Director's Report

Policy Committee Meeting

21 October 2008

Boulder, CO

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

New Committee Members

❖ Policy Committee:

Prof. Brian Colle, School of Marine and Atmospheric Sciences, Stony Brook University (previously SUNY Stony Brook)

Prof. Anton Kruger, IIHR, College of Engineering, The University of Iowa

Dr. Peter Griffith, SAIC & NASA Goddard Space Flight Center

❖ Users Committee:

Prof. Brian Etherton, Dept. of Geography and Earth Sciences, University of North Carolina, Charlotte

Brendon Hoch, Judd Gregg Meteorology Institute, Plymouth State University

Larry Oolman, Atmospheric Science, University of Wyoming

Welcome and THANK YOU!

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Departing Committee Members

- **Policy Committee:**

1. Prof. Gene Takle
2. Prof. Michael Bevis

- **Users Committee:**

1. Prof. Anton Kruger
2. Prof. Leigh Orf
3. Prof. Chris Herbster

A big thank you to all for their active participation in Unidata's governance and contributing to its advancement!

Unidata depends on the input, insights, and volunteerism of our community members

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Review of Unidata's Core-funding Proposal

Unidata 2013: A Transformative Community Facility for the Atmospheric and Related Sciences

Six focus areas:

1. Broadening Participation
2. Advancing data services
3. Developing and deploying useful tools
4. Enhancing user support services
5. Providing cyberinfrastructure leadership
6. Promoting diversity

1. Proposal submitted to NSF in April.
2. Review panel, which was anonymous, met at NSF on 25-26 June. The UPC provided a written response to several questions prior and during the panel meeting.
3. The UPC received the panel report on 26 August and was asked to provide a written response.
4. The UPC provided its response on 22 September.
5. We were invited to submit a revised (read: reduced) budget three weeks ago, which we did last week. Details in Terry's budget presentation.

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Successful Review of Unidata's Core-funding Proposal

- The NSF review panel was unanimous in its judgment that the Unidata program has been a success.
- Further, the panel recommended that Unidata be supported over the next five years.
- The panel enthusiastically endorsed much of the continuing development and the innovative efforts outlined in the proposal.
- The panel provided many thoughtful comments and recommendations on many aspects.
- NSF identified six key issues for Unidata to address.
- Availability of limited resources (i.e., budget and funding constraints is the backdrop for many of the comments.) There is simply no money to fund all of the activities even if they are worthy.

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Issues Raised by the Review Panel

- GEMPAK Transition!! [“The biggest challenge Unidata has faced in its history.”]
- Unidata’s priorities, especially given the budget constraints
- Vision for the program over the next 5 years
- Unidata’s role in cyberinfrastructure
- Community characterization
- Diversity activities if no funding is available for the requested 0.5 FTE position

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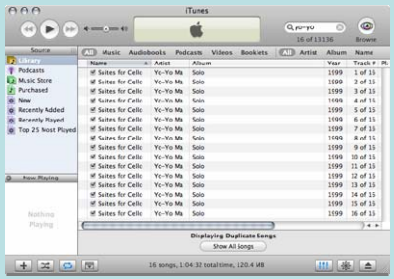
Vision

Unidata's vision calls for providing comprehensive, well-integrated, and end-to-end data services.

These include an array of functions for collecting, finding, and accessing data; data/content management tools for generating, cataloging, and exchanging metadata; and submitting/publishing, sharing, analyzing, visualizing, and integrating data.

When this vision is realized, users* — no matter where they are, how they are connected to the Internet, or what computing device they use — will be able to find and access a plethora of geosciences data, experience how all of the aforementioned services work together, and use Unidata-provided tools and services both productively and creatively in their research, education, and outreach activities.



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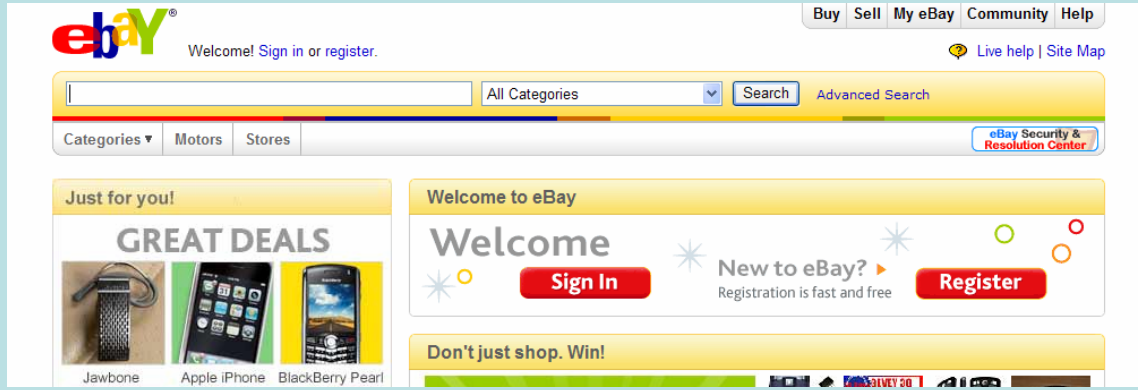
E-Commerce Analogs



Facilitate data providers as well as end users;

Empower users to use data effectively, including sharing of the data they acquire/generate.

Staffing Changes

- The UPC welcomed the arrival of Michael James into the position of GEMPAK developer and provider of support. Michael joins Unidata after a stint at NOAA's Climate Prediction Center.

- The UPC bid farewell to Anne Wilson in May and Tom Baltzer last month. Their departure came due largely to continued uncertainty about funding for LEAD, which is currently in a no-cost extension period.

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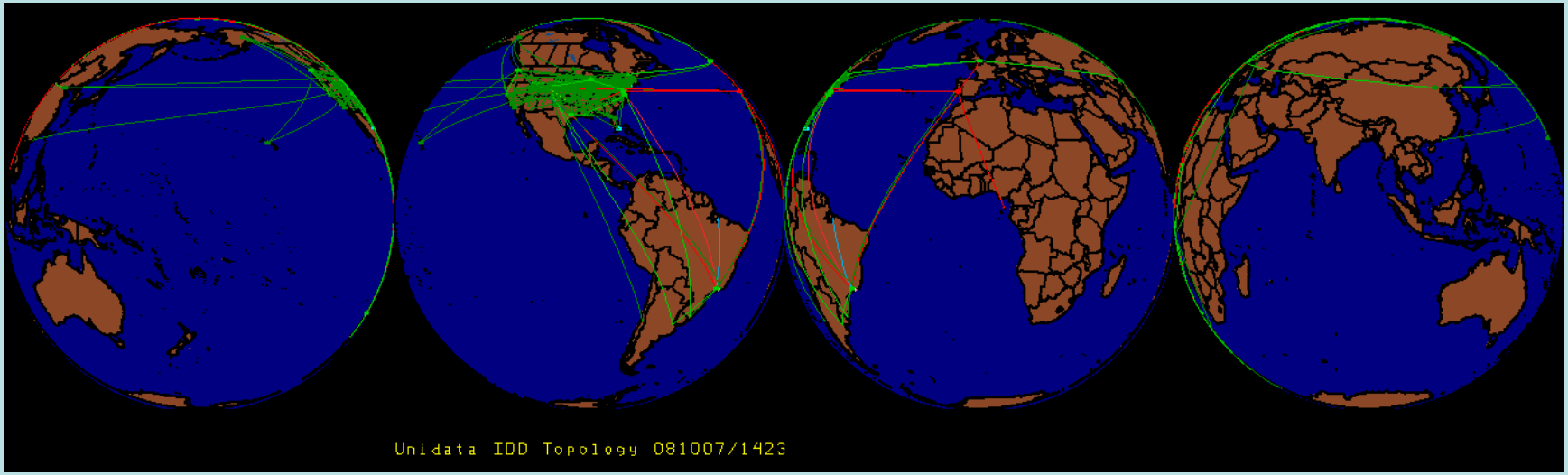
Data Flows



- Approximately, 460 machines at 250+ sites were running LDM-6 and reporting real time statistics.
- UPC's IDD Cluster routinely relays data to more than 460 downstream connections.
- Data input to the cluster is approx. 3.6 GB/hr (0.086 TB/day);
- Average data output by the cluster is approx. 280 Mbps (~2.8 TB/day);
- Peak rates routinely exceed 600 Mpbs;
- CONDUIT (~38%) and WSR-88D Level II radar data (~35%) make up the bulk of the volume.

NetCDF-4

- NetCDF-4, a major upgrade to netCDF, was released in June 2008. It has been in the works for nearly five years.
- It uses the HDF5 format to read and write data files through the netCDF API. This allows the introduction of many new features, including compression, parallel I/O, multiple unlimited dimensions, user-defined data types, and more.
- NetCDF-4 is a drop-in replacement for netCDF-3.x, and that it's fully backward compatible.
- In a related effort, Unidata's netCDF C library has been enhanced to support the OPeNDAP protocol as the remote access protocol for netCDF data.
- Using this software, it is now possible for a C or Fortran program that reads netCDF data to access specified subsets of remote data in a variety of formats provided by OPeNDAP servers, including Unidata's THREDDS Data Server (implemented in Java).
- Previously, this required getting and building a separate OPeNDAP library first – enough of an obstacle for many users

RAMADDA

- A prototype implementation has been developed and initial use of it has begun by Unidata staff members. This implementation supports:
  - An extensible data and metadata type system
  - A variety of ingest mechanisms (user oriented upload, file system scanning, programmatic web service)
  - Basic CRUD (Create, Read, Update, Delete) facilities
  - A variety of navigational and display/presentation facilities (e.g., timeline, RSS feeds, THREDDS catalog generation, image player, etc.)
  - Access control mechanism and user management
  - Metadata search
  - Web site templating
- A demonstration will be provided tomorrow, showing some of its capabilities and its use in the next-generation case study effort.

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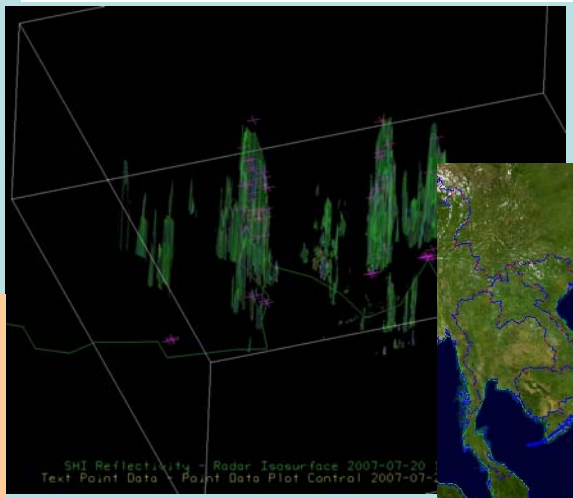
Integrated Data Viewer

- IDV use continues to grow. It now has users in over 200 institutions.
- IDV Version 2.6 Beta was released on 15 October 2008
  - Use of netCDF 4.0 library
  - Use of Java 1.6
  - Publication quality graphics
  - Remote Level III radar data access
  - Objective analysis capability
  - Weather text bulletin display
  - ATCF Tropical Storm track display

Monthly summary

Month	Count	Count* >=10,30
2008-10	5604	47,17
2008-09	25652	132,66
2008-08	16408	97,46
2008-07	17252	102,44
2008-06	7622	51,19
2008-03	13292	76,33
2008-02	17908	99,50
2008-01	13088	84,43
2007-12	1358	21,4

** - Count of unique sites that have used the IDV at least N times in a month*



The IDV team has been nominated for a 2008 UCAR Outstanding Achievements Award for Education and Outreach

2008 Training Workshop

- 56 registrants total
- Participants are coming from the U.S. (42), China, the Netherlands, Spain, Finland, Germany, South Korea, and Mexico.
- They come from universities, government, private sector, and the military.
- NetCDF and IDV sessions are most popular. The IDV session is being offered twice.

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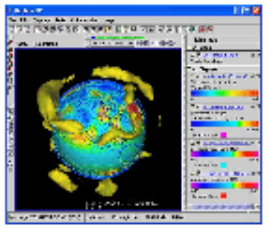
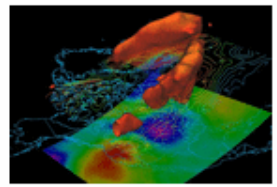
Unidata Regional Workshop at Plymouth State University

Unidata Regional Workshop



hosted by

Plymouth State University
Judd Gregg Meteorology Institute
Boyd Science Center
Plymouth, NH



May 18-20, 2008

This 2½ day workshop will allow for hands on instruction with Integrated Data Viewer (IDV) software. Participants will be a mixture of university faculty and students, research scientists, K-12 teachers, and other interested individuals from across the New England region. Representatives from Unidata will be onsite to provide tutorials on IDV and to discuss other Unidata projects and initiatives.

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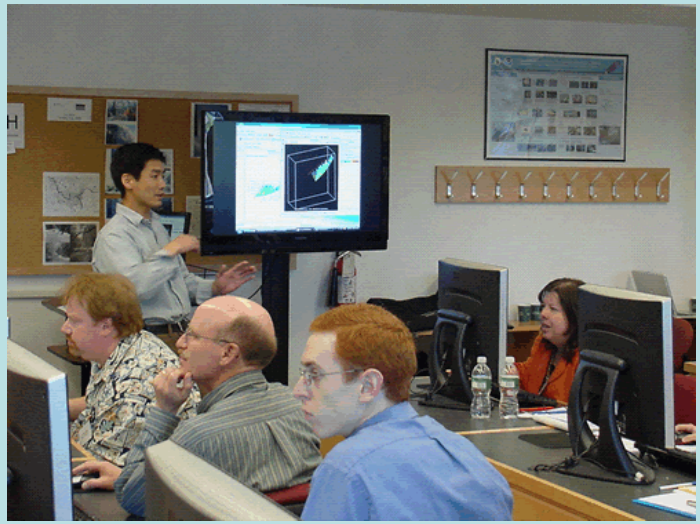
Regional Workshop at Plymouth State University

- Organization led by Brendon Hoch, who now serves on the Users Committee;
- ~25 attendees representing 13 institutions participated in the workshop;
- The UPC sent 3 IDV developers to the meeting;
- The workshop was a success and the feedback was quite positive;



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Latin America Data Workshop

- Unidata, with funding from UOP's JOSS program and in conjunction with the Universidade de São Paulo's (USP's) Instituto de Astronomia, Geofísica e Ciências Atmosféricas (IAG), hosted a Latin American Data Workshop on August 21-23, 2008 in the IAG facilities on the USP campus in São Paulo, Brazil.
- The goals of the workshop were to:
  - Foster scientific partnerships for exchanging knowledge and expertise among U.S. and Latin American educators and researchers
  - Promote greater Latin American participation in free-and-open sharing of Earth System data
  - Inform workshop participants of the wide variety of data available through Unidata
  - Inform participants of the suite of freely-available analysis and display applications available through Unidata
- The 45 workshop participants came from 18 organizations in 6 countries in South, Central, and North America.
- The workshop was a resounding success.

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Community Equipment Awards

This year, Unidata made three awards to:

- Embry-Riddle Aeronautical University, Dr. Christopher G. Herbster – “The Creation of a Community Resource for Weather Case Studies and Innovative Real-Time Weather Data for the IDD”
- Jackson State University, Loren D. White – “Unidata Equipment Proposal to Upgrade the JSU Meteorology High-Performance Computing Lab”
- Rutgers, The State University of New Jersey, Steven G. Decker - “Upgrading the Rutgers Weather Center to Meet Today’s Needs”

We welcome your ideas on themes next year’s solicitation. The UPC will continue to use this program to enhance diversity.

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State of the Program: A Snapshot

- Community relations : Green
- Data flows : Green
- Software development : Green
- Partnerships : Green
- Staffing : Yellow
- Support : Green
- Finances : Yellow

Questions?

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