

UNCLASSIFIED



Operationally Responsive Space Office

- Assured Space Power Focused on Timely Satisfaction of the Joint Force Commanders' Needs

- ORS OFFICE

Compatible Satellite C2 Progress and Challenges

3 March 2010

Operationally Responsive Space Office
3548 Aberdeen Ave. SE
Kirtland AFB, NM 87117-5778

DISTRIBUTION STATEMENT A: Approved for
public release; distribution is unlimited.

**Doug Harris
ORS Office**



UNCLASSIFIED

Enabler for Command and Control (C2)

- Assured Space Power Focused on Timely Satisfaction of the Joint Force Commanders' Needs

- ORS OFFICE

- **Establish a compatible C2 framework for ORS operations**
 - Demonstrate and operate with next ORS enabler mission
- **Leverage existing and emerging tools, systems and standards**
 - Goddard Mission Service Evolution Center (GMSEC) middle-ware as key component; reuse portions for ORS **“Mission Service Interface”** (MSI)
 - Consultative Committee for Space Data Systems (CCSDS)
 - XML Telemetry and Command Exchange (XTCE)
 - Extensible Transducer Electronic Datasheet (xTEDS)
 - Ground Systems and Stations
 - Schriever AFB
 - Blossom Point
 - NASA/GSFC
 - Rapid Response Space Works
 - Other



ORS RRSW - “Chileworks”

UNCLASSIFIED



UNCLASSIFIED

ORS Mission Service Interface (MSI)

- Assured Space Power Focused on Timely Satisfaction of the Joint Force Commanders' Needs

- ORS OFFICE

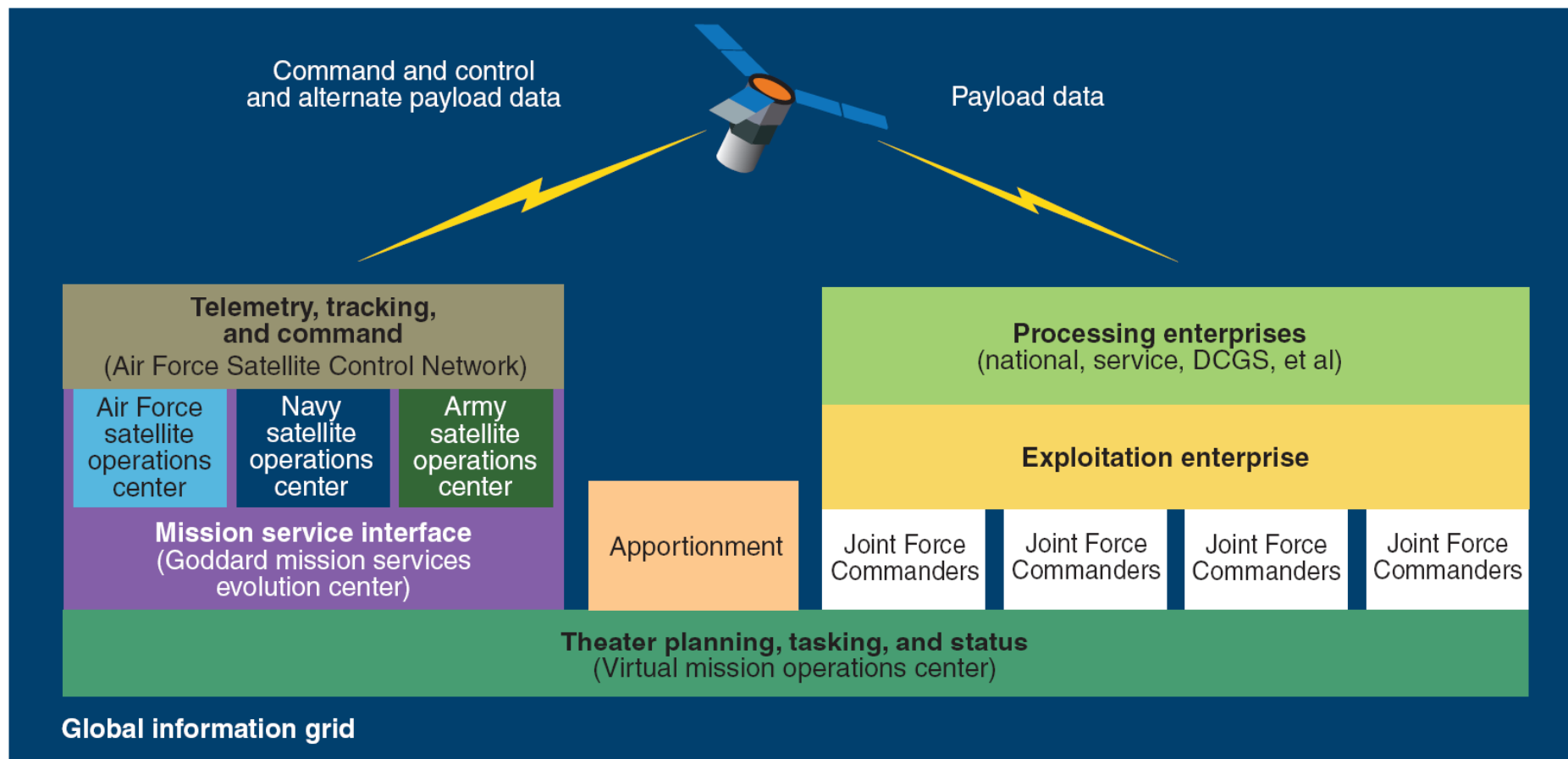
- **The ORS MSI will provide a transport layer for TT&C functions in support of ORS spacecraft**
- **The MSI objectives are to:**
 - Provide TT&C data across multiple Service and R&D Satellite C2 Systems
 - Provide a capability to pass command and control operations between Satellite C2 Systems
- **Benefits include:**
 - Linking disparate SOC's
 - Situation awareness across C2 systems
 - Affords rapid integration of C2 systems into the ORS enterprise
 - Rapid transition of multiple satellite configurations to different SOC's for operations
 - Possible reduction in training and organization cost

UNCLASSIFIED



UNCLASSIFIED

ORS Mission Service Interface (MSI)





UNCLASSIFIED

Joint SATOPS Compatibility Committee (JSCC)

- Assured Space Power Focused on Timely Satisfaction of the Joint Force Commanders' Needs

- ORS OFFICE

- **Government endorsed organization that serves in a tech advisor role for the SATOPS community**
- **Efforts within each organization are already underway to investigate methodologies and architectures to address internal challenges**
 - Enable satellite operations/control between systems & across the community
 - Provide community-wide ground situational awareness and space protection
 - Reduce life cycle costs
- **Charter: Identify architectural frameworks and standards to enable NSS community-wide, compatible and interoperable satellite operations.**
- **Final Product: Demonstrated architectural approaches & standards for common use in future acquisitions across the JSCC partnership**

