



Networks/Security

GS SDR Section 10

Ross Cox
Ground System Engineer



Outline



▶ **Networks**

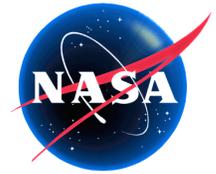
- *Ground Comm Requirements Summary*
- *WAN Architecture*
- *Implementation Status*
- *Documents*
- *Schedule*
- *Open Items*



Ground Comm Requirements Summary



- ▶ **From ground system perspective, the Network shall**
 - *Be 99.98% Reliable and Available mission critical circuits*
 - *Be NPG 2810.1 Compliant*
 - *Currently at 2810.1, but we are aware of impending revisions*
 - *Provide Voice Comm between elements during Launch and Mission Phases*
 - *Combination of SCAMAs, CCLs and black phones as needed*
 - *Transmit observatory data from the GS to the MOC within 3 hours*
 - *Transmit Burst Alerts from WSC to MOC within 0.5 seconds, for 80% of the bursts*
- ▶ **There are no GLAST Ground Comm requirements that require new technology**



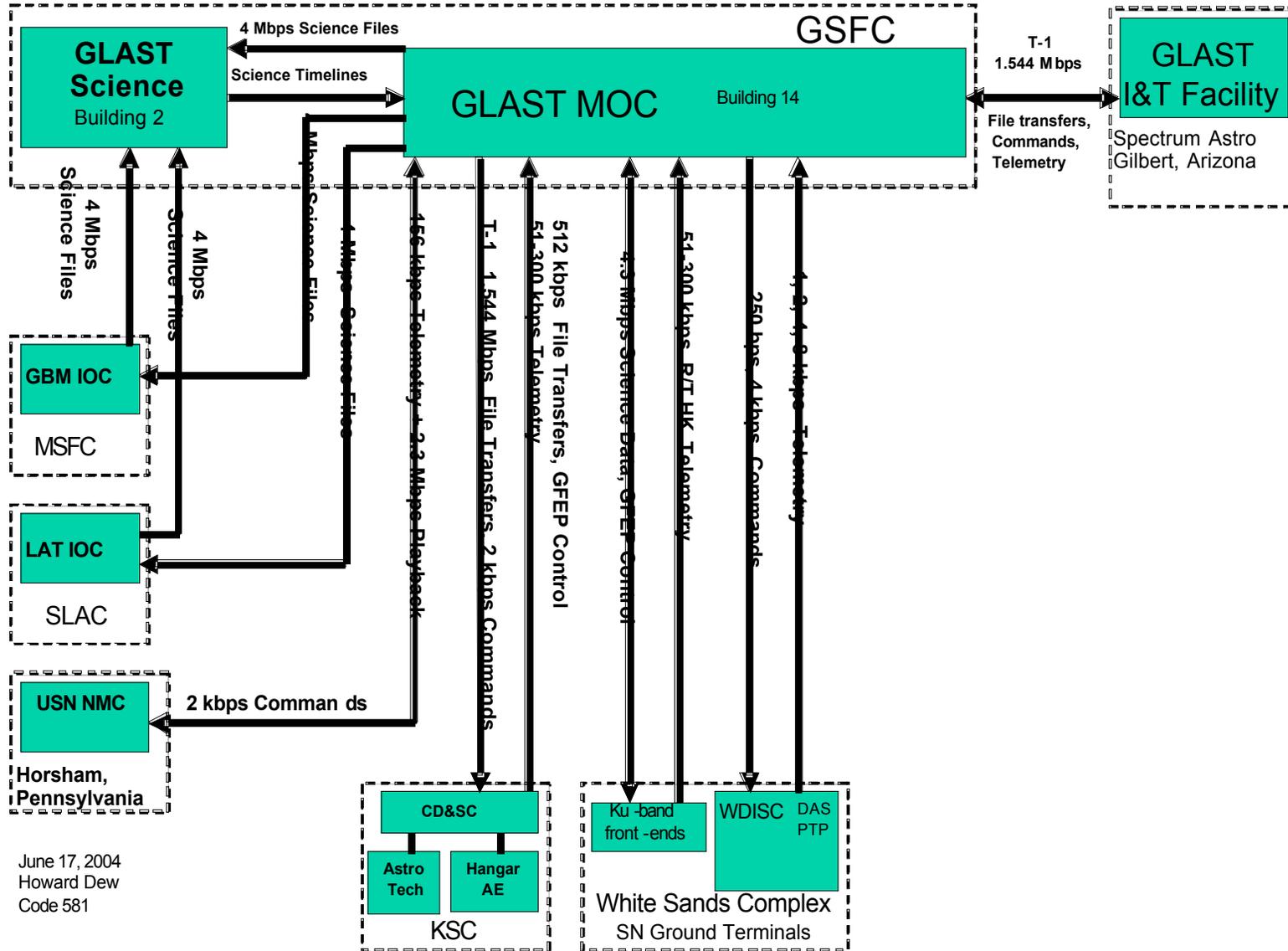
Network Utilization

- ▶ **Closed IONet**
 - *Real Time Mission Critical Services*
 - *1 minute to Restore*
- ▶ **Restricted IONet**
 - *Mission Critical Services*
 - *4 Hours to Restore*
- ▶ **Open Internet/CNE**
 - *Non-Real Time and Non-Critical Services*
 - *Best Effort to Restore*

- ▶ **Firewalls between all less secure networks**



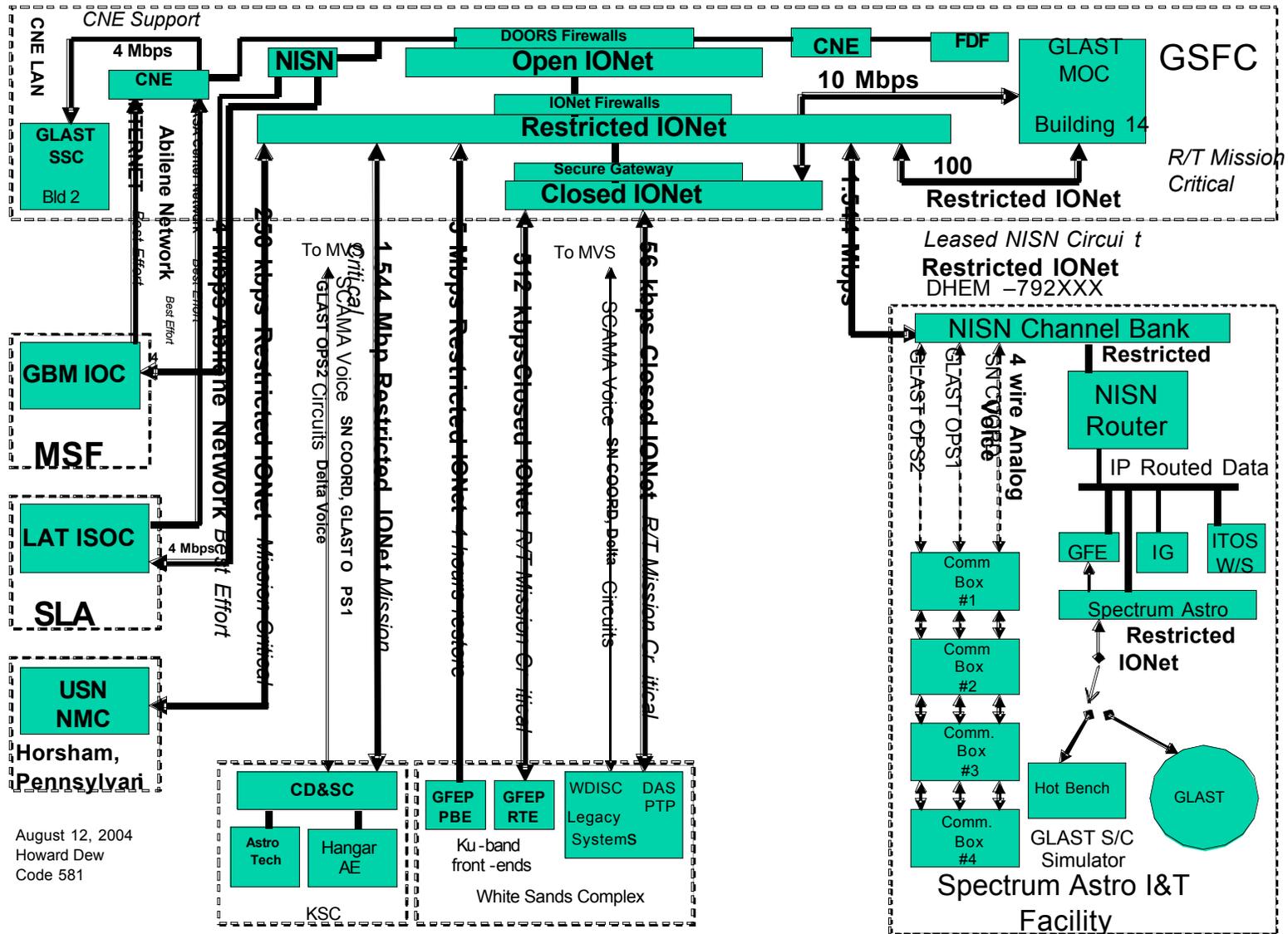
Network Data Flow



June 17, 2004
Howard Dew
Code 581



GLAST WAN / LAN Architecture

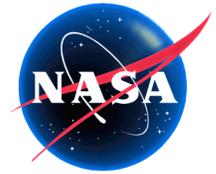


August 12, 2004
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Code 581



Implementation Status

- ▶ **Majority of Networks rely on existing infrastructure**
 - *Need circuit to SAI*
- ▶ **Customer Service Request to be issued by 8/20 to Code 291**
 - *Adequate time to achieve connectivity by need dates*
 - *MOC connectivity to WSC by 1/31/05*
 - *All other connectivity by 3/31/05*



Documents

▶ **Requirements in GSRD**

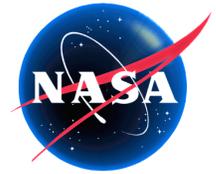
- *10 System Functional requirements applicable to networks*
- *14 GCOM requirements*
- *GSRD controlled by Project CCB*

▶ **PSLA**

- *Drafted with Code 451 (L. Ambrose)*
- *Reviewed by Systems Group*

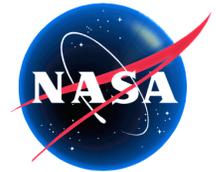
▶ **Security Documents**

- *No networks will be connected until security documentation is complete and accepted.*



Open Items

- ▶ **Protocols allowed through IONet Firewalls are unresolved**
 - *Impacts finalization of MOC Network Design*
- ▶ **Connection of Restricted IONet to SAI Corporate LAN**
 - *Assess need for Firewall*
- ▶ **Assess need for connectivity to second USN NMC in Newport Beach, CA**

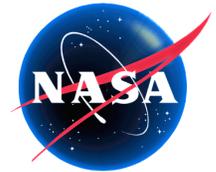


Security

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Outline

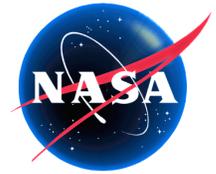


▶ Security

- *Overview of GLAST Security*
- *Schedule*
- *Open Items*



Security Overview



- ▶ *GLAST Project Security Manager - Howard Dew*
- ▶ *NASA Policy and Regulation, NPR 2810.1, Security of Information Technology*
 - *Required for all NASA IT resources and personnel*
 - *Implementation Requirements*
 - *Risk Assessment, Security Plan, Contingency/Recovery Plan*
 - *Rules of Behavior*
 - *Personnel Screening*
 - *Security Administrators Assignment*
 - *IONet Checklists*
 - *Authorization to Process and Accreditation*
 - *IT Security Training*
 - *Foreign National Access Policy*
- ▶ *GLAST Project will implement 2810.1 Compliance*
- ▶ *GSFC Code 297 will audit for 2810.1 Compliance*



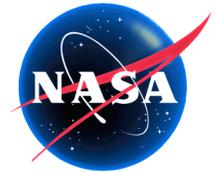
Schedule



- ▶ **Security Plan - 9/10/04**
- ▶ **Risk Assessment - 9/30/04**
- ▶ **Contingency/Recovery Plan - 11/30/04**
- ▶ **Checklist - 12/31/04**
- ▶ **Authorization to Process - 1/15/05**
- ▶ **MOC/WSC Connectivity -1/31/05**
- ▶ **Remaining Connectivity -3/31/05**



Open Items



▶ *Open Items*

- *Changes to 2810.1*
- *Process to Accreditation*
- *Name Security Admins for each remote facilities*
 - *GSSC*
 - *GIOC*
 - *LISOC*
 - *MOC*
 - *SAI I&T facility*
 - *KSC*