



Director's Report

Unidata Users Committee Meeting
7 October 2004

Mohan Ramamurthy
Unidata Program Center
UCAR Office of Programs
Boulder, CO

Outgoing Members

- ❖ Rotating off are
 - Michael Morgan, University of Wisconsin-Madison
 - Mark Laufersweiler, University of Oklahoma
- ❖ A big thank you to both of you for all your hard work, selfless contributions, and community service.



New Users Committee Members

- Gary Lackmann

Department of Marine, Earth, and
Atmospheric Sciences

North Carolina State University

- Kevin Knupp

Atmospheric Science Department
University of Alabama in Huntsville

Welcome and Thank you!

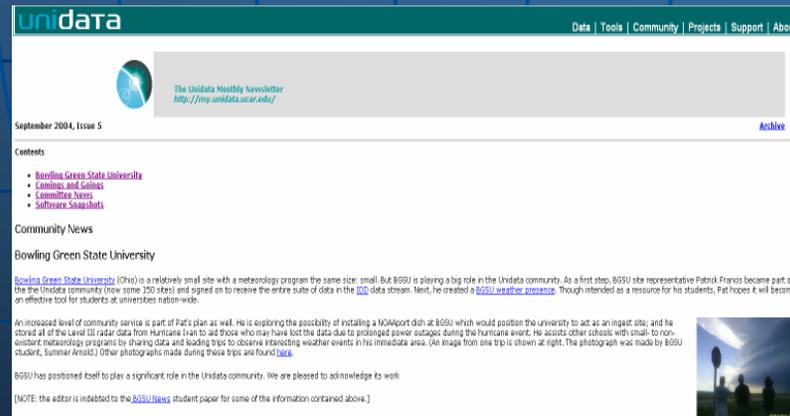


New Policy Committee Members

- Steve Businger
Department of Meteorology
University of Hawaii at Manoa
- James P. Koermer
Professor of Meteorology
Natural Science Department
Plymouth State University
- Paul Ruscher
Department of Meteorology
Florida State University

Monthly Newsletter

- Based on recommendations from the Users Committee, the UPC launched a new monthly newsletter in April to inform the community.
 - The newsletter is keeping the community informed on new activities, projects, and people within the Program Center and the community;
 - The newsletter is available at:
<http://my.unidata.ucar.edu/content/currentNL.htm>



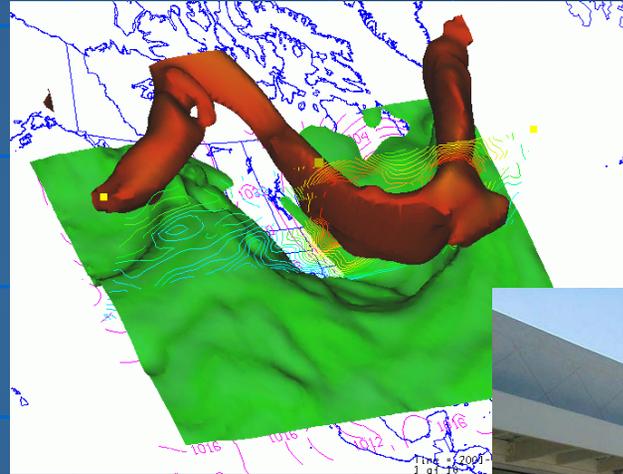
The screenshot shows the Unidata website interface for the monthly newsletter. The header includes the Unidata logo and navigation links: Data | Tools | Community | Projects | Support | About. Below the header, there is a section for "The Unidata Monthly Newsletter" with the URL <http://my.unidata.ucar.edu/>. The main content area is titled "September 2004, Issue 5" and includes a "Contents" section with links to "Bowling Green State University", "Comings and Goings", "Committee News", and "Software Snapshots". The "Community News" section features a sub-section for "Bowling Green State University" with a paragraph of text and a small image of a person looking up at a bright light in the sky. The text mentions a meteorology program at BGSU and a student's summer internship. A note at the bottom states that the editor is indebted to the BGSU student paper for some of the information contained above.



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Community Relations: Regional Workshop

- Unidata Users Committee helped in organizing a regional workshop on June 8-9 at Millersville University.
- The workshop was hosted by Rich Clark, former Users Committee chair.
- The purpose of the workshop:
 - to provide training in the use of Unidata's Integrated Data Viewer (IDV), and
 - to present use cases of IDV in the classroom.
 - 18 users participated in the workshop



Community Services

- UPC staff involved in the organization of special sessions at AGU, AMS and EGU sessions
 - AGU: A special focus session on *Cyberinfrastructure for Earth Systems Science*, December 13-17, 2004, San Francisco, CA
 - Conveners: Linda Miller, Ben Domenico, and others
 - 32 abstracts were received
 - EGU: *Earth Systems Science Data Access, Distribution and use for Education and Research*, Vienna, Austria, 24 - 29 April 2005
 - Conveners: Ellen Cutrim, Stefano Nativi, and Mohan Ramamurthy



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Equipment Awards

- For the second year in a row, Equipment Awards to the community were administered by the UPC;
- We received 10 proposals, totaling \$182,959 (\$242K with UCAR overhead);
- 5 proposals were funded;
 - University of Oklahoma
 - San Jose State University
 - Valparaiso State University
 - Central Michigan University
 - Universidade Federal Do Para Brazil



The program continues to make a difference in the community. For example, the City College of New York's EAS Department replaced seven aging computers in its Weather Station and Computer lab (bottom, right). The labs are an integral part of their curriculum.



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Improved Performance of Real-time Data Flows

- 225 machines in 129 network domains are running LDM-6 and reporting real time statistics.
- Due to the improved performance of the LDM, 59 hosts at 33 domains are now receiving CONDUIT data.
- 22 universities, 8 research labs, and 63 hosts in 43 unique domains are receiving WSR-88D Level II data for use in education and research.



Unidata's reach is now global.

There are IDD sites in South America, Europe, and Asia that receive real-time data via the IDD.

Volume of Data Moved by LDM each week via Internet 2 for the past year

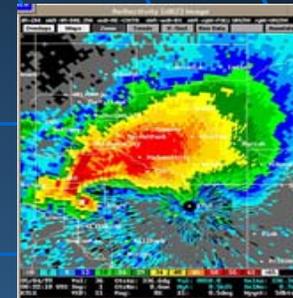
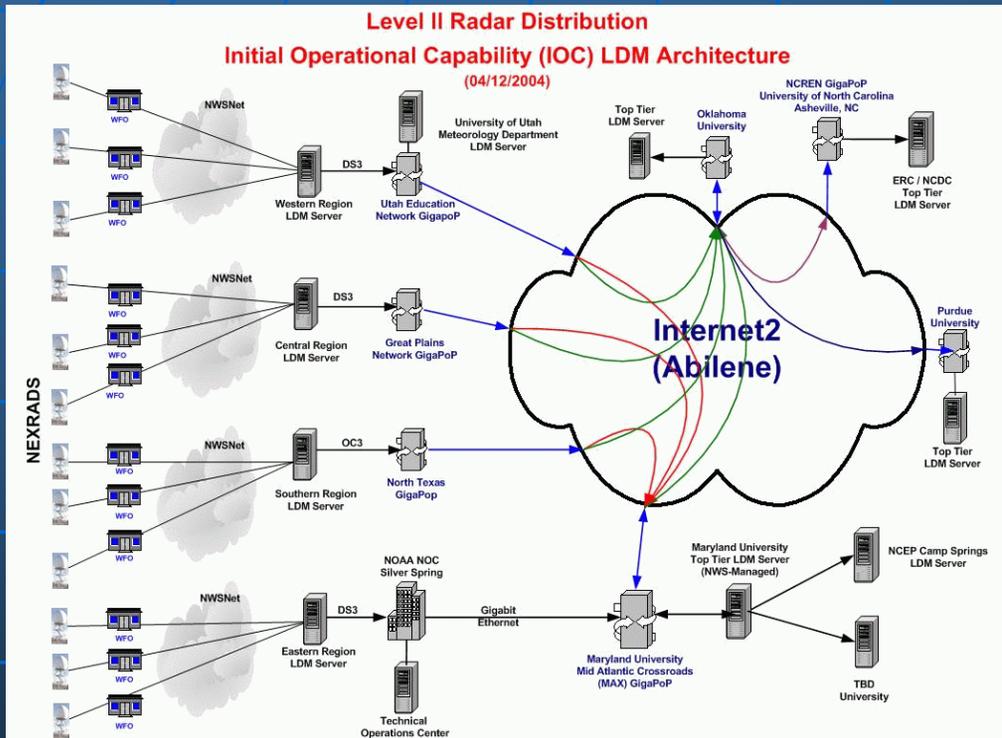


The LDM is now ranked #3 (behind HTTP and NNTP) in Internet 2 usage.

It recently surpassed FTP.



Operational Distribution of NEXRAD Level II Data



Three universities selected to be top-tier nodes:

1. University of Oklahoma
2. Purdue University
3. The Education and Research Consortium, Asheville, NC

UPC was actively involved in

- a) selection of top-tier sites
- b) deciding the topology
- c) training
- d) transition from CRAFT to the new topology (currently underway)

62 sites in 42 domains now receiving the data, dramatically increasing the availability and use of Level II radar data



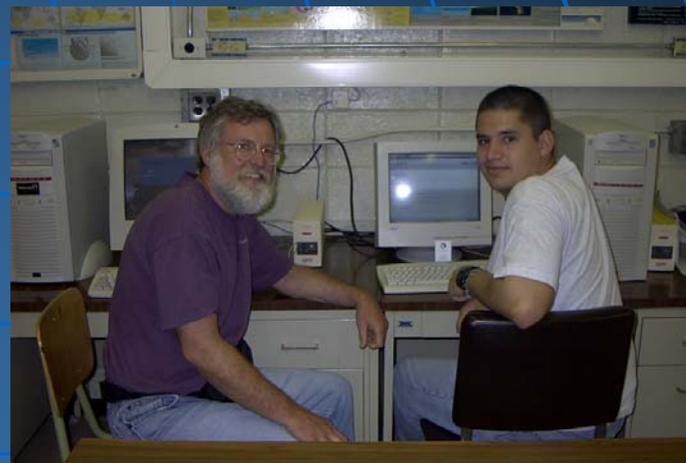
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MeteoForum:

A new community building project

■ *MeteoForum is an international pilot project to bring Unidata and COMET capabilities to a network of WMO Regional Meteorological Training Centers (RMTCs) in South America and the Caribbean.*

- Funded by UCAR Office of Program (UOP) Director's STORM (opportunity) funds;
- Principals: Tom Yoksas (UPC) and Tim Spangler (COMET, PI);
- MeteoForum promotes collaboration among RMTCs, universities, and national meteorological services;
- Enables free access to rich data resources, software for data analysis, and training and reference materials;
- Unidata has built a data distribution system in South America that connects several universities (IDD-Brazil), and installed a NOAAport satellite downlink system in San Jose, Costa Rica.



IDD-Brazil Connects to Unidata IDD



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- Current IDD-Brazil Participants:
 - Universidade Federal do Rio de Janeiro (UFRJ) - top level relay and data injection node
 - INPE/CPTEC - top level relay and data injection node (INPE is the Brazilian equivalent of NASA; CPTEC runs models operationally for Brazil in a role that is similar to NCEP's role in the US)
 - Universidade de Sao Paulo - leaf node and soon to be a data injection node
 - Universidade Federal do Para (UFPA) - leaf node (RMTC)
 - The Universidade de Buenos Aires (RMTC) will soon join the IDD-Brazil.



MeteoForum is fundamentally altering the way faculty in Latin America integrate real-time weather data in their courses. In Costa Rica, for example, students no longer have to go to their Met Service to practice prediction techniques, which provides both them and faculty new-found independence.



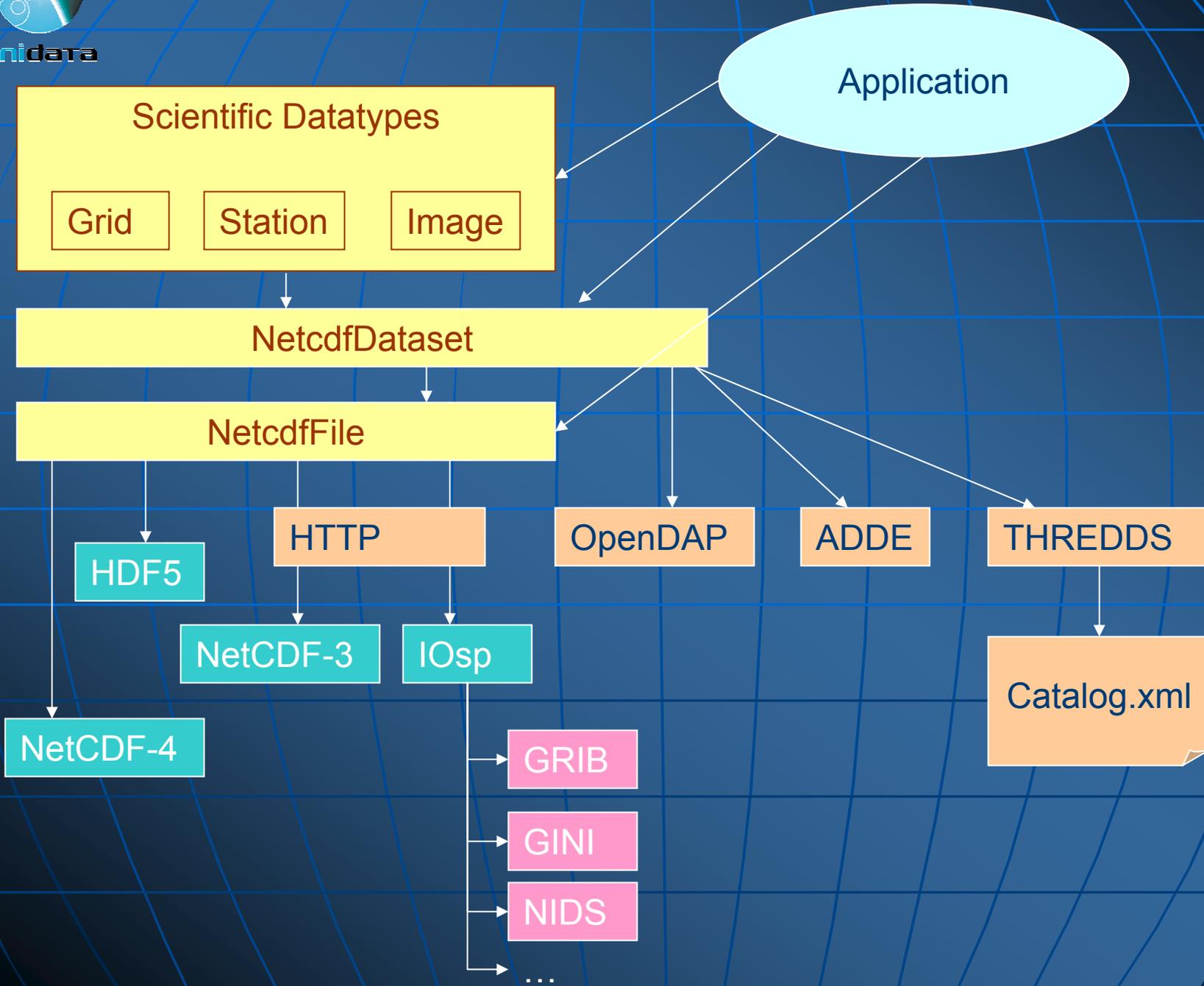
Software Development and Use

- GEMPAK: A new release of GEMPAK, 5.7.3, was made to the community in April. There have been 914 downloads for GEMPAK from unique users.
- McIDAS Version 2004 was released in July. Downloads: 45 unique sites for McIDAS 2004 and 105 unique sites for McIDAS 2003
- Training workshops for LDM, McIDAS, GEMPAK and IDV will be conducted October 18 – November 2. Nearly all of the sessions are fully subscribed.
- NetCDF-HDF merger: Our goal is to implement an enhanced netCDF interface using HDF5 (a data model, interface, and format from NCSA) for storage.
 - ❖ Improve interoperability with other representations of scientific data;
 - ❖ Make netCDF interface more suitable for use on high-end parallel platforms (high-resolution models like WRF and CCSM);
 - ❖ Provide netCDF software on a wider range of desktop platforms;



Common Data Model: NetCDF-Java version 2.2

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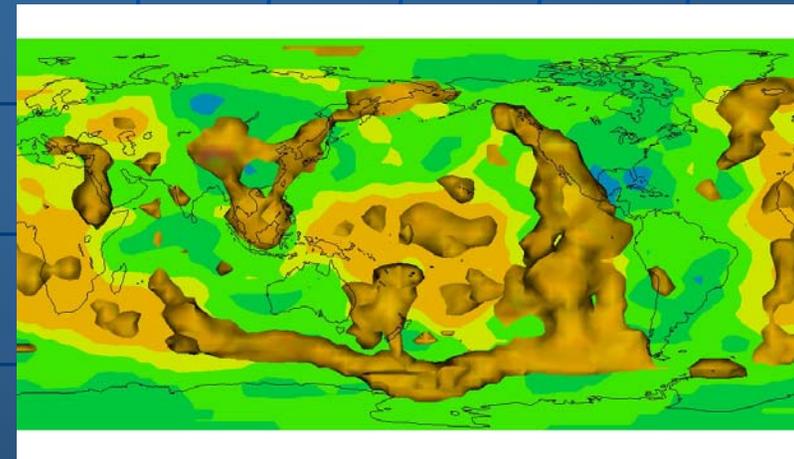
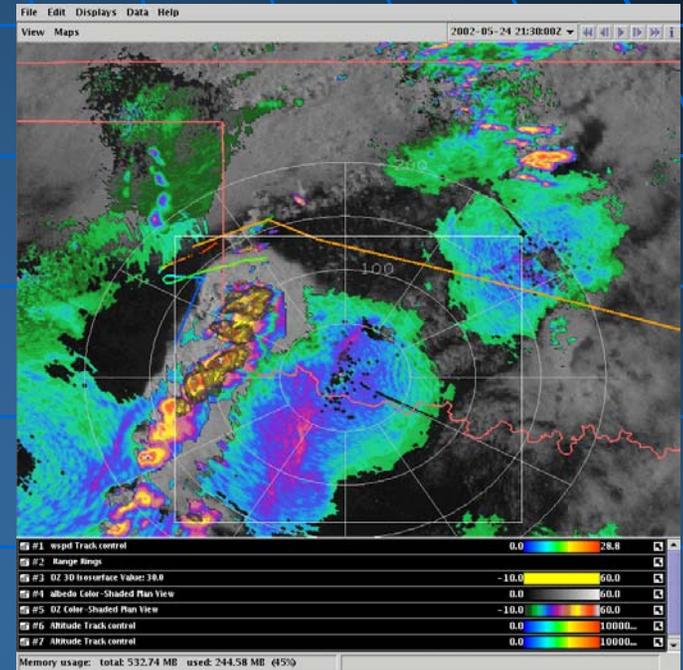




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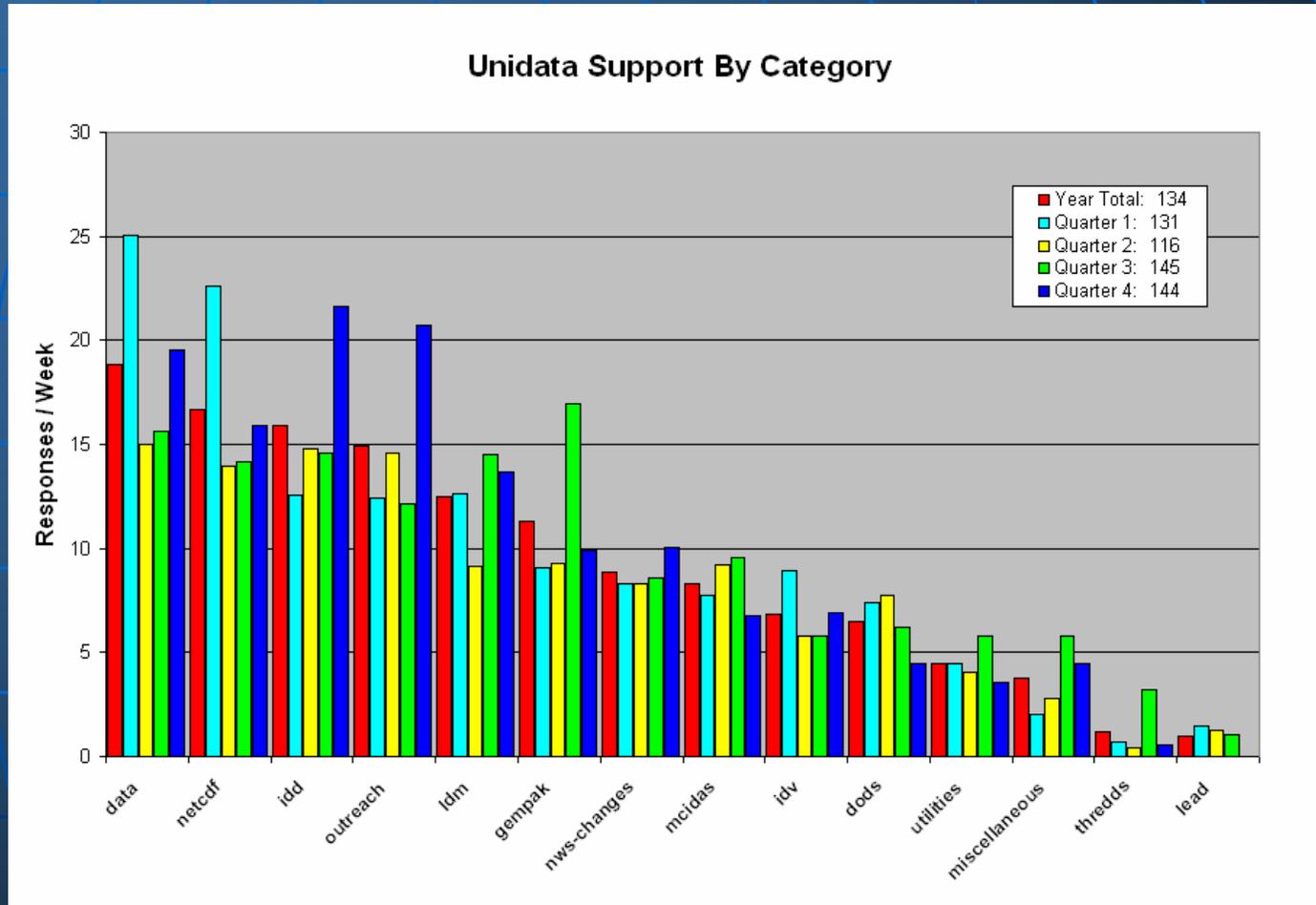
IDV

- A new release, v 1.1, was announced August 13;
- Development and testing is underway for IDV 1.2 beta1
- The IDV is now being used by the earth sciences community in their GEON ITR project.
- The IDV will be used in the Rain In Cumulus over the Ocean field project.
 - The IDV will be extended to support 3-dimensional real-time displays consisting of high resolution satellite data, S-Pol radar data, aircraft track/state data from the three aircraft and Mobile GLASS soundings.
 - This will provide a unique and exciting opportunity for future scientists in the atmospheric sciences to interact with the latest analysis software in a field project setting.





Email Support Load



- The total support load at the UPC remains high.
- A Support Task Force, chaired by Tom Yoksas, is exploring ways to enhance the provision of support to the community, including our support infrastructure.



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A New Collaborative ITR Project

- A collaborative Hydrology ITR Proposal has been funded by NSF.
 - Title: "A comprehensive framework for use of NEXRAD data in Hydrometeorology and Hydrology"
 - Lead PI: Witold F. Krajewski, U. Iowa.
 - Co-PIs include: Anton Kruger, U. Iowa; Jim Smith, Princeton; M. Ramamurthy, Unidata;
 - Duration: Four years, beginning on October 1, 2004.
 - Develop a set of tools for access, visualization, management, rainfall estimation algorithms, and scientific analysis of NEXRAD data.
 - Address related IT issues, including data and metadata dissemination, format conversions, compression, metadata creation and selection, GIS and database integration, etc.

The above project fits well with our overall community broadening efforts and the mutual interest in establishing a greater collaboration with the hydrology community.



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Staffing

■ New Hires:

- Brian Kelly, System Administrator.
 - He has over 10 years of experience in the Information Technology world;
 - He spent several years dealing Blackjack and Poker in Black Hawk and Central City;
- Jennifer Oxelson, Web Developer
 - Jennifer comes to Unidata after 5 years in NCAR ESIG and ATD/HIAPER groups.

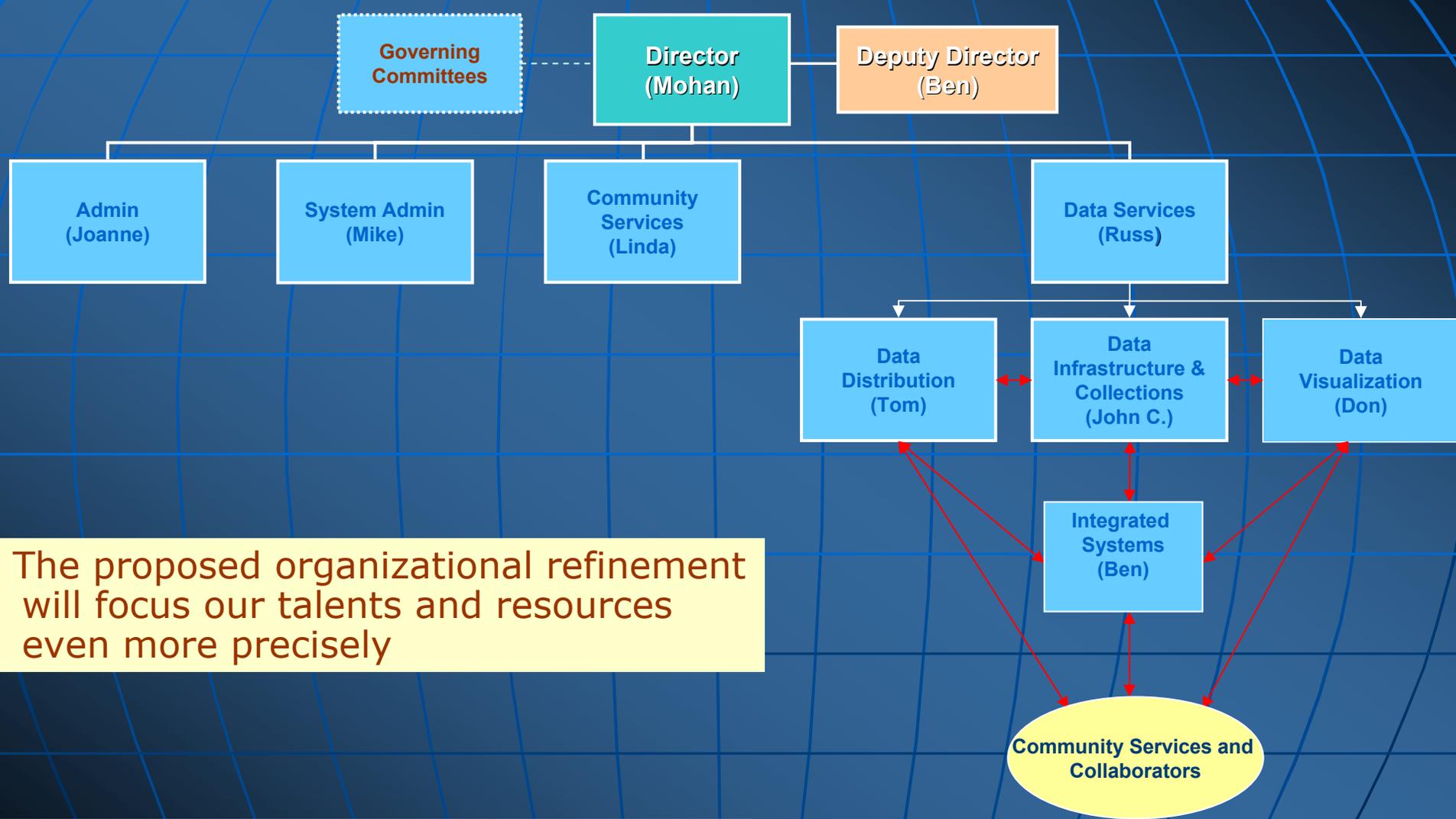
■ Departures :

- Doug Smith, system administrator
- Chris Bailey, web developer





New Organization Structure



The proposed organizational refinement will focus our talents and resources even more precisely

*Based on the recommendation by the Reorganization Task Force, Chair: Ben Domenico

It became effective on June 1



Unidata 2008

Progress, Priority Setting and Plans

- a) We had laid out an ambitious plan, in the form of six endeavors, in Unidata 2008, our 5-year proposal for base funding.
- b) Since the submission of Unidata 2008, the UPC has also received funding for several complementary projects (e.g., THREDDS2G, LEAD, NetCDF-HDF merger).
- c) The tight federal budget situation meant that NSF could not fully fund the Unidata 2008 proposal (despite the recommendation to that effect and the excellent reviews).
- d) In light of b) and c), NSF had asked us to present an updated plan for Unidata 2008.
- e) We realized that we will need to scale back (modestly) our plans or defer them until funding becomes available.
- f) The UPC management has been engaged in a progress review and priority setting exercise.
- g) We are close to finalizing our plans, which we will present at the October 25-26 Policy Committee meeting in Arlington, VA.



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State of the Program: A Snapshot

- Community relations : Green
- Data Flows : Green
- Data sources : Green
- Software Development : Yellow
- Collaborations : Green
- Staffing : Yellow to Green
- Support : Green
- Space : Green
- Finances : Green (for FY05-06)