Information Technology Standardization Directions at the NRO

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Standards Scope

- Spaceborne systems
- Ground systems
  - Workstations
  - Ground infrastructure
- Links between ground and space
- NRO management information systems (MIS)
Standards Sources

- DoD Joint Technical Architecture (JTA)
- Uniform Cryptologic Architecture (UCA)
- United States Imagery and Geospatial Information System (USIGS) Technical Architecture (UTA)
- Internal NRO applied standards
Methodology

• Establish a functional architecture and reference model
• Develop a structure of technical service areas and services
• Create a standardization database
• Collect standards in use from programs, projects, and systems
• Adjudicate differences in application of standards across the enterprise
• Establish an NRO standards baseline
• Use standards baseline as a basis for proposing changes to external baselines such as JTA
NRO Interoperability Vision

• Shared Technical Architecture
• Consistent Standards
• Interoperable interchange of information

Space Reconnaissance Subdomain Annex (SRSA) integrated into JTA version 3.0
Original JTA Technical Reference Model
Structure and Use of NRO Standards

Service Areas

- Information Processing
  - SW Engineering Services
  - User Interface Services
  - Data Mgmt Services
  - Data Interchange Services
- Information Transfer
  - End system standards
  - Network standards
  - Transmission media
- Info Modeling, Metadata
  - Activity model
  - Data model
  - Information exchange
- Human-Computer Interface
  - Character-based Interfaces
  - Graphical User Interface
  - Style Guides
- Information System Security
  - Info Processing Security
  - Info Transfer Security
  - Info Modeling, Metadata Security
  - Human-Computer Interface Security

Services map to standards

Standards

Platforms
- Cmd & Control
- Mission Mgmt
- Simulation & Forecast
- Ground Infrastruct. etc.
JTA Hierarchy Model and Input Points

- **Core**
  - JTA Main Body

- **Domains**
  - C4ISR
    - Cryptologic
    - Nuclear C²
    - Space Reconnaissance
  - Combat Support
  - Modeling & Simulation
  - Weapon Systems
    - Aviation
    - Ground Vehicles
    - Missile Defense
    - Missile Systems
    - Munition Systems
    - Soldier Systems
Standardization Benefits

- Improved interoperability and portability
- Reduced costs
- Reduced time to implement solutions
- Creation of new information opportunities for warfighters
Standardization Issues

- Cost
- Restriction of technology
- Operational constraints
- Vulnerability
- Define “standard”
- Interoperability and portability
- New IT opportunities
- Space community involvement
  - C4ISR Domain
  - Space Reconnaissance Subdomain
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