# Update on PAIIWG

## Setting the Priorities for Interoperability

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# Organization

- PAIIWG Facilitates Industry and Government Communication
- Involved Government Personnel Recognize Issues
- Identification of Root Authority and Scope
  - Executive Order 12977, Amended 13286
  - HSPD-7, HSPD-12 and HSPD-24,
  - OMB Memos M04-04 & M05-24
  - RTCA DO-230B

# Purpose

- Define options for interoperable numbering schemas for both Federal and non-Federal issuing authorities suitable for physical access control and related identity applications
- Determine and define options for protocols providing a high level of assurance for physical access control systems that meet Government interoperability and performance requirements
- Define options for contactless access control protocols that meet privacy and security requirements of the Government

# Next Steps

- Submission of a Interagency Security Committee project proposal
- Convene PAIIWG for work on PIV Identifier Model

# Questions

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# BACKUP

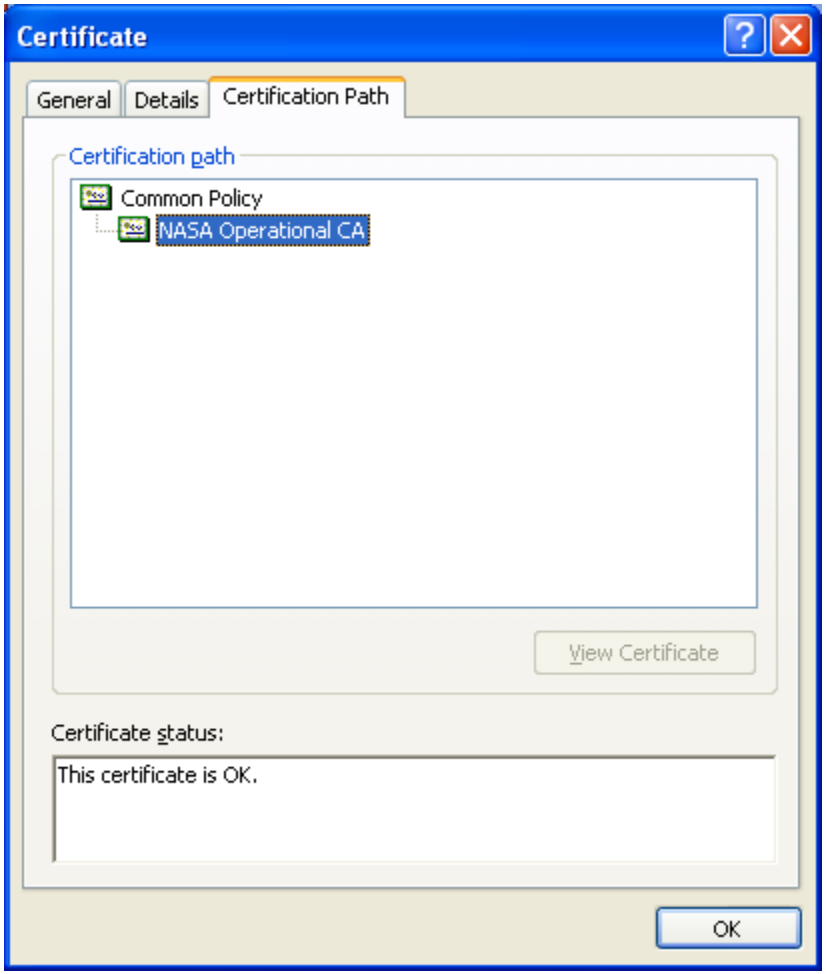
# Topics

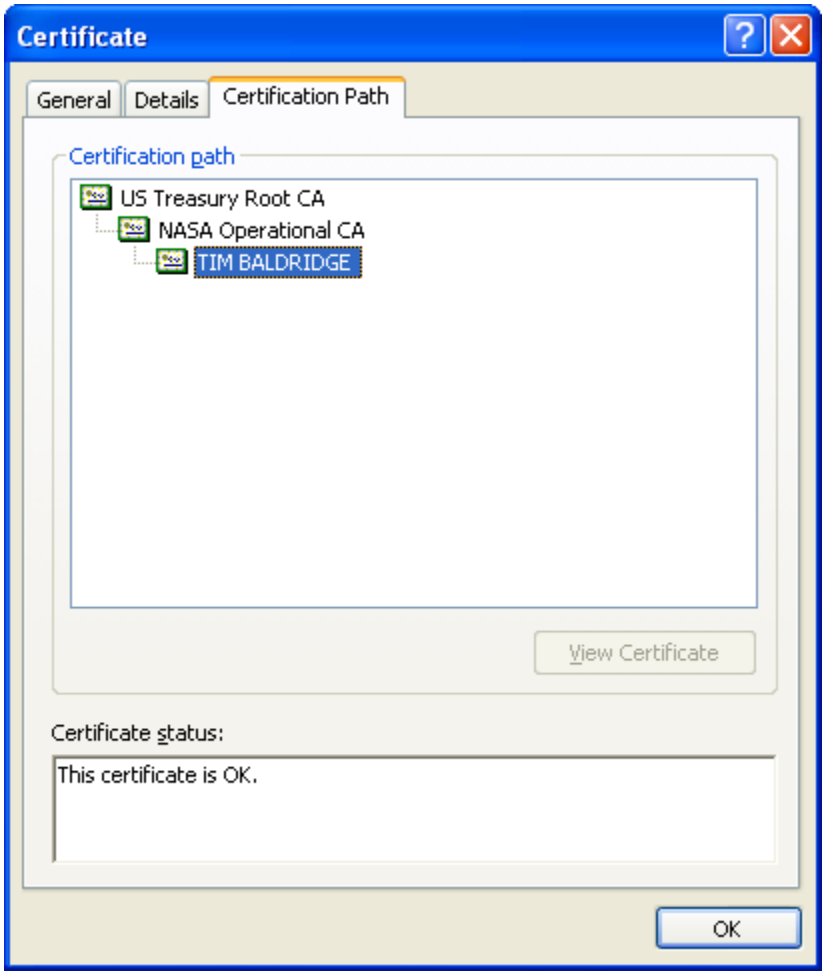
- Trust Anchor
- Cryptographic Soundness
- Card Authentication Key
- CAK PACS Issues
- PIV Identifier Model

# Trust Anchor

- What is it?
  - A self-signed root certificate that a relying party accepts as authoritative
- PIV Cards
  - Common Policy (Root CA)
- PIV Interoperable Cards
  - Federal Bridge (Root CA)
- PIV Compatible Cards
  - ?? (Root CA)

# Example PIV Trust Chain



# Cryptographic Soundness

- A Qualitative Description of Business and Technical Practices Which Insure Integrity And Confidentiality
- Keying materials
  - What is the Key Use
  - Chain of Custody in Key Distribution
  - Who has control
  - How many entities possess a key

# Card Authentication Key

- Asymmetric
  - PKI Based Infrastructure Exists
  - Uncommon in PACS Applications
  - Policy Enforced Unique Key per Card
- Symmetric
  - Faster algorithm
  - No Enterprise Key Management Infrastructure
  - Typical Deployment Uses Only a Few System-wide Keys Across a Card Population

# Card Authentication Certificate Enabled PACS Readers

- Challenge Is To PKI Enable Legacy PACS Door Readers
- Legacy - Two Step Mechanism
  - Enroll PIV Card With Full PKI To Head-end.
  - Hash Of Cert Or Public Key With FASC-N To Panel
- Next Generation - Full PKI Revocation Check At Each Access Point.
- SCVP vs OCSP vs CRL Checking

# CAK PACS Issues

- Card Readers On The “Attack” Side Must Allow Bi-directional Communication
- Card Readers On The “Attack” Side Must NOT Contain Persistent PACS Level Secret or Private Keys
- Card-to-Reader Communication Must Not Reveal Identity Prior to the Card Validation of the Authenticity of the Reader

# PIV Identifier Model

- ISSUE
  - How to Extend Numbering to Non-Federal PIV Interoperable Card Issuers
  - Both Legacy And New PACS Must Enroll Cards to Enable Efficient Recognition at Point-of-Access
  - In The CHUID the GUID is Intended for this Purpose but Remains Inadequately Defined

# Device Identification Verification

- Secure Computing Environment for PACS
  - Must Identify PACS Devices.
    - Readers
    - Door Controllers
    - Panels / Local System Redundancy
  - Numbering of PACS
    - Registration of PACS Identifier on PIV Card by PCI
    - PACS DIV relates to PACS Crypto – PLAID
  - Security Technology

    HSM, SAM, SIM