

ISS 5A.1 Network Interfaces (Ku-Band Services)

- **ISS 50 Mbps Return**
- **ISS Line Outage Recorder**
- **ISS 3 Mbps Forward**

ISS 50 Mbps Return

ISS 50 Mbps Circuit Source Select at WSC



- **The installation of the ISS 50 Mbps circuit from the WSC ground terminals to the GE Earth station was completed Nov 2000. Interface required a Circuit Source Select capability**
- **Implementation in Two Steps to get to Current Configuration**
 - **Step 1: GEAM Remote Control**
 - » **GEAM dial-up capability to a switch**
 - » **NCC System Interface for bulk schedules to Woodbine**
 - » **Real-time updates (add/delete/emergency) provided electronically and verbally**
 - **Step 2: Automated Switch Capability**
 - » **WSC “OR” Gate Implementation at the STGT Common Carrier interface**
 - » **All data from both WSGT and STGT flow through STGT (WSGT via the IFL to STGT) to the GEAM Common Carrier**
 - » **No manual intervention required when switching support between WSC ground terminals**
- **Additional WSC software modification for the Final Configuration**
 - **Current configuration does not provide insight to WSC “OR” Gate system status**
 - **Software modification requires time**

ISS Line Outage Recording

- **LOR system needed at WSC to record ISS 50 Mbps data. Interface configured through the WSC LI which is not typically configured for recording**
 - No simultaneous real-time and playback at WSC
- **NASA (GSFC) arranged for the use of existing recorders (McMurdo) and WSC Engineering developed plan and implementation strategy**
 - Sony DIR1000M recorders configured to record ISS with capability to configure for McMurdo if required
 - Both recorders located at STGT (prime/backup) using the IFL to interface between ground terminals
- **CSOC Engineering arranged for initial recorder setup, training, and a maintenance agreement with UMS/MSFC**

ISS 3 Mbps Forward

- **The ISS 3 Mbps Forward link interface between JSC and WSC was in question due to buffer overflow problems with the Network Link Interface Card (NLIC)**
- **Comparison of NLIC/PTP/SCD**
 - **NLIC:**
 - » **Initial checkout of the WSC 3 Mbps NLIC interface in Nov/Dec 1998 confirmed NLIC buffer overflow issues requiring NLIC re-engineering. For MEIT testing, a PTP configuration was used as a short-term solution.**
 - » **After NLIC re-engineering and test, formal notice on PTP interface for Ops**
 - » **Additional local testing with the NLIC configured at WSC to confirm performance**
 - **PTP: PTP performance determined better than the NLIC but still not within spec**
 - **SCD 5.0 (modified PTP): Increased performance over the PTP but still not meeting spec**
- **Final Configuration - SCD 5.0 (modified PTP)**
 - **Redundant SCD 5.0 for the operations configuration at both ground terminals**