



## Ground Segment Status

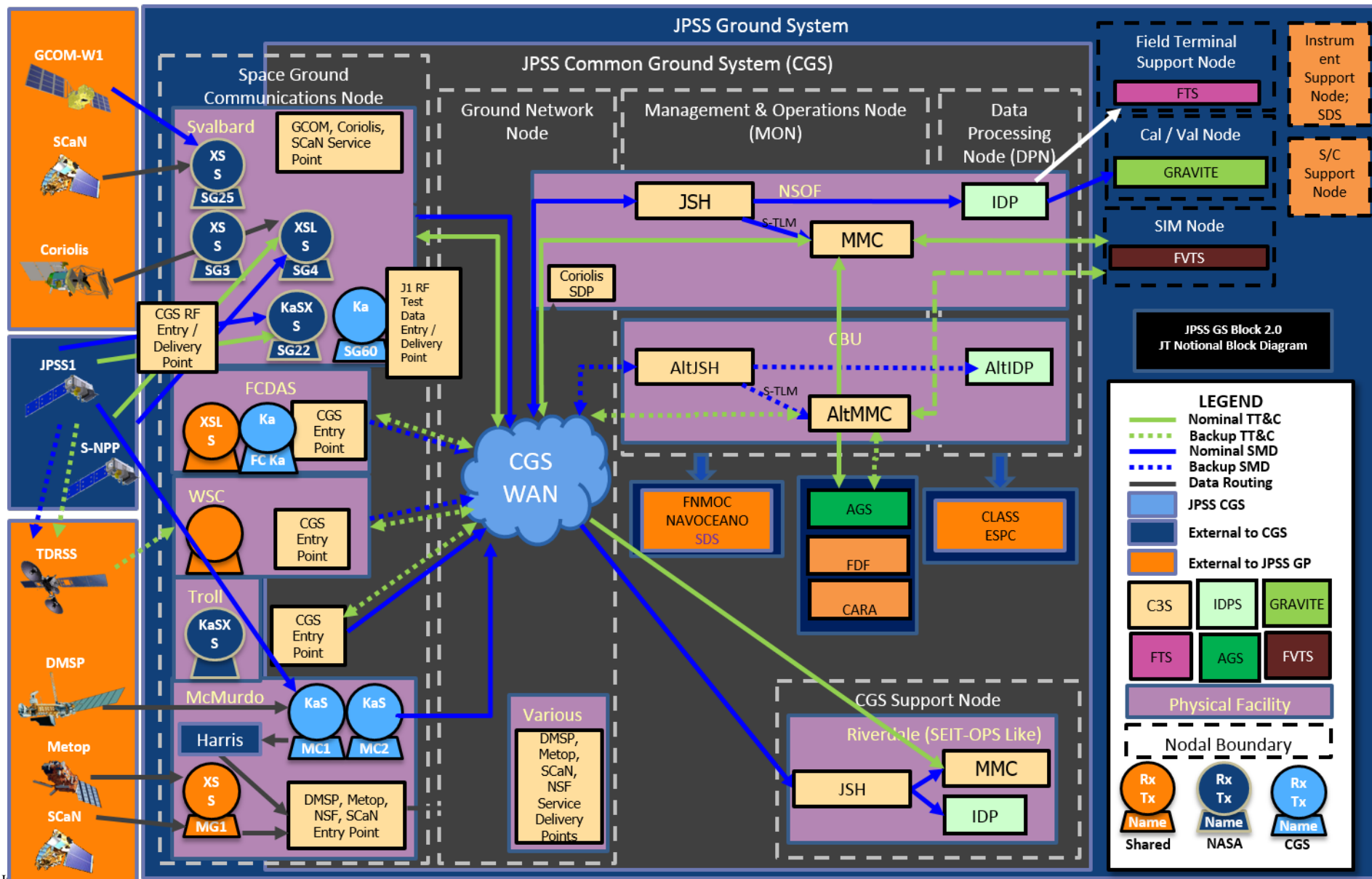
# JOINT POLAR SATELLITE SYSTEM

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**Block 2.0 Deployed System**



# JPSS B2.0 System Architecture

## Minimum Essential Criteria (12/5/16)





# JPSS Ground Project Summary

## LEGEND

<b>G</b>	<b>GOOD SHAPE</b>
<b>Y</b>	<b>MINOR PROBLEM</b>
<b>R</b>	<b>MAJOR PROBLEM</b>



May June July

July 31, 2017

J-1 Mission Readiness	<b>G</b>	<b>G</b>	<b>G</b>	Ops Readiness Exercise 1 (ORE 1) successfully conducted July 6-8.
Command, Control, & Comm (C3S)	<b>Y</b>	<b>Y</b>	<b>G</b>	Build AE.2.4 software deployed to all operating environments
Interface Data Process. Sys. (IDPS)	<b>G</b>	<b>G</b>	<b>G</b>	Maintenance release Mx.3 deployed to all operating environments
Field Terminal Segment (FTS)	<b>G</b>	<b>G</b>	<b>G</b>	No Issues
Flight Vehic. Test Suite / Flight Veh. Sim	<b>G</b>	<b>G</b>	<b>G</b>	No issues
GRAVITE	<b>G</b>	<b>G</b>	<b>G</b>	No issues
Business (Staffing & Facilities)	<b>G</b>	<b>G</b>	<b>G</b>	No issues
Cross-Cutting Functions (Algo./Cal-Val; Ops; SMA; Security)	<b>G</b>	<b>G</b>	<b>G</b>	No issues; S-NPP Annual Operations Status Review (OSR) conducted July 12
Missions	<b>G</b>	<b>G</b>	<b>G</b>	Metop/DMSP – Nominal Support; DMSP transitioned to Block 2 on July 19 S-NPP/GCOM-W – Nominal support
Cost	<b>G</b>	<b>G</b>	<b>G</b>	No issues
Schedule	<b>Y</b>	<b>Y</b>	<b>G</b>	S-NPP Flight Operations ORR conducted July 13 with TTO on August 4; JPSS-1 ORR moved to September 6-8 to accommodate JPSS-1 PSR August 23-24
Technical	<b>Y</b>	<b>Y</b>	<b>G</b>	Block 2 now supporting all on-orbit missions; Block 2.2 PDR conducted August 8-10
Overall	<b>Y</b>	<b>Y</b>	<b>G</b>	



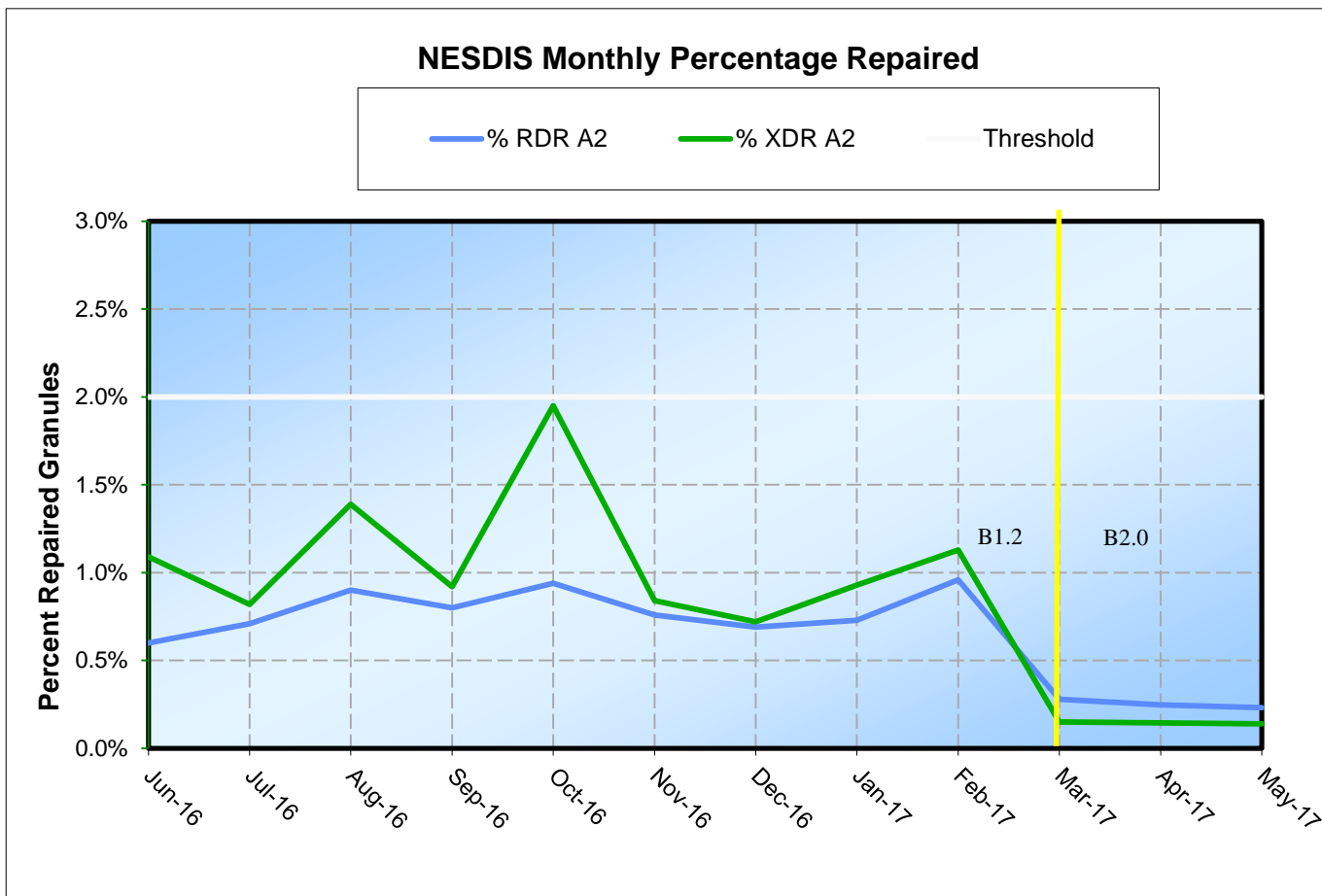
# Differences from B1.2 to B2.0

Category	B1.2	B2.0
A/B Side	A / I&T Strings (NSOF MMC & IDP)	A / <b>B</b> / I&T Strings (NSOF MMC & IDP)
COOP	SGMMC (Aurora, CO)	<b>CBU</b> MMC & IDPS A String (Fairmont, WV)
J1/J2 Delta & FVTS	S-NPP plus 'Support' Missions: X SMD, Caribou Encryption, TDRSS T&C	S-NPP plus 'Support' Missions <b>minus POES routing*</b> plus <b>JPSS-1</b> (B2.0) and <b>JPSS-2</b> (B3.0) and associated simulator: S-NPP capabilities plus <b>Ka SMD, AES Encryption, TDRSS SMD via WSC</b>
Performance	Latency: S-NPP North Pole, contacts once/orbit, 140min	Latency: S-NPP North Pole, contacts once/orbit, <b>JPSS-1,2 Dual Pole contacts twice/orbit</b> , S-NPP 140min, <b>JPSS-1,2 80 min, GCOM 15 min (from RF receipt)</b>
Security	Security: Boundary Protection	Security: <b>Defense in Depth</b>
C3S Re-Arch	PGM Multicast Data Transport to Distributed IDPs	<b>TCP/IP</b> protocol Data Transport to JSH (JPSS SMD Hub) Centralized ' <b>Bow Tie</b> ' (with CBU backup); Space Link Extension ( <b>SLE</b> ) T&C/SMD ( <b>including GCOM</b> )
IDPS Re-Arch	NESDIS / AFWA Baseline IDP functionality; <b>AFWA IDP removed in B1.2.3*</b>	<b>Modularized IDP</b> functionality (part of SO#2 prototyping; includes 'fast' algorithm incorporation, flexible configuration, and event driven delivery)
Site & Site Capability	Svalbard (S,X), Fairbanks IOC (S,X), WSC (S), McMurdo (S)	Svalbard (S,X, <b>Ka</b> ), Fairbanks FOC (S,X, <b>Ka</b> ), WSC (S, <b>Ka</b> ), McMurdo (S, <b>Ka</b> ), <b>Troll (S,Ka)</b>



# Block 2.0 Performing Well

**A2+ Product Production Percentage has improved significantly with Block 2.0**



**Data Availability to ESPC/NWS greatly improved with Block 2.0!**



# Recent Accomplishments (1/2)

- **Transition to Block 2.0**

- B2.0 Data Ops ORR held 2/8/17 with TTO on 3/8/17
  - Data Ops has been running successfully in operations with improved performance over Block1.2
  - Three maintenance releases successfully deployed into operations
- B2.0 Flight Ops ORR held 7/13/17 with TTO on 8/4/17
  - Workarounds for requirements not yet achieved are being performed by Raytheon assistance to operations

- **8-day data Flow 8/4-12/17 - Full loading of S-NPP, GCOM-W1, and JPSS-1 simulated data through system end-to-end**

- **Common Ground System Software Releases**

- IDPS
  - MX3 (J1 Launch Build) deployed to Operations
  - MX4 will be combined with Block 2.1 release and deployed post JPSS-1 Launch
- C3S
  - AE.2.4 deployed to all strings, resolved critical issues for B2.0 Flight Ops
  - AE.2.5 currently in work to update Orbit Operations and incorporate JPSS-1 specific parameters
- First maintenance release post J1 Launch will be deployed to I&T at L+60days for transition to operations after handover to OSPO



## Recent Accomplishments (2/2)

- **Simulators are ready to support JPSS-1 launch**
  - Simulators are currently being managed in a sustainment type operating mode.
  - OPS Sims have been available to users since November 2014.
  - On going resolution of open DRs and database updates as needed to support the MR and JCT events.
- **GRAVITE is ready to support JPSS-1 launch**
  - Successfully receiving Block 2.0 S-NPP and simulated J01 Data, making it available to users and running data quality monitoring tools on the data
  - Data Quality Assurance (DQA) offline tool suite successfully integrated
- **Field Terminal Segment (FTS) is ready to support JPSS-1 launch**
  - FTS Web Portal has been operational with S-NPP since Mar 8, 2017
  - OSPO has provided a Landing Page for FTS within their NOAASIS Homepage: <http://noaasis.noaa.gov/NOAASIS/ml/jpss-fts.html>



# IT Security Status

- **JPSS Director issued a letter signed December 5, 2016 establishing Minimum Essential Criteria (MEC)**
  - ✓ Requires JPSS systems maintain ATO
- **3 Year ATO achieved on 7/10/2017 with the following conditions to be met prior to JPSS-1 launch:**
  - System's inventory deficiencies must be resolved
  - Block 2.0 scans must show 95% scan-to-inventory ratio and based on those results the Critical and High-severity vulnerabilities must be resolved
  - Remediate any penetration test findings from the FY2017 External JPSS Penetration Test
  - Ensure all applicable devices contain current McAfee antivirus and spam definitions
  - Configure the Tripwire monitoring tool on all applicable Windows Server 2008 R2 and Linux devices
  - Ensure an independent internal penetration test is conducted





# Path Forward

- **Path to JPSS-1 Launch**
  - Complete and deploy C3S Build AE.2.5 to all strings
  - Manage Launch Freezes
    - Soft Freeze begins 8/24/17
    - Hard Freeze begins 9/23/17
  - Successfully complete JPSS-1 Operations Readiness Review 9/6-8/17
  - Execute remaining Mission Rehearsals and Operations Readiness Exercises
- **Decommission Block 1.2 after Block 2.0 fully proven in operations**
- **Resolve non-MEC issues through maintenance releases post-launch**
- **Develop Blocks 2.2 and 3.0 in preparation for JPSS-2**