

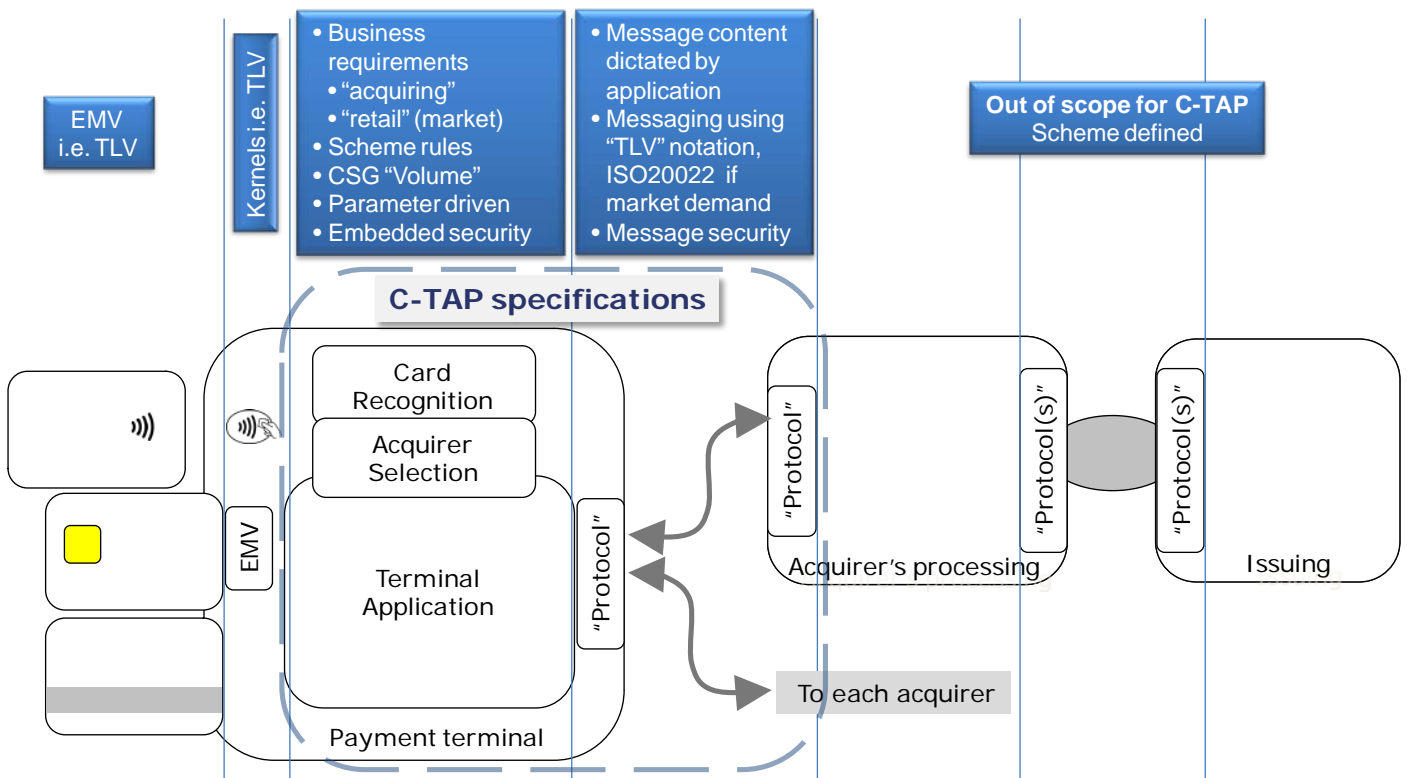
C-TAP functionality

The interoperable terminal specifications for SEPA multi-brand cross-border card acquiring



Acquiris a.i.s.b.l. is the payment terminal specification and certification body within the SEPA region. In close co-operation with stakeholders, Acquiris keeps the specifications in line with market demands and technological developments.

The C-TAP specifications in their operational environment



C-TAP functionality

Multiple configurations

- Terminal with separate merchant unit and Pinpad
- Terminal with combined merchant unit and Pinpad
- Terminals without Pinpad (No cardholder validation) with combined or separate card acceptance interfaces:
 - contact
 - magnetic stripe (magstripe)
 - contactless
- Above terminals in attended mode
- Above terminals in unattended mode
- Electronic Cash Register (ECR) or POS interfaces
 - aligned to the market with multiple protocols for retail and petrol

Multiple card entry modes

- Manual Entry
- Magstripe
- EMV contact
 - requiring EMV L1 and L2 certification

- magstripe fall-back
- Contactless
 - "chip" and "magstripe" mode
 - Multiple form factors (card, smartphone ...)
 - supporting multiple kernels (requiring specific EMVCo and scheme certification for these kernels)
 - EMV contactless
 - MasterCard Contactless (formerly PayPass)
 - Visa payWave
 - AMEX ExpressPay

Services

- Payment
- Payment at Voice Referral
- Cash Advance
- Cash Advance at Voice Referral
- Card Validity Check
- Resubmission
- Pre-Authorisation
- Update Pre-authorisation

- Payment completion
- Refund
- Deferred Payment (including transmission of fuel types and volumes)
- Cancellation
- Back-up mode (temporary local authorisation activated by merchant when connectivity with acquirers is lost)
- Management functions: balances and financial counters

Additional Functions

- Partial Approval
- Product Selection
- Dynamic Currency Conversion (DCC)
- Extra amount
- Shop / petrol products
- Terminals with local authorisation capabilities
- Token recognition to link e.g. pre-authorisation and payment completion
- Merchant activated PIN entry bypass
- No-CVM required limit
- Cash-back
- Site management
- Application pre-selection
- Additional Data (e.g. for petrol cards)

Card and cardholder verification

- EMV SDA, DDA and CDA card authentication
- No CVM
- Signature
- Off-line PIN validation – clear text
- Off-line PIN validation – encrypted
- Contactless on-device CVM
- On-line PIN

Cardholder and merchant guidance

- Multilingual – driven by card's language (if available) and merchants language
- Standard messages prescribed by specifications and their translation in different languages
- Multiple character sets

Transaction receipts

- Prescribed by the documentation for local printing and submission to ECR systems
- Driven by the acquirer
 - Mandatory or optional printing for cardholder or merchant
 - Additional data and cardholder text
 - Truncation of sensitive data

Security methodologies

- SSL3/TLS1 with mutual authentication (acquiring host authentication by terminal, terminal authentication by acquiring host)
- Terminal Secure Component (TSC) – proprietary method to provide storage of symmetrical keys for each acquirer, to support message authentication, selective

data encryption and PIN block transmission - DUKPT compliant

- Acquirers select which method or combination to use for each terminal
- Both SSL3/TLS1 and TSC are driven from a Acquiris Certification Authority
- Support of SRED (Secure Reading and Exchange of Data)

Telecommunication

- Switched (PSTN, ISDN,GSM)
- Open Internet (broadband, GPRS-3G, local Wi-Fi to broadband)
- Dedicated Internet (broadband, GPRS-3G, local Wi-Fi to broadband)
- Private networks and VPN gateways

Driven by common parameters and acquirers' decisions

- Terminal management system load (at regular intervals, upon publication by Acquiris):
 - Card recognition criteria (BIN, AID)
 - Acquirer tables and corresponding connectivity data
 - Merchant's decisions on acceptance of brands and the corresponding acquirers
- Acquirers customise the transaction flow and processing options parameters

The Acquiris ecosystem

- Acquiris is a member-driven not-for profit organisation and recognises various types of membership (principal members, associate members and observers).
- Both principal and associate members are active in the industry of acquiring card transactions in a role for which terminal specification are instrumental, i.e. as acquirer or acquirer processor (principal members) or terminal vendors (associate member).
- Acquiris has following activities:
 - Licensing: Acquiris provides licenses to members (free of charge). Members participate in a cost-sharing agreement.
 - Specifications: Acquiris manages the C-TAP specifications with its members and makes the resulting documentation available.
 - Certification: The terminal certification by Acquiris relies on preliminary certifications mandated by the members as acquirers of e.g. international schemes. Acquiris will have performed a functional certification of the C-TAP terminal application by independent labs.
 - Public Key Certification Authority: Acquiris provides CA services to its members to support acquirer key distribution and TLS.

For more information:

The Acquiris Secretariat: info@acquiris.eu
Avenue de la Métrologie, 6 1130 Brussels

www.acquiris.eu