Introducing the Open Standard for Public Transport (OSPT™) Alliance

State of the Industry

- Mass transit ridership is experiencing record growth due to urbanization and other factors. In 2012, many agencies logged double and even triple digit increases.
- Transit agencies globally are straining to meet this demand and are seeking upgrades and replacements for their aging fare collection systems.
- The transit industry is undergoing a technology sea change as older coin, token and flash pass-based systems evolve to accept payments from mobile phones as well as the latest generation of contactless cards.
- Yet, transit agencies are under unprecedented pressure to reduce the cost of operations without reducing services.
- Unlike any time in the past, agencies are recognizing the need for and the benefits of standards.

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Key Industry Requirements for Fare Collection Systems

- Reduce costs of implementation and operations
- Ensure interoperability with other transit fare systems and different media within the same region
- Provide advanced security to prevent fraud, avoid public embarrassment and minimize legal liability
- Ensure that consumables are available from a variety of vendors that offer interoperable products to ensure continuous supply and competitive pricing
- Create an easy migration path to mobile ticketing
- Avoid the financial, contractual and technical barriers associated with non-standard, proprietary products

This is why the OSPT Alliance was formed!

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OSPT: An Alliance for 21st Century Fare Collection

- A vendor-neutral, industry alliance founded by leading global technology vendors to promote an open, secure standard for public transportation fare systems
- The mission is to make fare payments for public transportation fast, secure and convenient for the public, while reducing cost and complexity for operators
- A forum for education, networking, technical workgroups, shaping and evolving industry standards
- Open to all members of the public transport ecosystem
- Develops, maintains, and certifies product compliance with CIPURSE™, an advanced open standard for fare collection systems and multi-application programs using contactless media

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CIPURSE, a True Open Standard for Transit Fare Collection

- Especially designed for contactless card and NFC-based fare collection systems
- Vendor-independent (all card suppliers can attain CIPURSE certification for their products)
- Technology providers free to add functionality outside the common core (multi-application support)
- All CIPURSE products undergo rigorous certification testing by third-party organization (Keolabs)
- Incorporates advanced AES-128 security
- Ensures interoperability of all forms of contactless payment media
- Reader independent: Any ISO/IEC 14443 compliant reader can be used
- Simple, low-cost licensing terms

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Based on Proven, Widely-Used Open Standards

- ISO 24014: Interoperable fare management system
- ISO/IEC 7816: Smartcards
- ISO/IEC 14443: Contactless communication
- ISO/IEC 18092: Near Field Communication
- AES 128: FIPS encryption standard

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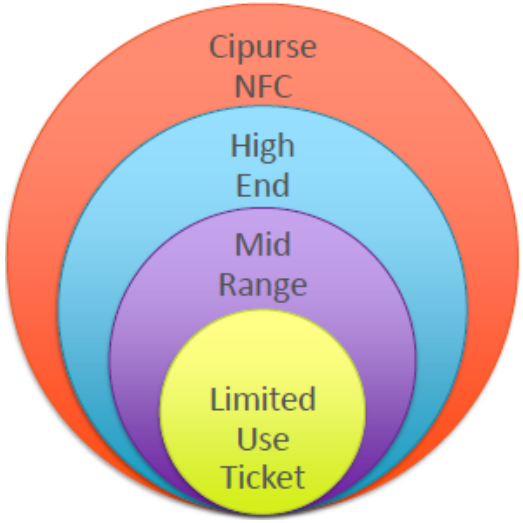
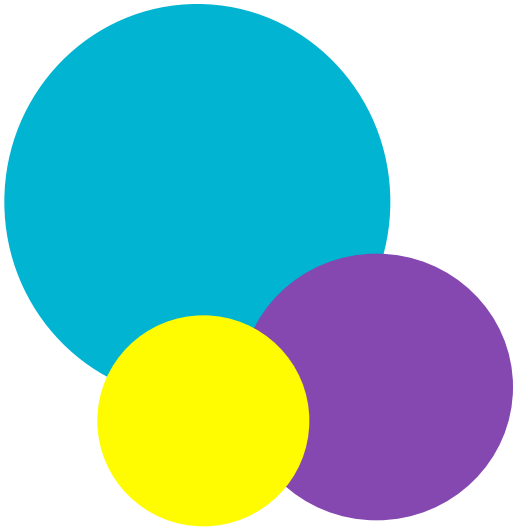
CIPURSE V2



- CIPURSE products are scalable
- All specification levels use same memory structure, command set, crypto algorithm and protocol
- Only CIPURSE guarantees coexistence of different specification levels (ticket types) running in one transportation ecosystem without changes
- CIPURSE allows switching between specification levels (ticket types) and form factors in the transportation ecosystem

Other Solutions



- Solutions are NOT scalable
- Product levels have different memory structures
- Compliance with standards is not strictly defined, resulting in incompatibility (e.g. ISO 14443-3 and ISO 14443-4)
- Security algorithms and command sets are different throughout the product levels
- Not possible to use different product levels in same transportation ecosystem without costly and time-consuming software and/or hardware changes

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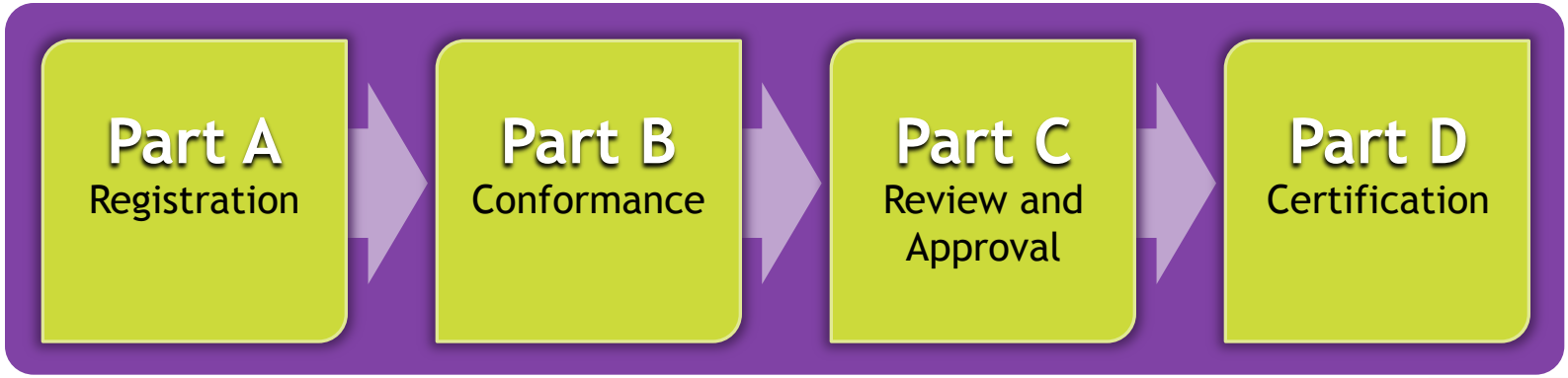
Certification Assures Compatibility and Performance

- CIPURSE certification is conducted by an independent lab (Keolabs) and is available for:
  - ✓ End-user contactless devices (contactless cards, key fobs and NFC handsets
  - ✓ Packaged devices (inlays, modules, SIMs, MicroSD)
  - ✓ Embedded integrated circuits
  - ✓ Applets
- Product certification follows a rigorous, four-step process to obtain the CIPURSE-Certified logo



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CIPURSE Supports All Contactless Form Factors

CIPURSE is applicable to all forms of contactless products within the same AFC System including cards, key fobs, NFC-based products, and limited-use tickets.

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CIPURSE Mobile Supports the New Mobile Paradigm

- Speeds and simplifies the introduction of NFC ticketing
  - ✓ No technology upgrade required for a CIPURSE V2-compliant system
  - ✓ Supports existing and new NFC phones
  - ✓ No need for withdrawal of payment media from the field—full interoperability with CIPURSE-compliant card and key fob products
- Supports all NFC form factors and implementation methods
  - ✓ Embedded secure element
  - ✓ SIM-centric
  - ✓ MicroSD
- Ensures product independence
  - ✓ Mobile OS: iOS, BlackBerry, Android
  - ✓ Hardware: Any phone, tablet PC, or other mobile device
  - ✓ Application: Layered, modular architecture and application-specified profiles enable interoperability among a broad range of simple to complex solutions

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CIPURSE Mobile at a Glance

- Java Card 2.1 or higher and GP 2.2-based Applet
- Over-the-Air & Over-the-Internet Support
  - ✓ Application download
  - ✓ In field application activation and de-activation
  - ✓ Lifecycle management
- Designed for multi-application support
  - ✓ CIPURSE, payment, access, couponing, loyalty and others on one secure element
- Added-value services support to be part of CIPURSE Mobile
  - ✓ CIPURSE Mobile for Couponing
  - ✓ CIPURSE Mobile for Access Control
  - ✓ CIPURSE Mobile for Loyalty

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Growing Interest in CIPURSE Worldwide

- Close to 400 evaluators
- Representing 45 countries in Europe, Asia-Pacific and the Americas
- Representing key sectors of the transit ecosystem
  - Chip makers
  - Transit operators
  - Transit authorities
  - Hardware manufacturers
  - Software developers
  - System integrators
  - Transit consultants
  - Bank networks

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Commitment from Industry Leaders

Members

Chip Manufacturers

Card/Inlay Manufacturers

Giesecke & Devrient

System Integrators

SW Developers

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Interest from Operators and Public-Sector Organizations

Associate Members

USA

India

Thailand

Korea

Spain

Austria

Belgium

Norway

Netherlands

UK

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OSPT Governance

- Board of Directors
  - INSIDE Secure, Infineon, G&D, Oberthur Technologies, Samsung
- Executive Director
- Working Groups
  - Technical WG —*Evolves and maintains the CIPURSE specification*
  - Marketing WG— *Promotion, communications and market education*
  - Mobile WG— *Evolves the CIPURSE specification to the mobile environment*
  - Certification WG — *Sets policy for certification and standardization*
  - Brazil WG— *Promotes CIPURSE in the region*
  - SAM Specifications — *Defines specs for secure access module and card reader protocols*

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Thank you

For more information about CIPURSE™, please visit:
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