



Distribution of WSR-88D Level II Data to Education and Research Communities

Meeting to discuss NWS Plans to Collect,
Distribute and Archive WSR-88D Level II Data

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Unidata

■ Mission Statement:

Provide data, tools, and community leadership for enhanced Earth-system education and research.

At the Unidata Program Center, we

- ❖ *Facilitate Data Access*
- ❖ *Provide Tools*
- ❖ *Support Faculty and Staff*
- ❖ *Build and Advocate for a Community*



Unidata as a Diverse Community

- About 150 sites are participating in Unidata Internet Data Distribution (IDD) system
 - ❖ 120 of those sites are in academia and the rest at government and research labs
 - ❖ Approximately 2 GB of data injected/hour *from distributed sources*
 - ❖ Unidata IDD/LDM uses more of the Internet2 than any other *advanced application*; Approx. 5 Terabytes of data transmitted each week. (Amount varies with weather)
 - ❖ By design, the system has no data center.



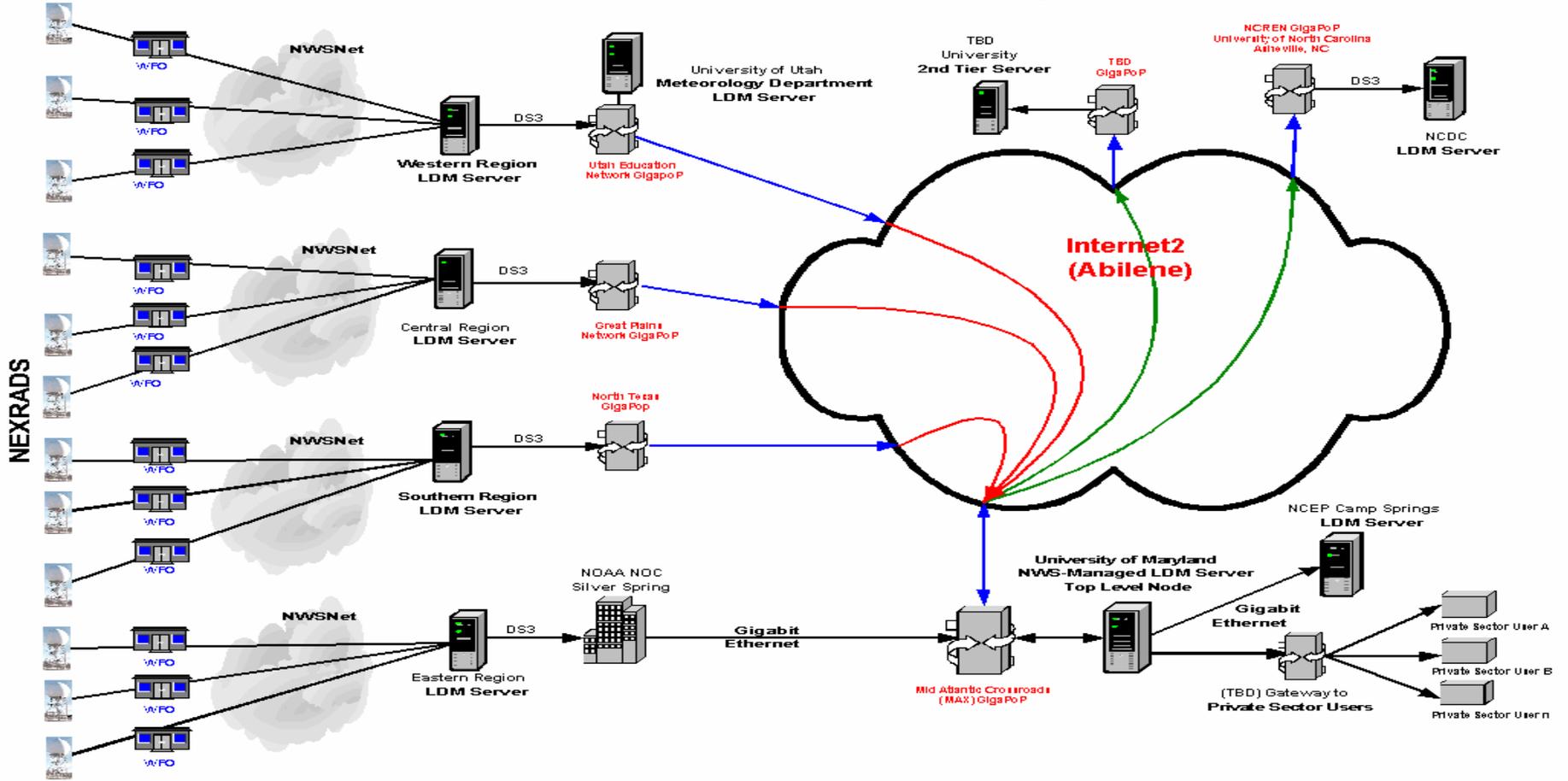
CONDUIT Experience

- ❖ CONDUIT - The Cooperative Opportunity for NCEP Data Using IDD Technology
- ❖ It is a USWRP Project
- ❖ Makes high-resolution model data sets, not currently available through NOAAPORT, to the USWRP and university communities;
- ❖ 16 sites are participating, using the Internet2-Abilene
- ❖ Present Data volume: ~25.4 GB/day (CONDUIT is our highest volume data stream in the IDD)
- ❖ Average delivery time : ~20 seconds to top-tier sites



Proposed WSR-88D Data Flow: NWS Plans

NEXRAD Level II Data Flow Diagram





Level II Data Distribution Plans

- ❖ Internet2-Abilene backbone will be used to distribute the data;
- ❖ Three or four top-tier LDM nodes will be placed strategically at universities on I2, close to Gigapops;
- ❖ Content may vary depending on data requests and demand;
- ❖ Topology will be flexible and will evolve as we gain more experience with the distribution system;
- ❖ No problems are anticipated with data volume since CONDUIT now distributes an order of magnitude more data;
- ❖ There should NOT be a problem distributing Level II data to research labs.



Candidates for Top-level Relay Nodes

- ❖ University of Illinois
- ❖ Iowa State University
- ❖ University of Oklahoma/CAPS
- ❖ NSF/ATM
- ❖ Plymouth State University
- ❖ UCAR/Unidata
- ❖ University of Utah
- ❖ University of Washington
- ❖ University of Wisconsin/SSEC



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CRAFT Participation

- ❖ 12 universities now receiving data from the 62 CRAFT radars
- ❖ Uses of the data include:
 - High resolution rainfall analysis in a GIS framework
 - Field project support (BAMEX)
 - Convective storms research
 - Data assimilation
- ❖ Several analysis tools are being used by the recipients, including IRAS and WATADS
- ❖ Unidata is extending the Integrated Data Viewer, an open-source, Java-based visualization tool, for use with Level II data.
- ❖ Also, modifications are being made to GEMPAK so that it can display the Level II data.