

A photograph of the Space Shuttle Columbia in orbit above Earth's cloud-covered surface. The shuttle is oriented vertically, with its nose pointing upwards. The orbiter is attached to the external tank and solid rocket boosters. The text is overlaid on the image.

**McIDAS at Johnson Space Center
– a 25-Year Evolution**

or

**How We Rebuilt the Engine While
Driving 60mph**

McIDAS History at JSC

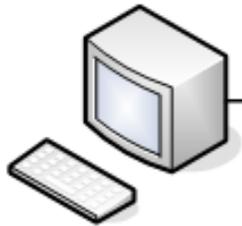
- 1984 – Site survey for JSC MIDDS by UW SSEC
- 1985 – remote McIDAS workstation at JSC to CCAFS
- 1986 – Challenger accident (Rogers Commission recommends increased weather support)
- 1987 – Installation of JSC MIDDS – development of custom applications for Shuttle operations on McIDAS foundation
- 1988 – STS-26 Return to Flight – first operational release of JSC MIDDS (two weeks before launch!)
- 1995 – First Evolution – rehost from IBM 4381 mainframe to distributed HPUX workstations
- 2007 – Second Evolution – rehost from HPUX to RedHat Linux on HP ‘PC’
- 2011 – End of the Shuttle Era – JSC MIDDS?
- 2013 – NEXT Evolution – RHEL 6 and a new network architecture

Spaceflight Meteorology Group – the EARLY Years



McIDAS Emerges at JSC (circa 1985)

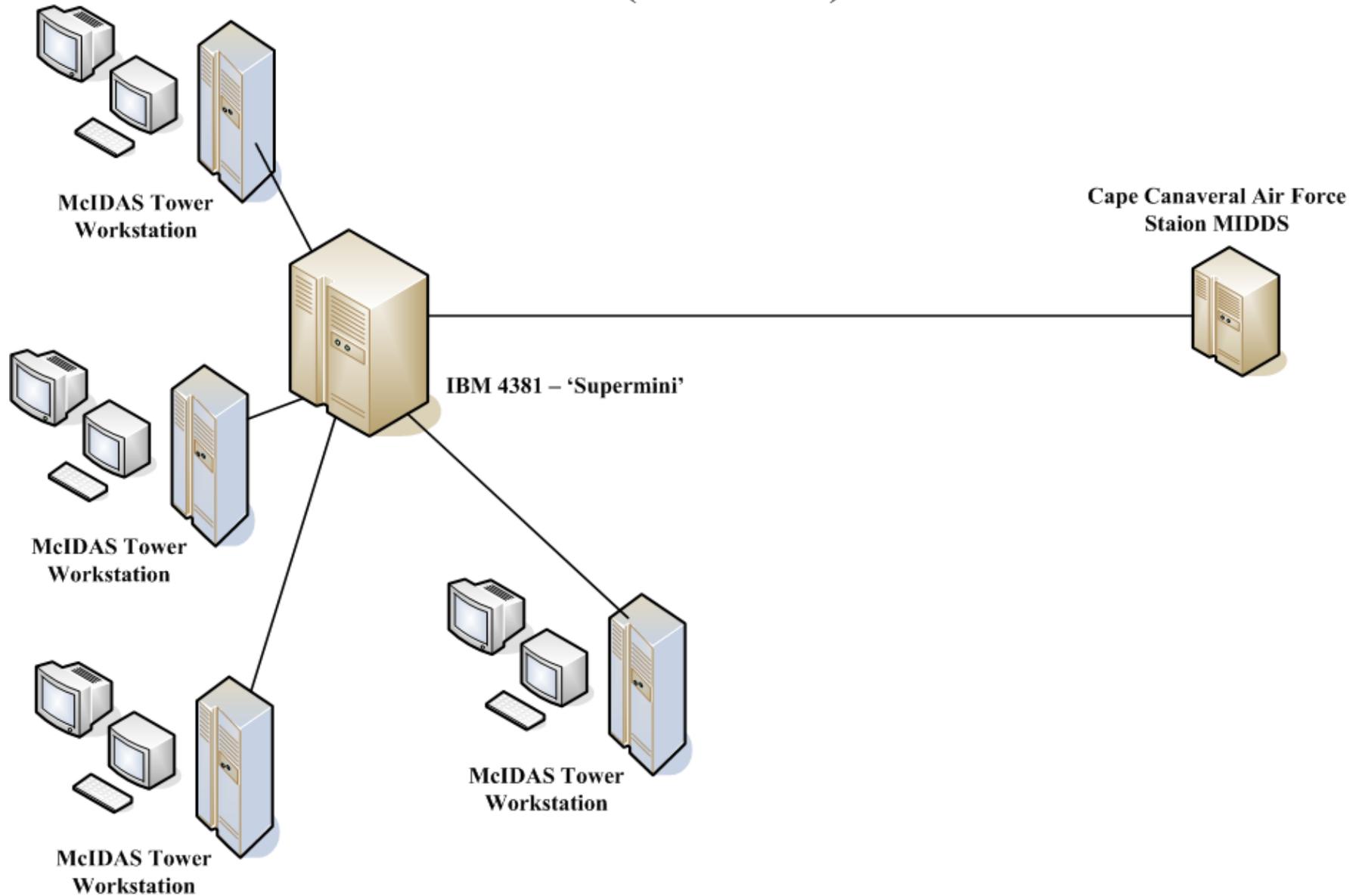
McIDAS Terminal at JSC



**Cape Canaveral Air Force
Station MIDDS**



McIDAS Emerges at JSC - MIDDS (circa 1987)



McIDAS Emerges at JSC



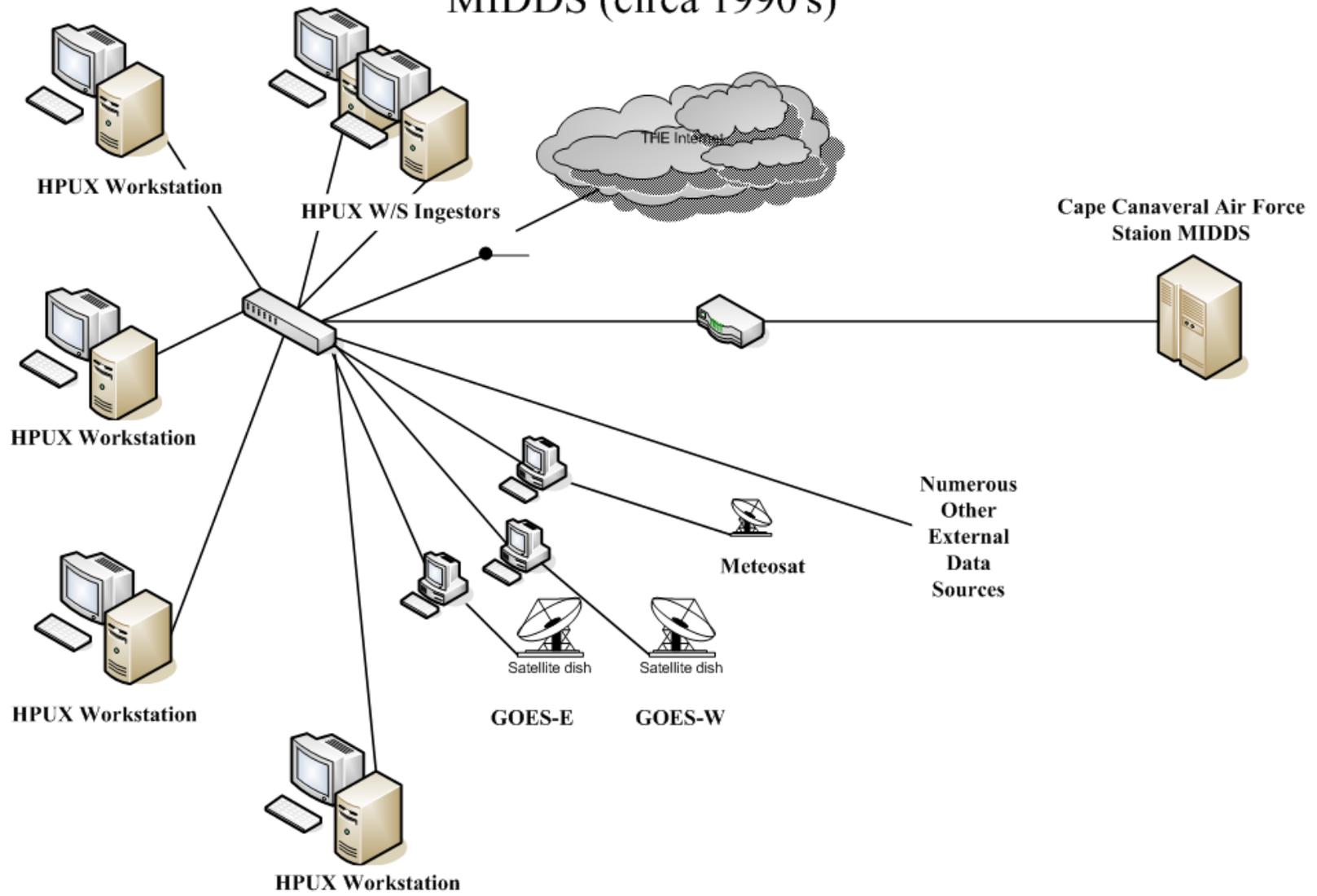
Spaceflight Meteorology Group – the early 90's



New '96-'97



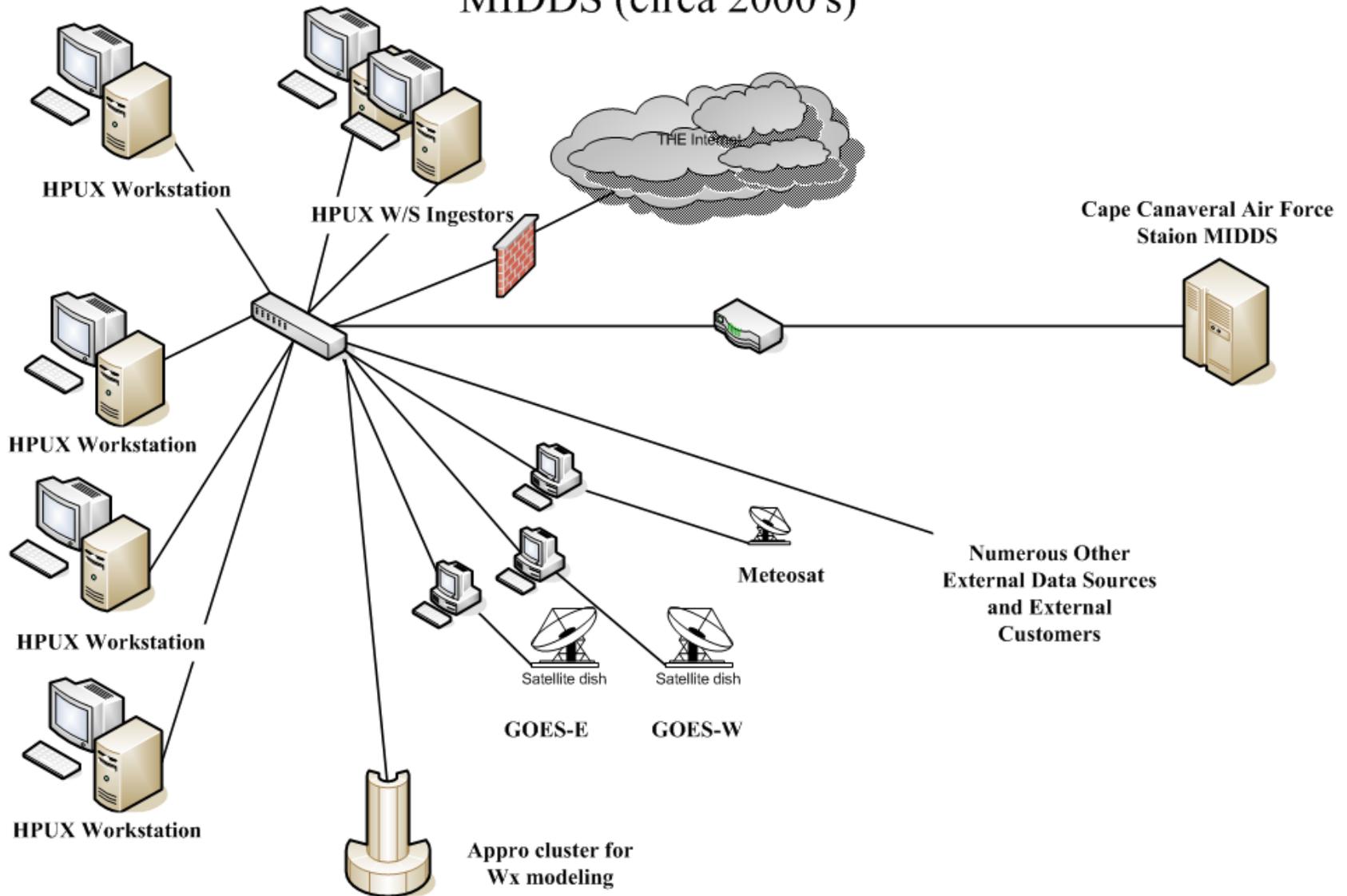
McIDAS at JSC - MIDDS (circa 1990's)



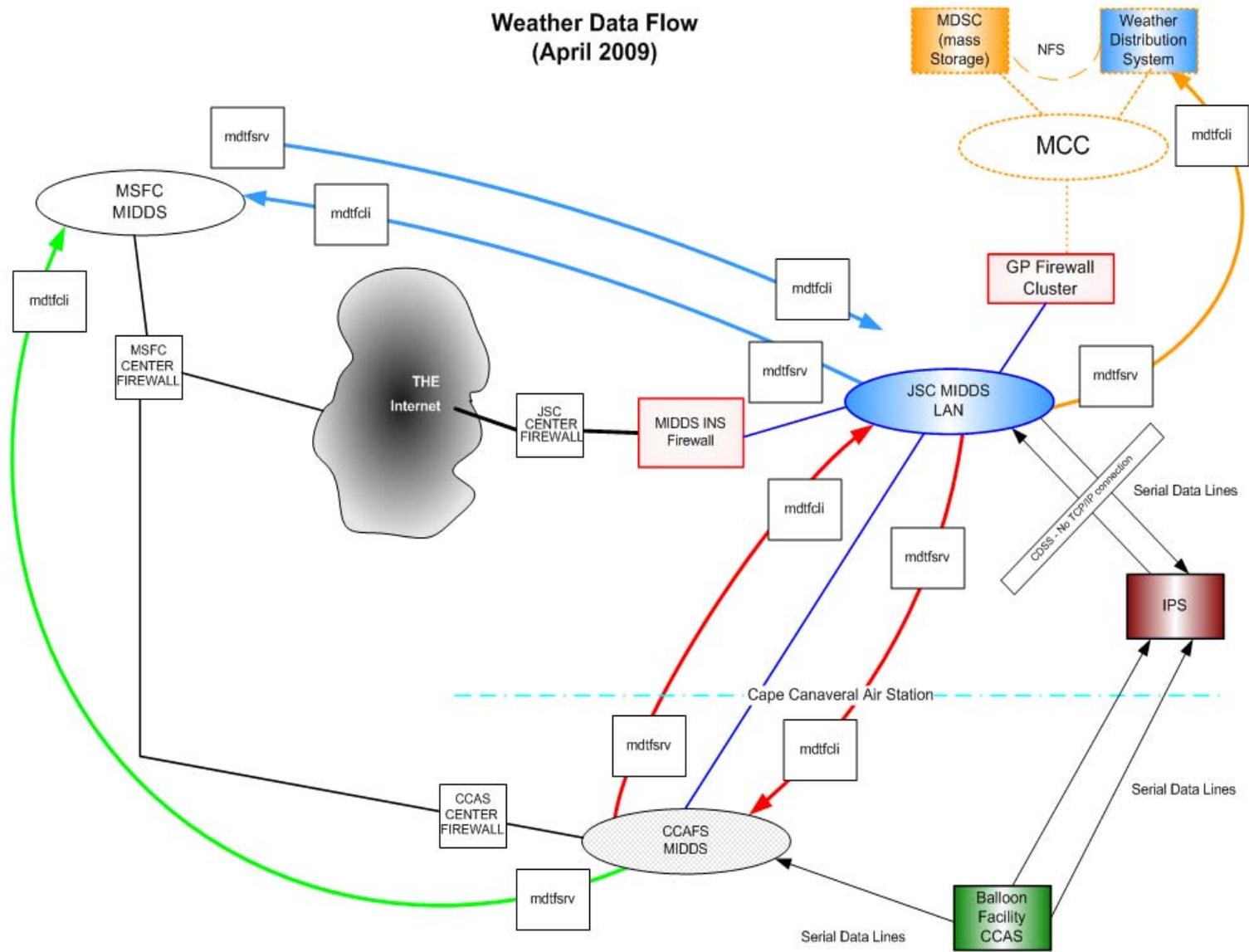
The HPUX Years



McIDAS at JSC - MIDDS (circa 2000's)



Weather Data Flow (April 2009)



The Linux Era



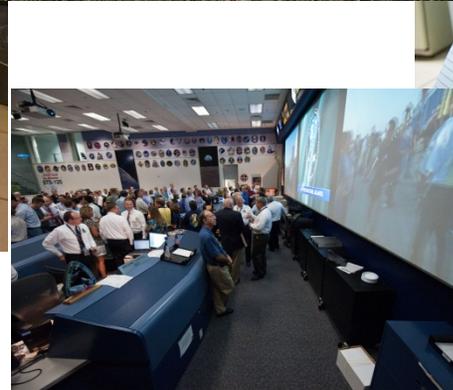
McIDAS at JSC – Why It Was So Important



McIDAS at JSC – What did we accomplish?

- Supported 109 Space Shuttle missions with 100% availability
- Supported numerous Soyuz landings from ISS and other NASA programs as requested (MSFC GRIP, UAV lightning, Dryden flight tests, etc)
- Two major ‘evolutions’ – IBM mainframe to distributed HPUX-based network, HPUX to Linux
 - Evolved while maintaining continuous flight support – “rebuilding the engine while driving 60 mph” (and sometimes *much* faster)
- *MANY* McIDAS updates – including evolution to McIDAS-X and –XCD
- Supplied McIDAS custom code to all three NASA centers

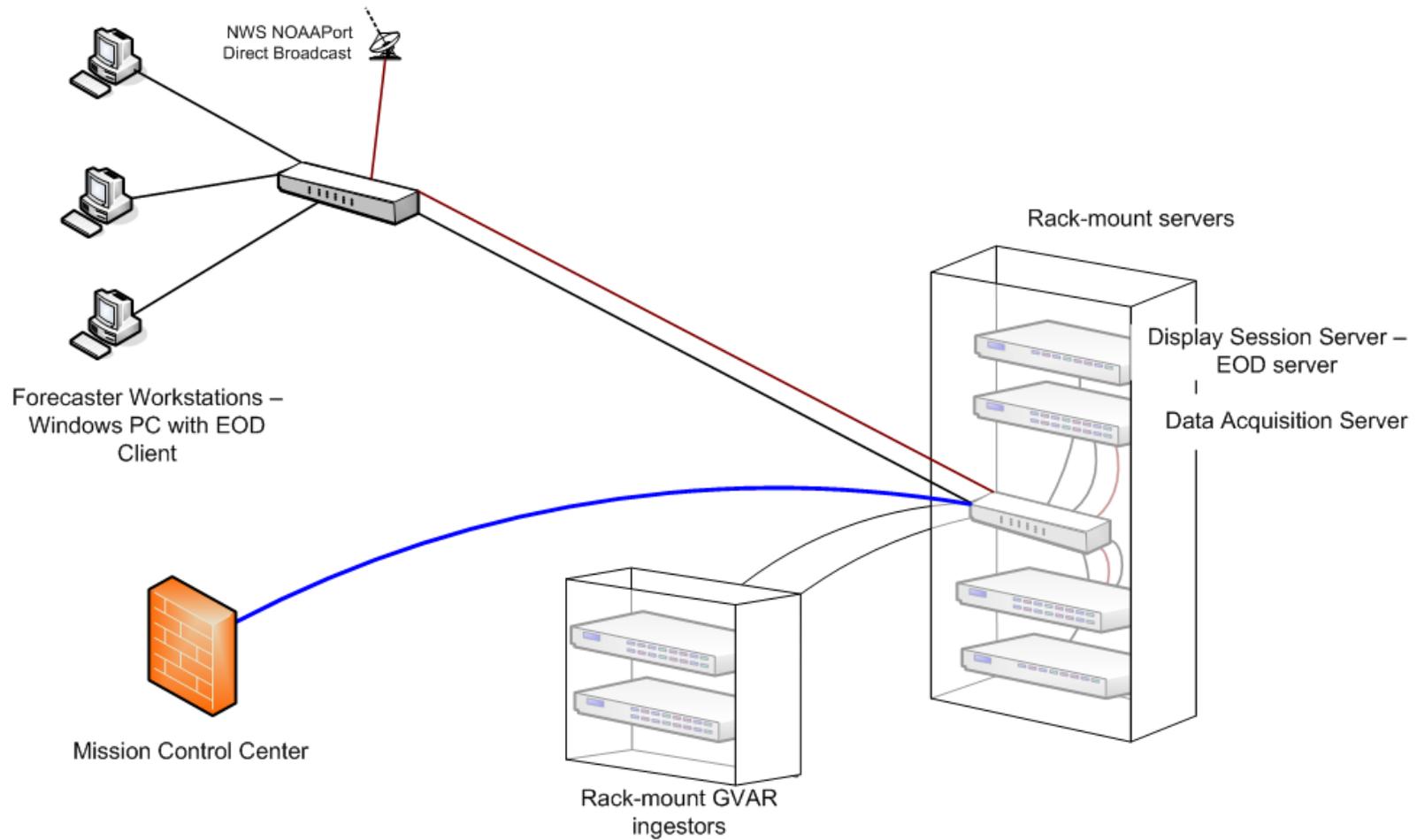
The End of an ERA



McIDAS at JSC – What's Next?

- MIDDS into the next generation control center – the MCC21 Project
- EFT-1/EM-1 support
- Commercial Crew support
- Continued support to MSFC and CCAFS MIDDS

JSC MIDDS in the 21st Century Control Center



A photograph of the International Space Station (ISS) in orbit above Earth. The station's complex structure, including its large solar panel arrays, is clearly visible against the blue and white of the planet. The text is overlaid on the center of the image.

Last, but not least !
Our thanks to SSEC.
Without your support the engine
would have dropped out a long
time ago...