



MILA Critical Path Audit

Cheryl Dry

Agenda

- **Overview**
- **Diagrams**
- **Comm Path Issues**
- **Unresolved Items**
- **Conclusion**

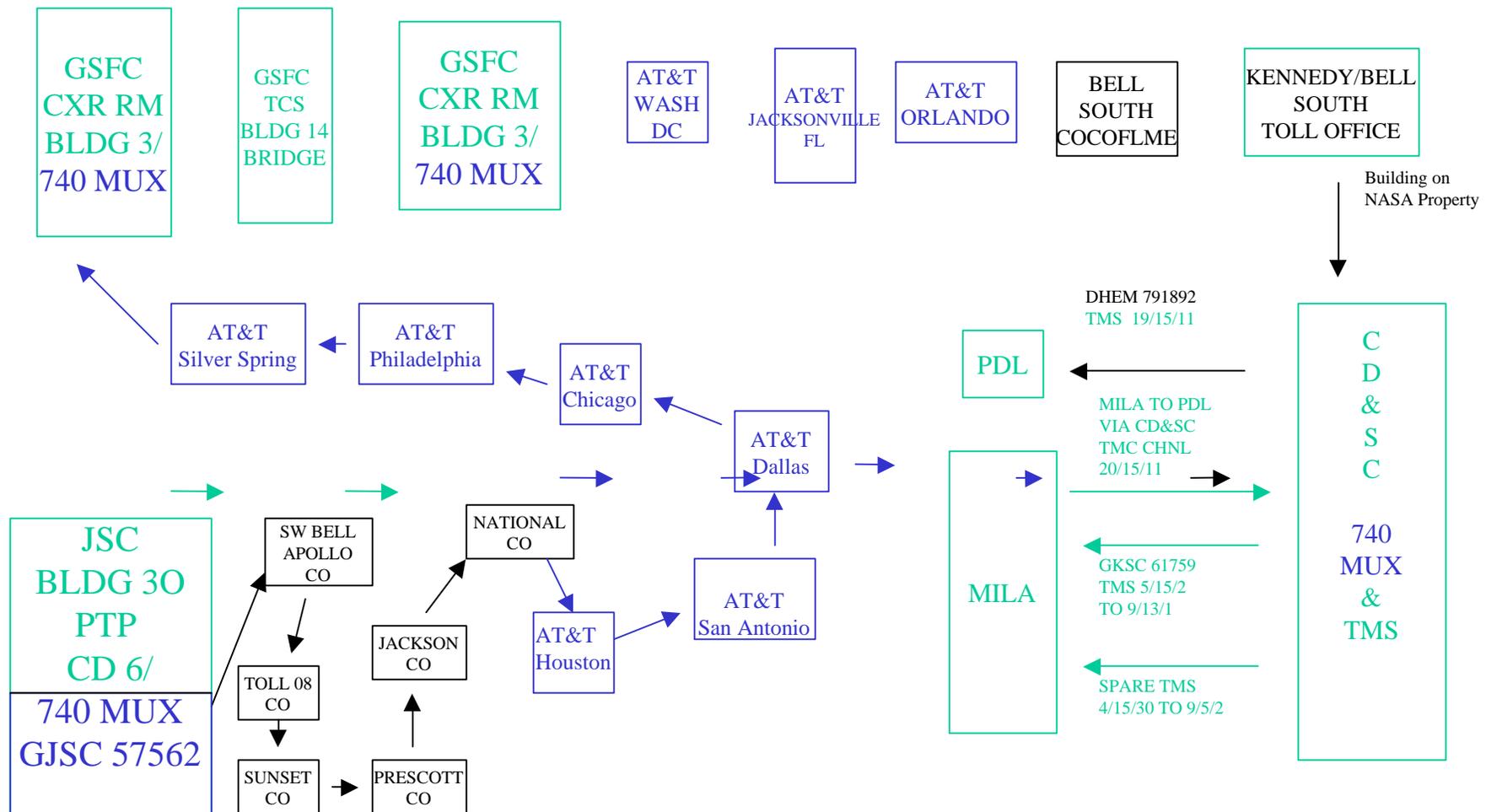
Overview

- **Why an Audit?**
 - Problems on the Command thruput interface during the TCDT for STS- 101
 - Follow-on missions also encountered various problems with Command thruput circuitry
 - Conducted Audit on the communications path from JSC thru GSFC and KSC on to MILA/PDL
- **Results**
 - Problems identified and recommendations provided
 - Issue resolutions in process
 - Several issues remain questionable



MILA Critical Path Audit

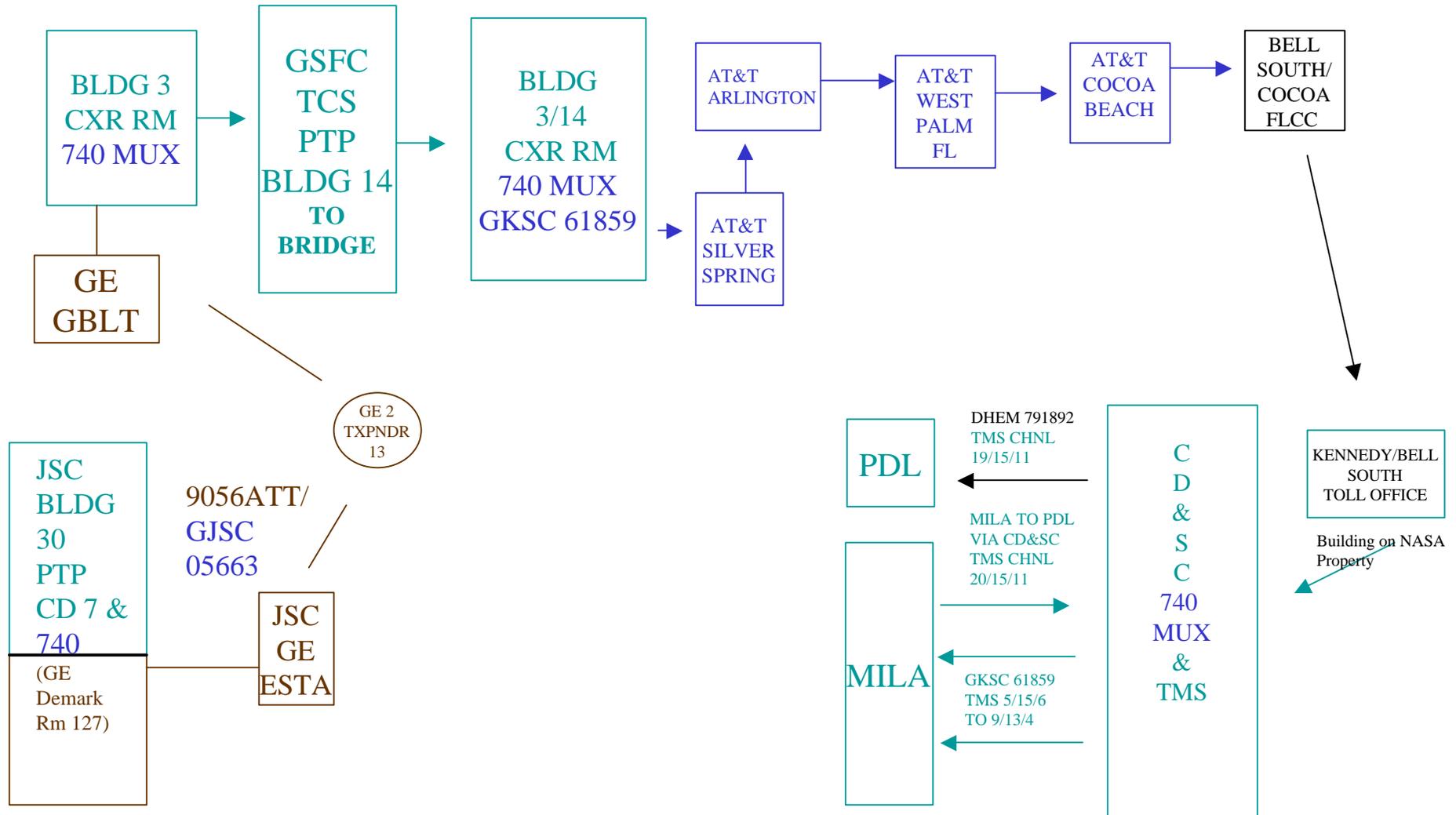
72kb PRIME STS CMD Prime Path



MILA Critical Path Audit



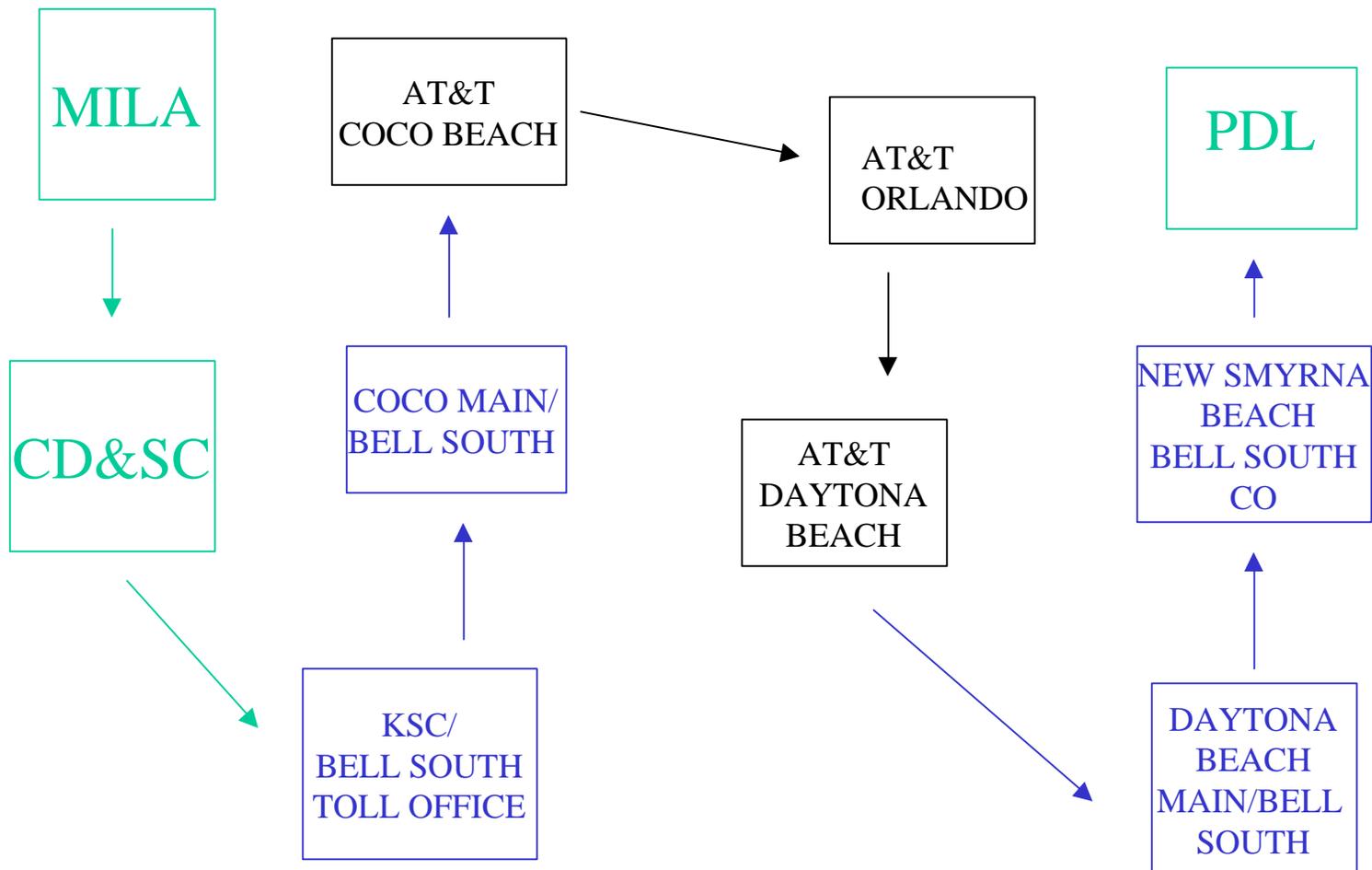
72kb Back up CMD



MILA Critical Path Audit



MILA/PDL DHEM 791892



Comm Path Issues

- **Types of Problems Encountered and Recommended Solutions**
 - **Configurations:** Issues such as incorrect system configurations
 - **Sparing:** Issues such as single point of failure and lack of spare interfaces
 - **Diversification:** Issues such as local carrier facilities and availability of bandwidth were identified.
- **Examples and Recommended Solutions**
 - **Configurations Example:**
 - » **Issue** - During the STS-101 TCDT problems were experienced on the Prime and Back up CMD interfaces. The Prime T-1 was affected by circuit outages in the JSC area. JSC went to the Back up CMD interface and experienced errors there too. The problem on the Back up was found to be with the card in the TMS, it was not strapped correctly. The card options were changed on the Back up, this restored that interface. Problems resolved on Prime when circuits were restored.
 - » **Recommended Resolution:** A spare interface between CD&SC and MILA was identified.

Comm Path Issues

– Sparing Example:

- » **Issue** - A failure of a local line at GSFC between the Carrier Room in Bldg 3 and GSFC Tech Control in Bldg 14. This is the configuration from the 740's to the CD's and back to the 740's for the actual 72kb CMDS.
- » **Recommended Solution:** Installation of spare lines between Tech Control and the Carrier Room

– Diversification Example:

- » **Issue** - What kind of diversity does AT&T have with the local carriers Bell South and Southwest Bell on their facilities? Not able to confirm if Bell South has any type of plan.
- » **Recommended Solution:** Southwest Bell has confirmed if they should have a total facility failure they would bring in vans fitted with carrier equipment and manually configure around the facility. This would take time, a few days.
- » Ensure all local carriers have a plan for a facility failure.

Unresolved Items

- **Spare PDL TMS interface/card for CMDs**
- **Separation of Prime and B/U T-1's between KSC and CD&SC**
- **MILA/PDL T-1 diversity issue**

Conclusion

- **Issues and Recommended Solutions were identified and compiled/documentated**
- **The baseline report was completed 12/5/2000 and sent to the Network Director,**
- **Subsequent distribution to NASA and CSOC personnel was made after the MILA/PDL**
- **Station Audit that was conducted the week of April 2**
- **The report is being updated as items are resolved, latest update to report 5/02/2001.**