History

- GSA Smart Access Common ID Card contract May 2000
- Post-award Interoperability Committee
- GSC-IS v1.0 August 2000
- Government Smart Card Interagency Advisory Board, Standards TWG
- GSC-IS v2.0 NIST Special Pub Q3-02
GSC-IS Objectives

- Generic card service provider model
- Common high level card service interface
- APDU independence
- Extensible
- Compatible with other models
GSC Architectural Model

Applications (Logical/Physical Access, etc)

Basic Service Interface

Ext. Service Interfaces

GSC-SPM (cards/readers/software)

API

(Service)

SPI

API

(Service)

SPI
GSC Service Provider Module

- Basic Services Interface
- Service Provider Software
- *Card Reader Driver Layer
- Card Reader(s)
- Smart Card
  - Common Data Model
  - Card Capability Container
Constraints

• The BSI is:
  – Interoperable
  – NOT operational
  – APDU set differences preclude interoperability of some essential operational functions
  – All GSC-IS implementations will require XSIIs

• A card reader driver layer is not defined
APDU Independence

• Possible approaches:
  – Standardize on one APDU set (compatibility?)
  – Software drivers for all APDU sets (maintenance?)

• Card Capabilities Container
  – A “hybrid” approach
Card Capabilities Container

- Carried on each card
- Defines how a card’s APDU set differs from the GSC-IS Virtual Card Edge Interface (VCEI)
- Formal grammar
- Size depends on number of differences
- Low overhead: < 100 bytes
Communications Sequence

- SPS reads a card’s CCC
- A CCC parser uses the CCC to map APDUUs
- Card specific APDU set is mapped to the VCEI
- SPS also links BSI methods to the VCEI
- Card reader driver layer = raw APDU transport
Data Models

- Original “J.8” model from GSC-IS v1.0
- DoD Common Access Card model
- Mandatory set of core elements:
  - 3 containers
  - 7 data elements
GSC-IS Conformance

• Card level:
  – Mandatory core data elements
  – CCC

• Middleware:
  – BSI
  – VCEI
The Future

- Implementation guidance
- Reference implementations
- Developer’s toolkits/workshops
- Collaborations
- Standardization
- Security and conformance testing