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# ***SN Status – USS-CR***

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**GSFC Code 452**



# Agenda



- Purpose of the Project
- Background and USS CR Context within the SN
- Accomplishments to Date
- Status of the Test Program
- Plans/Schedule



## *Purpose of the USS-CR*



- **Obsolescence mitigation:** extend functional life of the WSC ground terminals until the SGSS IOC.
  - Replacement of Single Access S-band and Ku-band frequency converters and modems with new subsystems.
  - Liberate an additional two SGLTs worth of spares for use at WSC. Augments spares freed-up by MA/IRS.
  - Allows legacy systems to operate reliably beyond 2013.
- **Deliverables - WSGT SGLT 4 and 5 Upgrade including:**
  - SSA and KSA modems and PTE
  - S-band and Ku-band frequency converters
  - Auxiliary IF and baseband switching,
  - Control & Monitor System (CMS) (LAN, M&C for new equipment, legacy ADPE software changes)



# USS-CR Service Support Overview



- **No changes to scheduling process**
- **No changes to sequence of events for service support**
- **No change to overall command and control logic and timing**
- **No software changes to NCCDS**
- **New equipment and M&C interfaces**
  - SA ADPE HW and SW changes to support new IP based M&C interface between MCS and SA ADPE and new commands/reports for new GCE
  - TOCC display changes reflect new USS-CR installation and networking
- **Unchanged USS service monitoring process:**
  - No interface changes between TOCC/EXEC/TTC and USS
  - GCMRs and other real-time controls are processed the same way as before
  - ODM and TDM data sent to EXEC ADPE
- **Differences:**
  - Status and performance data from new GCEs is collected by the MCS
  - ADPE collects GCE status reports from multiple sources (SSC and MCS)



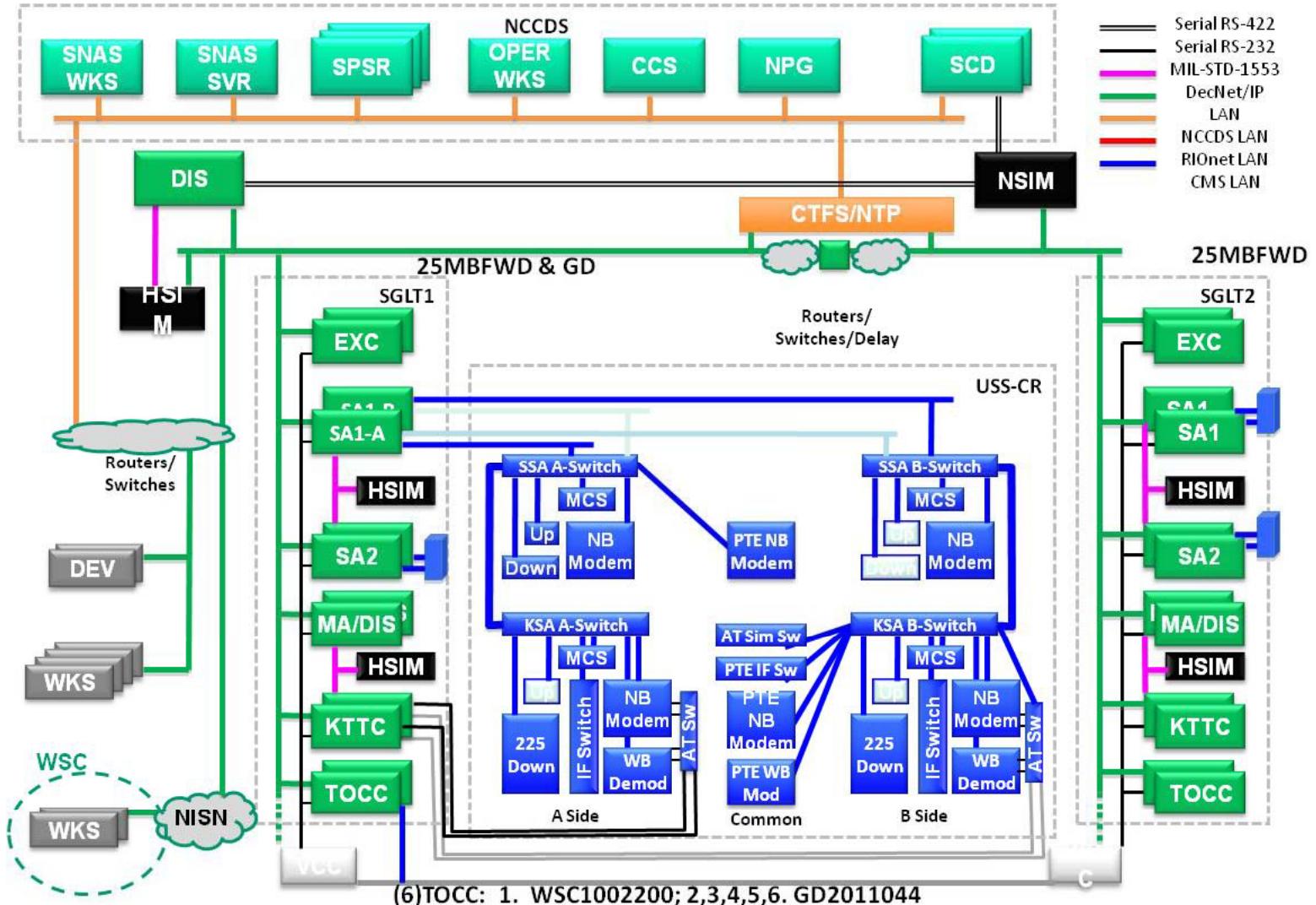
# *USS CR Project Accomplishments / Status*



- Successful CDR conducted 4/21-22/11
- All NB and WB modems and PTE successfully completed FAT at RT Logic and delivered to project
- All switches successfully completed FAT and delivered to project
- Up- and Down-converters successfully passed FAT at Miteq
  - Equalizer FAT conducted last week (Sept 2012)
- Hardware Level 3 tests complete June 2012 (waveguide eq. not needed)
  
- ADPE software mods complete and delivered to WSC for code analysis/review – code changes checked in at WSC SMTF Aug 2012
- Monitor and Control Software testing – 100 of 112 hardware commands verified, all ~2,300 status parameters verified
  
- Level 4 System Test dry runs in DTTF commenced Aug 2012



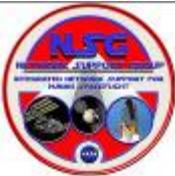
# DTTF Block Diagram





# **WSC To-be Install**



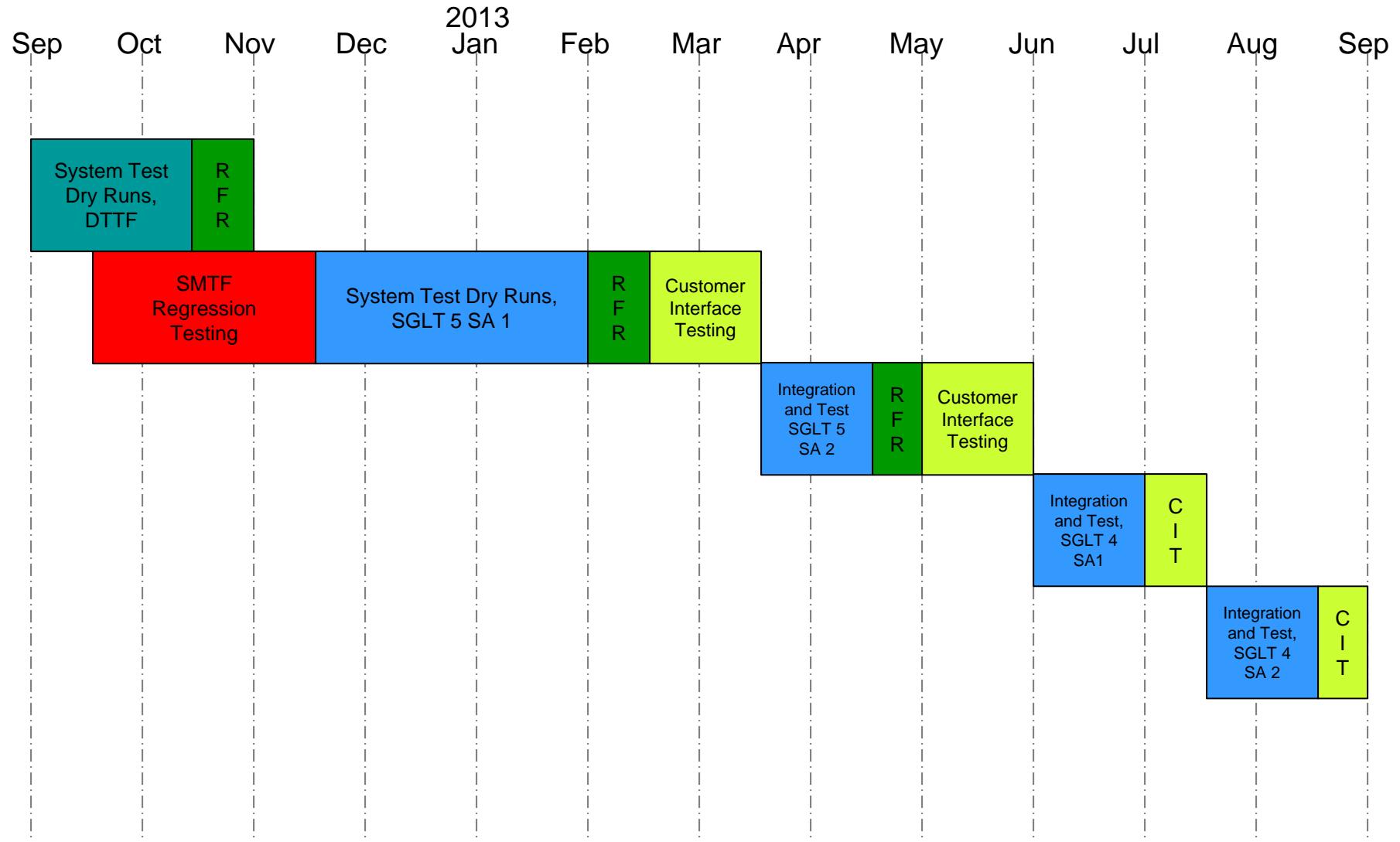


## **WSC To-be Install (cont'd)**





# USS CR High Level System Test Schedule





## ***SN – USS CR Splinter Group***

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- **Questions**
- **Action Items**