Conformance Test Program for Government Smart Card

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Components of Conformance Testing

- Standard or Specification
  ** GSC-Interoperability Specification (includes conformance clause)
- Conformance Test Suite
  ** Card edge and BSI test suites being developed by NIST
- Validation and Certification Process
  ** Described in this presentation
Testing Components

Certification
qualified bodies to do the testing and certification
control board - advisory and arbiter

Validation
Process - policy and procedures for testing

Conformance Testing
Test assertions
Test suite
(test software, test scripts, test criteria)

Standard
Conformance clause
Conformance Test Suite

Conformance test suite includes:

- test assertions with expected results,
- test data and programs,
- test harnesses.

Procedures for testing include:

- instructions for test setup and a process guide
- instructions for manual actions
- instructions to handle failures
Proposed Validation & Certification Process for GSC

Buyer

Required certified product

Seller

Conformance test of product

Testing Lab

Certificate Issuer

Certificate Authority

Interpretation/Disputes

Control Board

Test report to seller

pass

fail

NIST
National Institute of Standards and Technology • Technology Administration • U.S. Department of Commerce
Functions of GSC Testing Laboratory

- Conducts conformance testing in accordance with prescribed procedures
- Prepares test results
- Maintains changes to test suite and testing procedures
- Provides feedback to control board on problems and improvements
- Interfaces with the GSC implementers
- Establishes appropriate fees
Functions of Certification Authority

- Establishes/maintains GSC Conformance test program policies and procedures
- Approves the test suites
- Establishes criteria for testing lab
- Determines criteria for conformance
- Develops/maintains procedures for testing lab to follow in order to award certificate
Functions of Certificate Issuer

- Issues certificate of validation if conformance is indicated
- Periodically publishes registry of validated products
Functions of GSC Control Board

- Resolves questions concerning interpretation of test suites and test procedures
- Ensures resolution of technical problems
- Arbitrates disputes between Testing Laboratory and their clients concerning GSC conformance testing
- Maintains records of all queries and resolutions.
Open Issues

• Requirements for Conformance
  – (e.g. Pass All, Partial Pass, …)

• Level of Conformance
  – (e.g. Profiles, Level 1, Level 2, …)

• Renewal of Certification

• Retesting Requirements
Roadmap of Conformance Test Program for GSC

- GSC Interoperability Specification with stable definition of conformance clauses
- Test suite and test procedures delivered
- Identify test laboratory to conduct the test and notify vendors of results
- Establish policies and procedures for certifications
Availability of GSC Test Suite

• The Test suite and test procedures will be available on the Web.
• Smart card vendors and non-GSC vendors can conduct self-testing.