standards developed by Specification Providers in
189 cooperation with relevant actors in the cards' payment landscape (e.g., schemes, processors,
190 vendors ...).

191 Those additional business principles and requirements can be considered as the 'Cards Processing
192 Framework'.

193 **3.1 Business Principles and Requirements per domain**

194 In this section, Business Principles and Requirements refer to the business dimensions that apply
195 to the actors of the card payment value chain with the objectives mentioned above.

196 **3.1.1 Schemes**

197 Req S1: Schemes shall not discriminate among Acquirers and Issuers for licensing their products
198 provided the parties meet the Scheme requirements to get a Scheme license.

199 Req S2: Schemes shall make available without discrimination and at the same time, to their
200 Participants (Acquirer, Issuer) and their Processors, the applicable scheme rules and
201 specific information, (e.g., BIN tables, MIF rules, product rules), allowing them to setup
202 and operate the Scheme related services according to their contractual agreement
203 (License) with the Scheme.

- 204 Req S3: Schemes shall ensure that their Rules are in line with the requirements of the Volume
205 for products or services in a mature stage. If some requirements of the Volume are
206 considered as not aligned with the latest market needs or with emerging solutions that
207 ensure secure services, Schemes shall propose an update of the requirements of the
208 Volume. For emerging solutions¹ (e.g., new wallet solutions) it is expected that a Scheme
209 will define its own specific rules until such solutions are covered by the requirements
210 within the SCS Volume.
- 211 Req S4: Schemes shall make publicly available the list of Implementation Specifications they
212 support (e.g., POI application and POI to Acquirer protocol).
- 213 Req S5: In order to promote deployment of brand independent SEPA Implementation
214 Specifications, Schemes shall not
- 215 • Impose their own Implementation Specifications as the only possible solution,
 - 216 • Refuse Implementation Specifications, which have been proven to be Volume
217 conformant, without objective reasons (e.g., specific functionality within the Scheme
218 rules not supported by this specification),
 - 219 • Impose amendments to Volume conformant Implementation Specifications.
- 220 However, as Solution Providers, Schemes may decide which Implementation
221 Specifications they use and accept for their default scheme processing infrastructure.
- 222 Req S6: In line with the requirements outlined within Book 5, Schemes and Approval Bodies shall
223 ensure that certified products or solutions can be submitted for Type Approval, provided
224 that the product has implemented a listed Implementation Specification and it has been
225 certified by an approved certification body.
- 226 Req S7: Schemes shall ensure full reachability (of all Issuers by all Acquirers) by identifying the
227 default infrastructure components required to achieve this (e.g., Connectivity for
228 authorisation, clearing, settlement).
- 229 Req S8: Schemes shall not provide their Participants more favourable services and terms when
230 these Participants are using default inter-PSP processing infrastructure identified by the
231 Scheme. For instance, card schemes shall not discriminate when pricing services or
232 charging fees, between banks and payment institutions who use additional services
233 offered by the said card scheme and banks and payment institutions who do not, or only
234 partially do so.
- 235 Req S9: Schemes shall not impose a specific solution provider (e.g., processor) on their
236 Participants. Schemes may however define minimum standards to ensure quality and
237 scheme integrity as long as it does not create discriminatory barriers.

¹ Emerging solutions refer to new services not yet described in the SCS Volume

238 Req S10: Schemes shall not bundle the characteristics of their Card Products (defined in Scheme
239 Rules) such that it requires the use of a specific processing infrastructure (e.g., supported
240 card transaction types are independent of inter-PSP infrastructure used). For emerging
241 solutions (e.g., new wallet solutions) to develop and promote the new service, Schemes
242 may allow the development and operation of a dedicated infrastructure until the
243 requirements have been described in the SCS Volume; at which point, the principle of
244 free choice of solution provider by Participant as defined above shall apply.

245 **3.1.2 Acquirer and acquirer processing**

246 Req A1: Acquirers, who are working with several brands, shall not restrict Acceptors from
247 choosing the brands they want to accept.

248 Req A2: Acquirers shall not prevent Acceptors from choosing their acquirer for each brand, so
249 that Acceptors shall be free to choose. However, Acceptors may be subject to risk
250 assessment and certification by the acquirer.

251 Req A3: Acquirers shall not discriminate amongst POI vendors or POI and Acceptance host
252 solution providers, chosen by their Acceptors, provided those parties meet the acquirer's
253 technical and security requirements and support the Acquirer's protocol.

254 Req A4: Acquirers shall be able to choose which schemes they want to acquire. The scheme shall
255 not discriminate among acquirers in relation to participation in the scheme. However,
256 Acquirers may be subject to risk assessment and certification by the scheme.

257 Req A5: Acquirers shall follow Scheme rules as stated in their licence agreement.

258 Req A6: Acquirers shall be free to choose the processor(s) of choice for acquirer processing
259 services.

260 Req A7: Acquirer processors shall be free to choose which schemes and which related scheme
261 services they support as per Schemes rules.

262 Req A8: As provider of services to Acquirer, Acquirer processors shall also follow Scheme rules.
263 Acquirer processors shall have the right to obtain scheme specific information to enable
264 them to process scheme transactions (e.g., BIN routing information). Such necessary
265 information could be provided by the Scheme or the Acquirer to the Acquiring processor.

266 Req A9: Acquirer processors are free to define the level of services they offer to acquirers (and
267 their customers, the acceptors), how they implement and operate them, e.g., the
268 interfaces between acquirer and processor.

269 Req A10: Acquirer processors shall be free to choose which Inter-PSP Service Providers
270 (Authorisation, Clearing and Settlement) solutions they use to connect to the issuers
271 under a given scheme (with the agreement of their acquirer customers).

272 Req A11: Acquirer processors may be subject to certification by the Inter-PSP Service Providers to
273 which they connect.

274 Req A12: Acquirer / processor may be subject to approval by the schemes (e.g., security
275 compliance of HSM, data protection).

- 276 Req A13: Acquirer processors shall decide which Implementation Specifications they want to
277 support, e.g., the POI-Acquirer interface, taking into consideration the customers' needs
278 and the standards recognised by the Schemes they support.
- 279 Req A14: Acquirer processors may be subject to certification by the Specification Provider of the
280 Implementation Specifications they use.
- 281 Req A15: Acquirer processor may get card transactions from the POI either directly or through one
282 or several levels of acceptance host solutions which connect to the POI.
- 283 Req A16: A POI or a combination of POI and acceptance host solutions should support features
284 which allow the Acceptor to facilitate (e.g., by configuration) the support of new card
285 brands and/or new acquirers/processors.
- 286 It is expected that the new card brands and/or acquirer processors implement the same
287 Implementation Specification as the one already supported on the POI or its acceptance
288 host.
- 289 Req A17: POI or combination of POI and acceptance host solutions may be subject to certification
290 by the Specification Provider of the Implementation Specifications they use.
- 291 **3.1.3 Issuers and issuing processing**
- 292 Req I1: Issuers shall be able to choose which schemes they want to issue. The scheme shall not
293 discriminate between issuers in relation to participation in the scheme. However, Issuers
294 may be subject to risk assessment and certification by the Scheme.
- 295 Req I2: Issuers shall follow Scheme rules as stated in their licence agreement.
- 296 Req I3: Issuers shall be free to choose the processor(s) of choice for issuing processing services.
- 297 Req I4: Issuing processors shall be free to choose which schemes and which related scheme
298 services they support as per Schemes rules.
- 299 Req I5: As provider of services to Issuers, Issuing processors shall also follow Scheme rules. Issuer
300 processors shall have the right to obtain scheme specific information to enable them to
301 process scheme transactions (e.g., product specific requirements). Such necessary
302 information could be provided by the Scheme or the Issuer to the Issuing processor.
- 303 Req I6: Issuing processors are free to define the level of services they offer to issuers (and their
304 customers, the cardholders), how they implement and operate them, e.g., the interfaces
305 between issuer and processor.
- 306 Req I7: Issuing processors shall be free to choose which Inter-PSP Service Providers
307 (Authorisation, Clearing and Settlement) solutions can be used to connect acquirers for
308 a given scheme (with the agreement of their issuer customers), provided they shall
309 ensure that they are reachable by any Acquirer processor.
- 310 Req I8: Issuing processors may be subject to certification by the Inter-PSP Service Providers to
311 which they connect.
- 312 Req I9: Issuing processors may be subject to approval by the schemes (e.g., security compliance
313 of HSM, data protection).

314 Req I10: Issuing processors shall choose which Implementation Specifications they support, e.g.,
315 the Acquirer (processor)-Issuer (processor) interface (aligned with customers' needs and
316 standards recognized by the Schemes supported).

317 Req I11: Issuing processors may be subject to certification by the Specification Provider of the
318 Implementation Specifications they use.

319 **3.1.4 Inter-PSP processing**

320 Req IP1 Inter-PSP service providers may propose inter-PSP services to acquirers (processors) and
321 issuers (processors) without discrimination between those customers.

322 Req IP2 Inter-PSP service providers may choose which schemes' services they process.

323 Req IP3 Inter-PSP service providers may decide which level of services they deliver to their
324 customers (e.g., transport of authorisation and/or transport of clearing data and
325 settlement); they shall ensure that those services follow scheme rules.

326 Req IP4 Inter-PSP service providers may require issuer and acquirer processors to certify their
327 interfaces and their behaviour (e.g., connection and transaction authorisation and/or
328 clearing files).

329 Req IP5 A Processor acting as an acquirer and issuer processor may propose inter-PSP solutions
330 to its acquirer and issuer customers (intra-processor solutions without obligation to open
331 the service to other processors).

332 Req IP6 Inter-PSP service providers may be subject to approval by the schemes (e.g., security
333 compliance of HSM, data protection).

334 **3.1.5 Implementation Specifications**

335 Note: The following principles as defined in Book 5 are highlighted here with the objective of
336 fostering the continuation of an open market.

337 The standardisation and conformance ecosystem described in the SCS Volume envisage the
338 existence of several Implementation Specifications for each part of the card payment value chain,
339 with some exceptions, such as for the contact card-POI interface (EMV).

340 Migration/Convergence to a smaller set of Implementation Specifications per domain of the card
341 payment value chain will be market driven.

342 Req IS1: The Specification Providers are responsible to develop the Implementation
343 Specifications (e.g., description of functionalities, interfaces, protocols), to ensure
344 Products implementing those Implementation Specifications may be certified, and once
345 certified can be smoothly deployed in the field (e.g., solving potential interoperability
346 issues between parties implementing the same implementation standard).

347 Req IS2: Specification Providers shall ensure their Implementation Standard and their
348 Governance is conformant with the requirements of the SCS Volume.

- 349 Req IS3: Specification Providers shall make the Implementation Specifications available to the
350 Service Providers candidates to implement them, without discrimination and at the same
351 time.
- 352 Req IS4: Specification Providers and Certification Bodies involved in the certification processes
353 shall not discriminate between Service Providers applying for certification.

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354 **2 FIGURES**

355 Figure 1: The main actors and services of the four party card scheme 6

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