SDI and Satellite Status
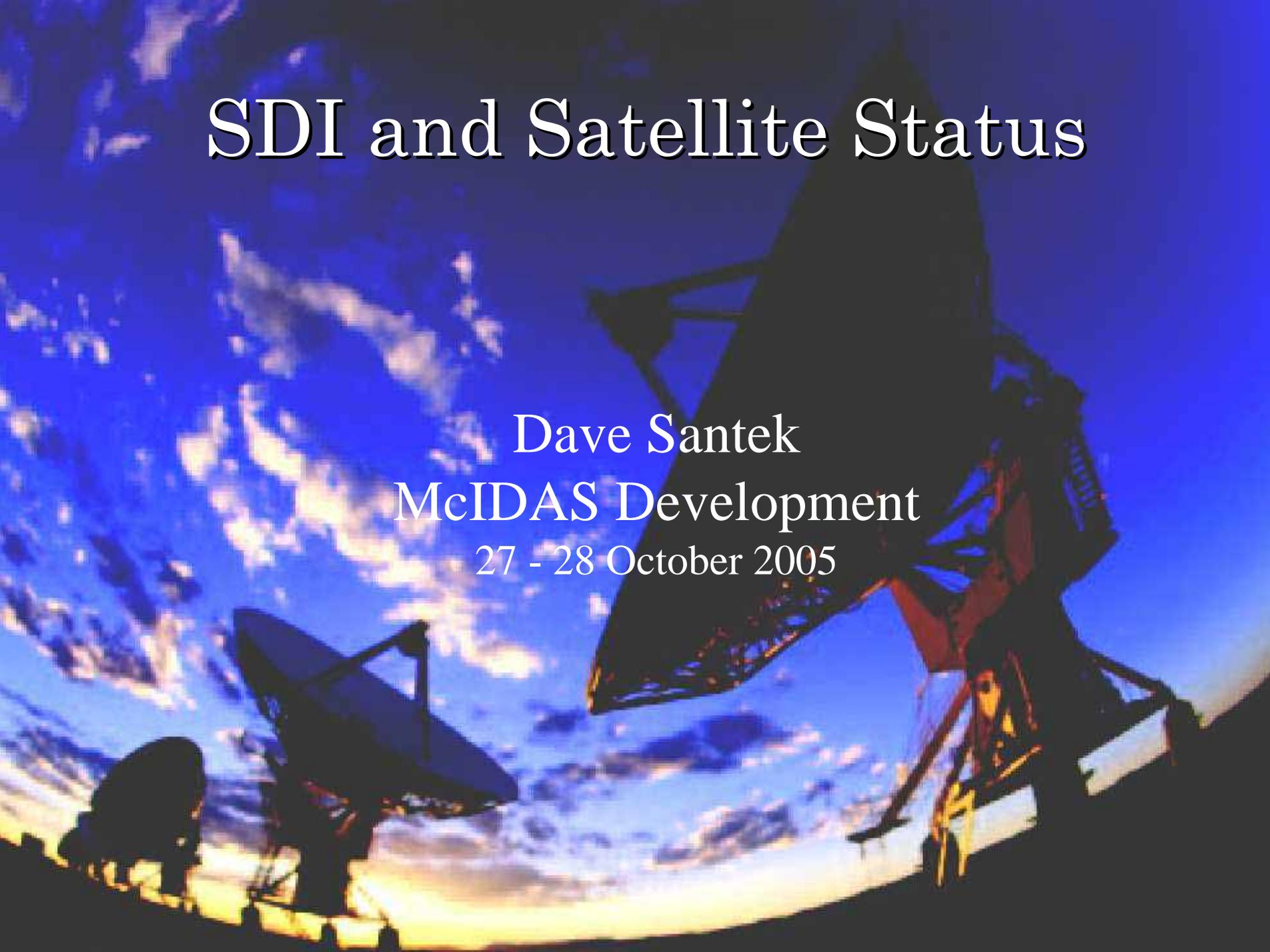
Dave Santek

McIDAS Development

27 - 28 October 2005

Overview

- SDI Redesign
- NOAAPORT Status
- Satellites and SDI Status

Why Redesign?

- Current configuration
  - Based 8 year-old technology
  - Compatible PCs are difficult to find
    - No 5v PCI slots on newer servers
  - Current GOES series will be here until at least 2012
  - Data rate limited to 15 Mbits/s; new satellites will have data rates twice that

Hardware Configuration

- PC/104-Plus
- 1 GHz CPU
- Boot from compact flash
- Ethernet: 10/100/1000 BaseT
- Connectors for monitor and keyboard
- Mounted in 2U rack box

LittleBoard 800

Software Configuration

- Linux
  - New device driver written
- Ingestor software modified slightly
- Server software is unchanged
- Configured as a standalone ingestor/server or data written to external disk

NOAAPORT

- DVB-S began in early 2005
  - SDI not used; ingests on standard PC
  - Interface to Novra receiver via Ethernet
  - Unidata-written code takes raw data stream $\rightarrow$ LDM $\rightarrow$ McIDAS-XCD
  - Instructions on configuring hardware and software:
    - http://www.ssec.wisc.edu/mcidas/software/xcd/dvb/

SDI Status for Current Satellites

- **GOES**: no change; adapting servers for future satellites
- **Meteosat-5 and –7**: no change
- **POES**: no change through NOAA-18
- **FY-1D**:
  - Polar orbiting satellite from China
  - Receiving at SSEC

SDI Status for Current Satellites

- DMSP: no change; this continues to be difficult to support without being able to receive the signal directly
- Meteosat-8: no SDI
- FY-2C: Chinese geostationary
  - No SDI; data available to McIDAS

MTSAT

- HiRID format (remapped)
  - 2 more bits for IR channels
  - Additional 3.7 µm channel
  - SDI upgrade needed for additional channel and bit resolution
- HRIT format (native)
  - Higher spatial resolution than HiRID
  - Work just beginning on ingestor and server

Future Polar Satellites

We are monitoring the status and data delivery of future polar orbiting satellites MetOp, NOAA-N', NPP, and NPOESS. We expect these to have a Direct Broadcast mode and are investigating having SDIs available.