Ground Systems Architecture Workshop
26 February 1997

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DoD Space Architect Office

Space Architect: Major General Robert S. Dickman, USAF
Architecture Lead: Captain Matt Rogers, USN
DoD Space Architect Charter

**Purpose:**

Consolidate responsibilities for DoD space mission and system architecture development into a single organization

**Authority:**

- Derived from Defense Acquisition Executive
- Influence acquisition decisions, but no direct acquisition authority
- All proposals involving space-related solutions referred to DoD Space Architect
- Architect information supports JSMB and/or DAB milestone reviews
- Key member of Space and C4I IPTs
DoDOSA Activities

- Review Capstone Requirements Document (CRD) and define needs
- Boresight architectures on 2010
- Review Service doctrine
- Determine what is technically possible
- Define largely unconstrained alternatives
- Analyze alternatives against risk, cost, technology, and requirements satisfaction
- Establish tools to evaluate system
- Build consensus
Strategy: Develop Range of Alternatives

Services
- Warfighters
- CRDs
- CONOPS
- Policy
- JROC
- Doctrine

Developers
- Agencies
- Operators
- NASA
- Industry
- NOAA

Develop Range of Alternatives

- Militarily Effective
- Affordability
- Risk
- Schedule
- Priority
- Conops

Joint Space Mgt Board “Decision”

Long-Term (20 YR) Vision

Specific Concepts/Options
- Alt #1
- Alt #2
- Alt #3
- Alt #n

Program/Budget
- Acq Strategy
- Obj Architecture
- Space Master Plan
Typical ADT Organization

Joint Space Management Board

Decision Coordination Group

Space Architect

R&V WG

Services & Agencies

Core ADT

Architecture Panels

Analysis WG

Cost WG

Academia

Contractor Support

Industry

Key Space References and Previous Studies

Other Agencies

Services

DoD OSA
Study Goals & Objectives

Develop Architectural Concepts That:

• Implement Integrated Satellite Operations
  – Primary and Backup Satellite Control
  – Data Transport

• Enable Integrated Mission Planning

• Enable Mission Processing Architecture Alternatives

• In Conjunction With the SATCOM Architecture, Enable Data Fusion and Information Dissemination Architecture Alternatives
Key Study Questions

• How do we perform Satellite Operations today, and at what cost?
• What are the future requirements for Satellite Operations?
• How much interoperability do we have today? Can more interoperability inter- or intra-sector be achieved? How?
• How much interoperability is needed/wanted within and between sectors?
• Is consolidation of Satellite Operations achievable within or across sectors? How much?
• What Standards do we have today? Can we standardize Satellite Operations inter- or intra-sector? What’s possible? What type of standards?
• How much Satellite Operations common service (e.g. Backup Satellite Control) do we have today and what is possible, required and affordable for the future?
• Do we need/want common launch, early-orbit and anomaly support?
• Do we need/want common satellite control back-up?
• Do we want to retain a separate frequency band for Satellite Control launch, early-orbit and anomaly resolution?
• How much commercial service are we willing to use?
• How much international cooperation should we accommodate?
• How resilient should a Satellite Operations architecture be to new missions, threats, budget, etc?
• What are the program transition impacts for the future?
Progress

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Pre-JSMB coordination with stakeholders will begin first week of April.

Develop Concepts & Point Designs

Integrate and Combine Concepts

Architecture Options

Assess and Debate Alternatives

Goals and Objectives

Transition Strategies

Recommendations

JSMB Direction

Objectives and Transition Roadmap

Open Discussions

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