

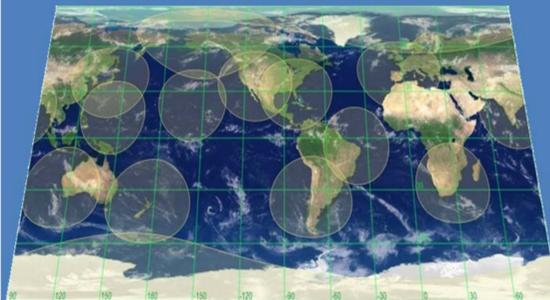


# Joint Polar Satellite System (JPSS) Common Ground System (CGS) Overview: C3S, IDPS, FTS, O&S, Sustainment and SEIT

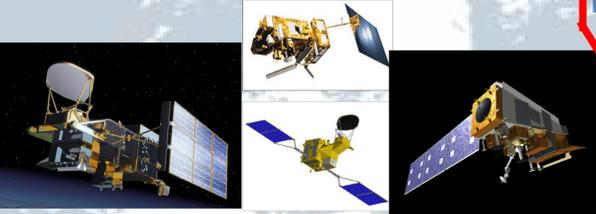


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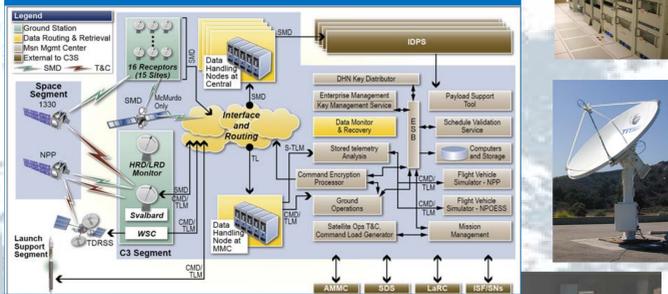
## Distributed Receptor Network (DRN)



Global fiber network connects 15 unattended distributed receptor sites to Centrals



## C3S Architecture



## Fast Data Delivery



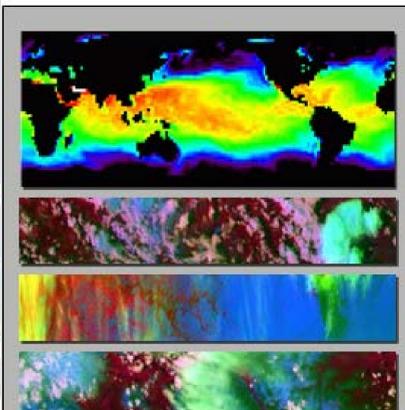
## Concept of Operations



## Key Specifications/Parameters

Requirement	Parameter	Architecture Features
SMD Product Data Latency	• NPP: 95% within 101 min Block 3: - Mission/System: 95% within 28 mins - C3S Allocation: 40 sec - IDPS Allocation: 99.5% within 6.2 mins	• Block 2: J1 only with only 4 Receptors at the polar sites • Global network of 15 Receptor sites & Global WAN (Block 3) • Data Handling Nodes at each site to multicast data to IDPS • Configurable SW & HW; concurrent data processing
SMD Data Availability	• Downlink: 99.99% • S/C Retransmit: 98% • Centrals: 99.99% • 99.99% of RDRs (monthly)	• SMD data tracking and missing data recovery capabilities at Receptors and Centrals • Recovery of missing data from spacecraft • Automated - SW anomaly detection and recovery; data retransmission; data product repair
Operational Availability	• 98.9%	• No single points of failure for critical components • Global network of 15 Receptor sites with ability to withstand outages
SMD Delivery for Multiple S/C	• DRN for J1, J2, D1, D2 • Frequent, short contacts	• Distributed Receptor Network (DRN) • Architecture independent of time period of contacts
Mission Processing Deployment	• 4 Centrals (NESDIS, AFWA, FNMO, NAVO)	• Multicast data delivery to each site via MPLS network • Distributed Architecture; Configurable, Expandable, Modular HW & SW

## JPSS System Architecture



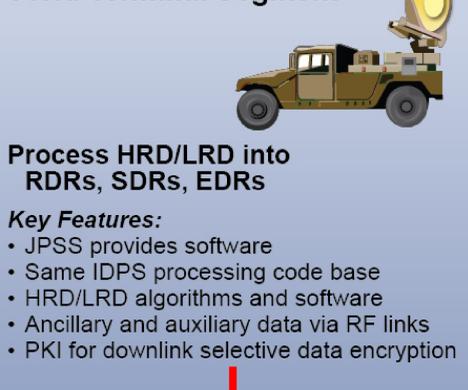
## JPSS CGS IPT Functions and Capabilities

- CGS Requirements
  - CGS Architecture
  - CGS OPSCON
- System Engineering, Integration, & Test**
- Specialty Engineering (e.g. Security, RMA)
  - Interface & Data Engineering
  - CalVal Support
- CGS Integration
  - CGS Test
  - CGS Verification

## C3 Segment



## Field Terminal Segment

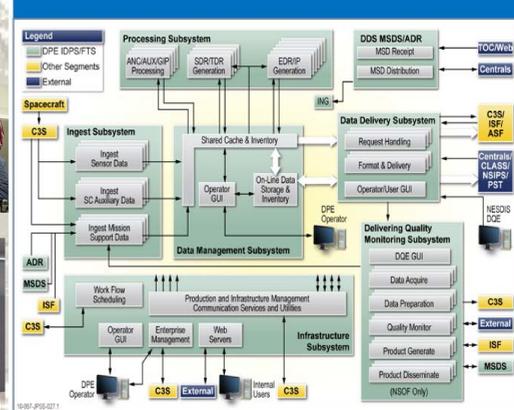


## Interface Data Processing Segment

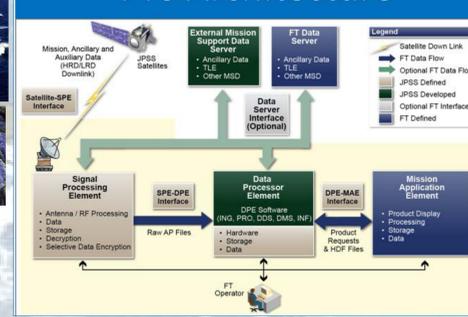


- Operations & Support (O&S)**
- Training
  - Ops Product Development
  - C3 Operations
  - IDP Operations
  - Integrated Logistics Support
  - HW & COTS SW Maintenance
  - Long Term Monitoring
- Sustainment**
- Configuration Management
  - Software Sustainment
  - Updating & Maintaining H/W and S/W Baselines

## IDPS Architecture



## FTS Architecture



## Development Facilities

Raytheon Organization	Location	CGS Responsibility
IIS, Defense and Civil Mission Systems (DCMS)	Aurora, CO	Program Leadership, SEIT, C3S, IDPS, O&S, Sustainment.
IIS, Defense and Civil Mission Systems (DCMS)	Omaha, NE	IDPS Processing and Ingest subsystems, FTS
IIS, Mission Operations and Services (MOS)	Suitland, MD	O&S Mission Operations Team (MOT)
IIS, Mission Operations and Services (MOS)	Riverdale, MD	SEIT Cal Val Support, SDS Customer Liaison
IIS, Mission Operations and Services (MOS)	Colorado Springs, CO	IDPS Data Product Quality subsystem
Raytheon Technical Services Company (RTSC), Custom Engineering and Depot Support (CEDS)	Indianapolis, IN	Integrated Logistics Support

