

The Web Collaboration Wave: Tsunami or Rip Tide?

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Meeting of the
Computer Supported Meeting
Management Working Group

Outline

- Terms
- The Wave
- Typical Uses
- ASDC Survey Results
- Product Examples
- Case Studies

Terms

- Document Sharing
- Data Sharing
- Data Collaboration
- Application Sharing
- Web Collaboration

An Evolutionary Table

T.120

NetMeeting (1995/6)

VCON Meetingpoint

RadVision DCS

SGIMeeting

Lotus Sametime

SunForum

MeetingOne

PictureTel LiveLan

RadVision DCS

Whiteboard/Chat/IM

Netscape Conference (1997)

Voxphone

MERCI (TeleDraw)

e/pop

Remote Control

VNC (1998)

Timbuktu

RealVNC

Custom/Hybrid

Tango (1998)

Habañero

AG Dist. PowerPoint

Ezenia Placeware

ThinAnywhere

UARC/SPARC

Wiki

Wiki Wiki (1998)

Twiki

Information on this slide contains gross estimations based on rapidly changing technologies in a large market.

An Evolutionary Table

Wiki

Wiki Wiki (1998)

Twiki

Shared Browsers

Hipbone (1999)

SurfNChat

ZofX

PowerCall

WebAnytime

CuSeeMe (2001)

Brainshark

iMeet

JAMM

MeetingPlace

JAVA/Javascript

Habanero

JCE

mDesk

Peer to Peer (P2P)

Jxta (2001)

Groove (1999)

Virtual Classroom/

Desktop/Office

WebOffice (2002)

WebEx

Eliminate vClass

HorizonLive

Raindance

eMeeting

PictureTalk

Information on this slide contains gross estimations based on rapidly changing technologies in a large market.

The Wave

The Good Side

Many products to choose from

Rich set of features and functions

Multiplatform solutions beginning to appear

Integration with audio and video

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Many products to choose from

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Multiplatform solutions beginning to appear

Integration with audio and video

The Bad Side

High cost on many
Most not standards-based

Independent pricing of pieces
Unique, non-intuitive interfaces
Significant training required

Often browser only
Limited features and
functionality at this time

Some H.323 and SIP specific
Some proprietary
Many POTS

The Wave

The Good Side

Many products to choose from

Rich set of features and functions

Multiplatform solutions beginning to appear

Integration with audio and video

The Bad Side

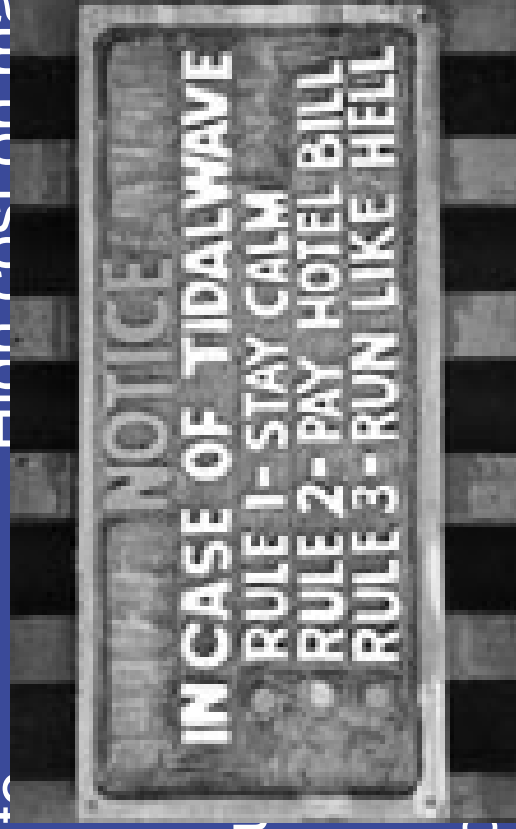
High cost on many products-based

Integration of pieces and different interfaces requiring

Integration only and

Integration functionality at this time

Some H.323 and SIP specific
Some proprietary
Many POTS



ASDC Survey

Background

- Administered in March and April, 2004
- Aimed to solicit opinions about importance of use cases for and features included in data collaboration technology
- Input for ViDe, Internet2 Commons, and an RFI
- Open invitation send to several relevant mailing lists
- 180 usable responses generated

ASDC Survey

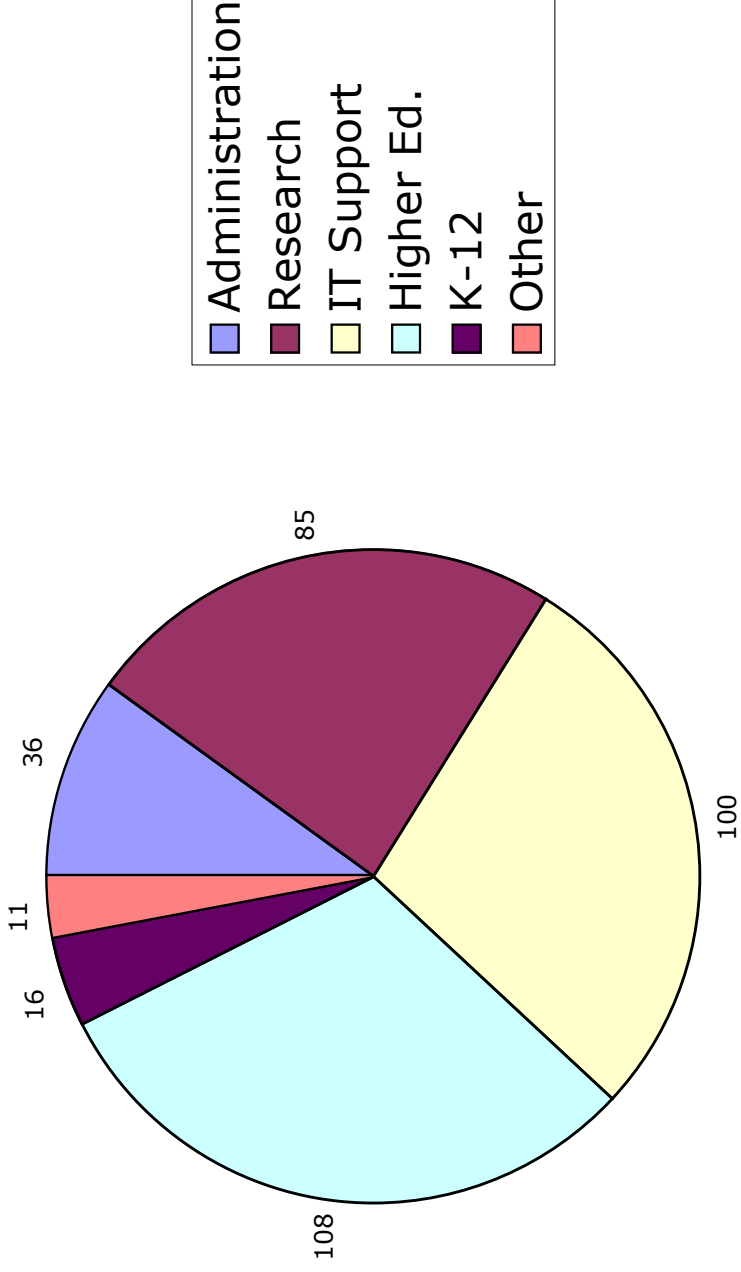
Typical Uses

- Teaching and Learning
 - Lecture
 - Seminar
 - Office Hours
 - Group Projects
 - Student Advisement
 - Accessibility and Special Needs
- Research
 - Meetings, Discussion Format
 - Meetings, Presentation Format
 - Informal Work Session
- Administrative
 - Planning and Reviews
 - Training
 - Service Providers/Helpdesk

ASDC Survey Results

Who responded?

Responses by Perspective



ASDC Survey Results

Who responded?

- Had moderate experience with DC technology (mean 3.52)
- Used DC technology with some frequency (mean 3.27)
- Saw need for DC technology increasing in near future (mean 4.03)

ASDC Survey Results

What did they say?

- Research, teaching and administration would all require DC technology
 - Research will require it the most
- Felt that lack of interoperability would negatively impact the appeal of a tool (mean 2.05)
- Expressed a weak preference for an integrated set of tools (mean 3.20)

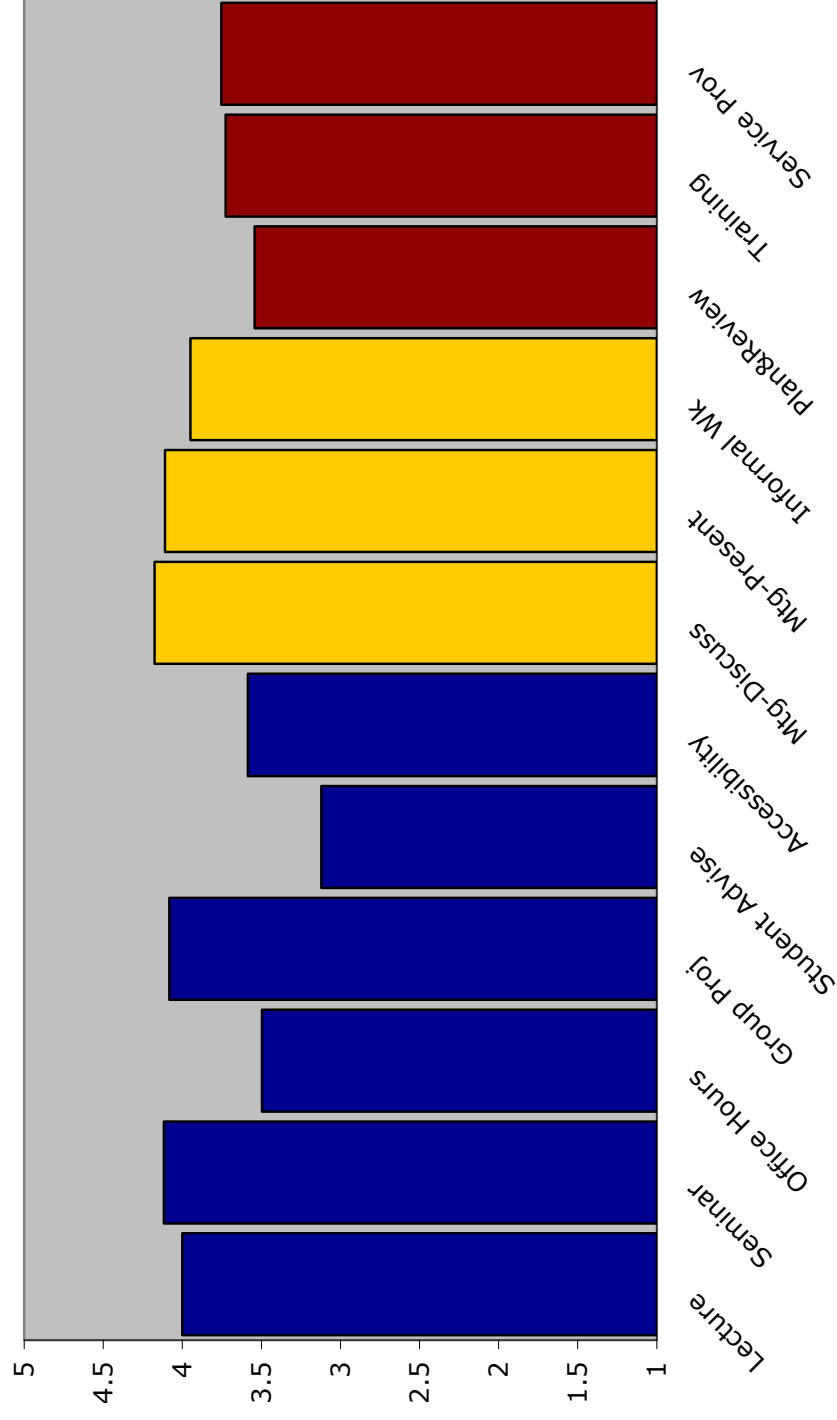
ASDC Survey Results

What did they say?

- Respondents ranged widely in their experience with these technologies
- There was a very strong correlation ($p < .001$) between experience with the technology and the belief that these types of technologies would soon be important, generally and within research, teaching and administration
- This suggests that users find data collaboration technology to be a successful tool in their work

ASDC Survey Results

Scenarios by Importance



ASDC Survey Results

What did they say?

- How do we turn these scenarios into recommendations for design and deployment?
- The scenarios clustered into two factors
 - Factor 1: education uses that involve students
 - Factor 2: research and administration uses that do not involve students
- Factor 2 was rated slightly more important ($p < .10$) than Factor 1, though the two were highly correlated
- This suggests that the classroom uses of these technologies represent an important, but different, application space

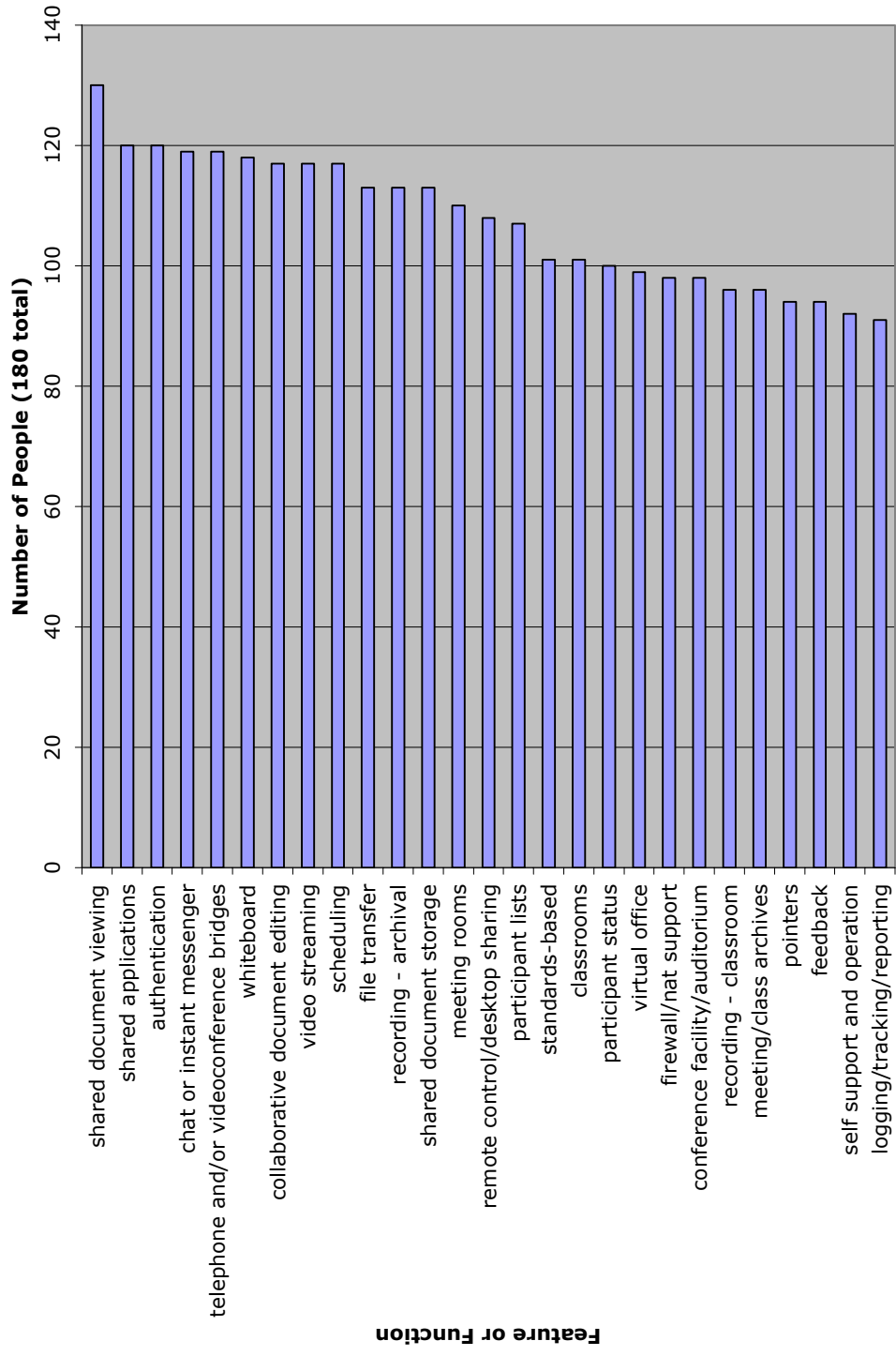
ASDC Survey Results

Features & Functions

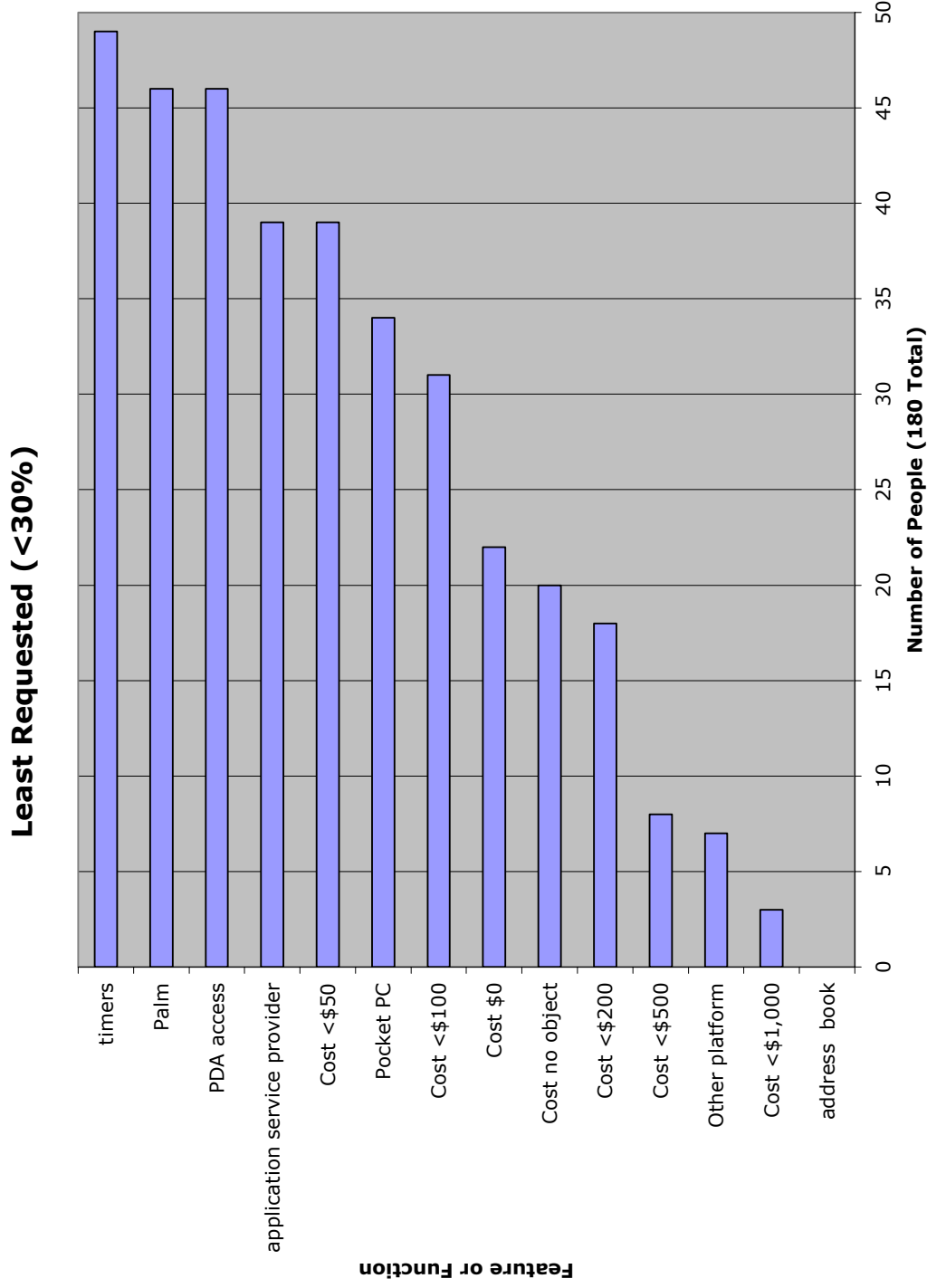
- Whiteboard
- Chat or Instant Messenger
- Shared Documents (Still Image)
- File Transfer
- Shared Applications
- Remote Control
- Pointers
- Surveys, Polling, Quizzing
- Recording
- Telephone and/or VC Bridges
- Video Streaming
- Animation Support
- Chair Control
- Scheduling and Timers
- Agendas for Meetings, Classes
- Announcement Boards
- Participant List, Status panels
- Management Console
- Directories
- Logging, Tracking
- Security
 - Authentication
 - Encryption
- Shared Repository, Meeting/Class Archives

ASDC Survey Results

Most Requested (>50%)

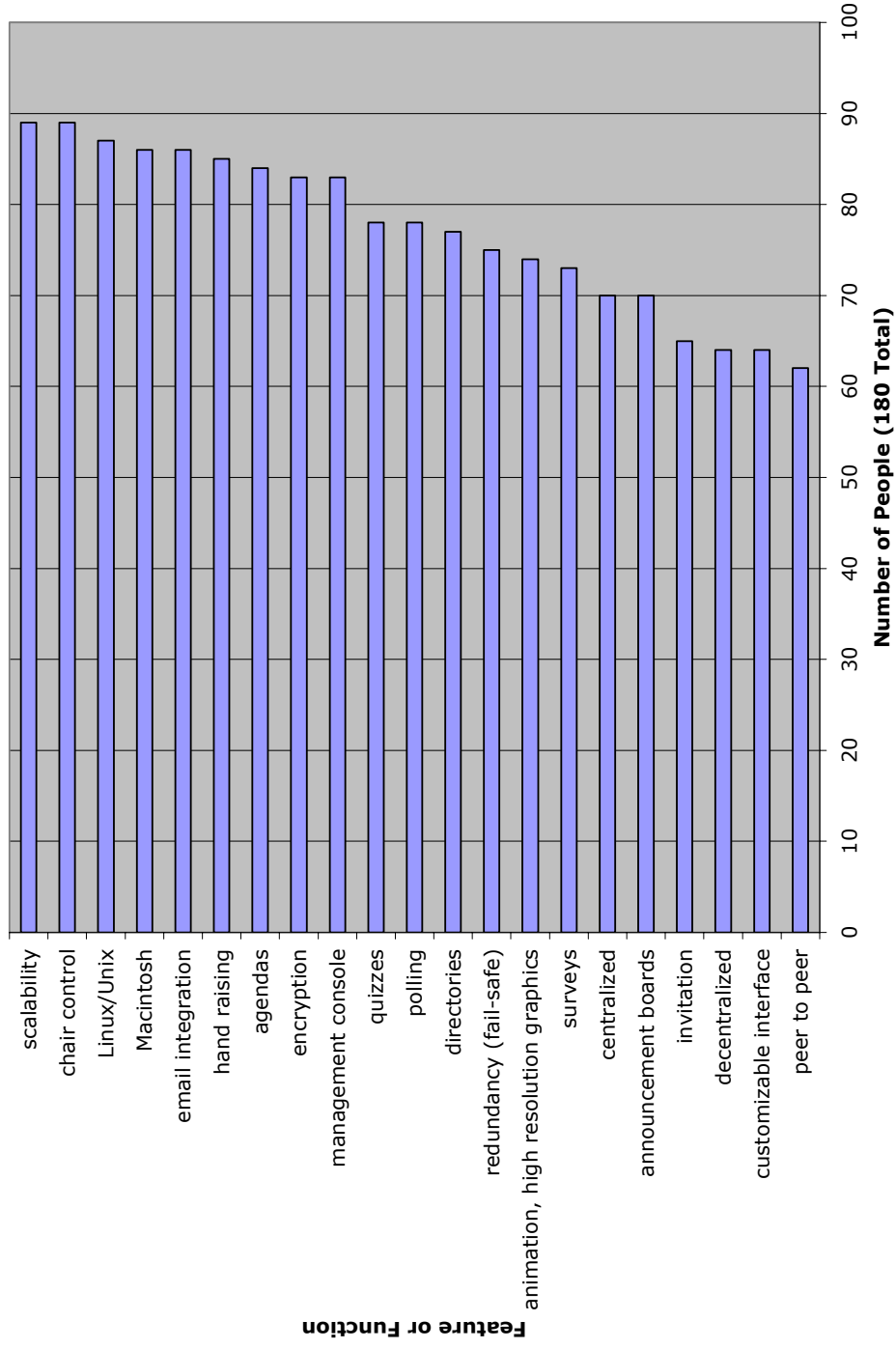


ASDC Survey Results



ASDC Survey Results

Middle of the Road (>30%, <50%)



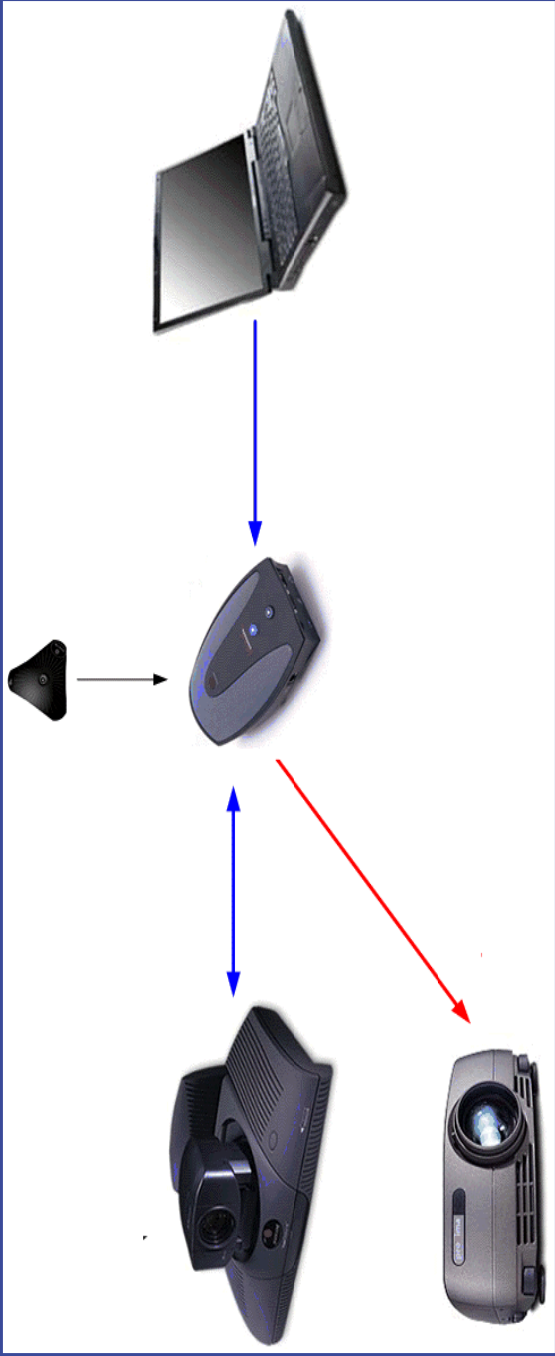
ASDC Survey Results

Additional Feature/Function Points

- While 73% wanted Windows solutions, 48% wanted Macintosh and Linux solutions (each).
- Cost responses were divided across all ranges, but largest groups require something <\$100 annually.
- 56% want or prefer standards based solutions.
- The rankings of features found in newer products were in the middle.

Product Examples

Scan Converters



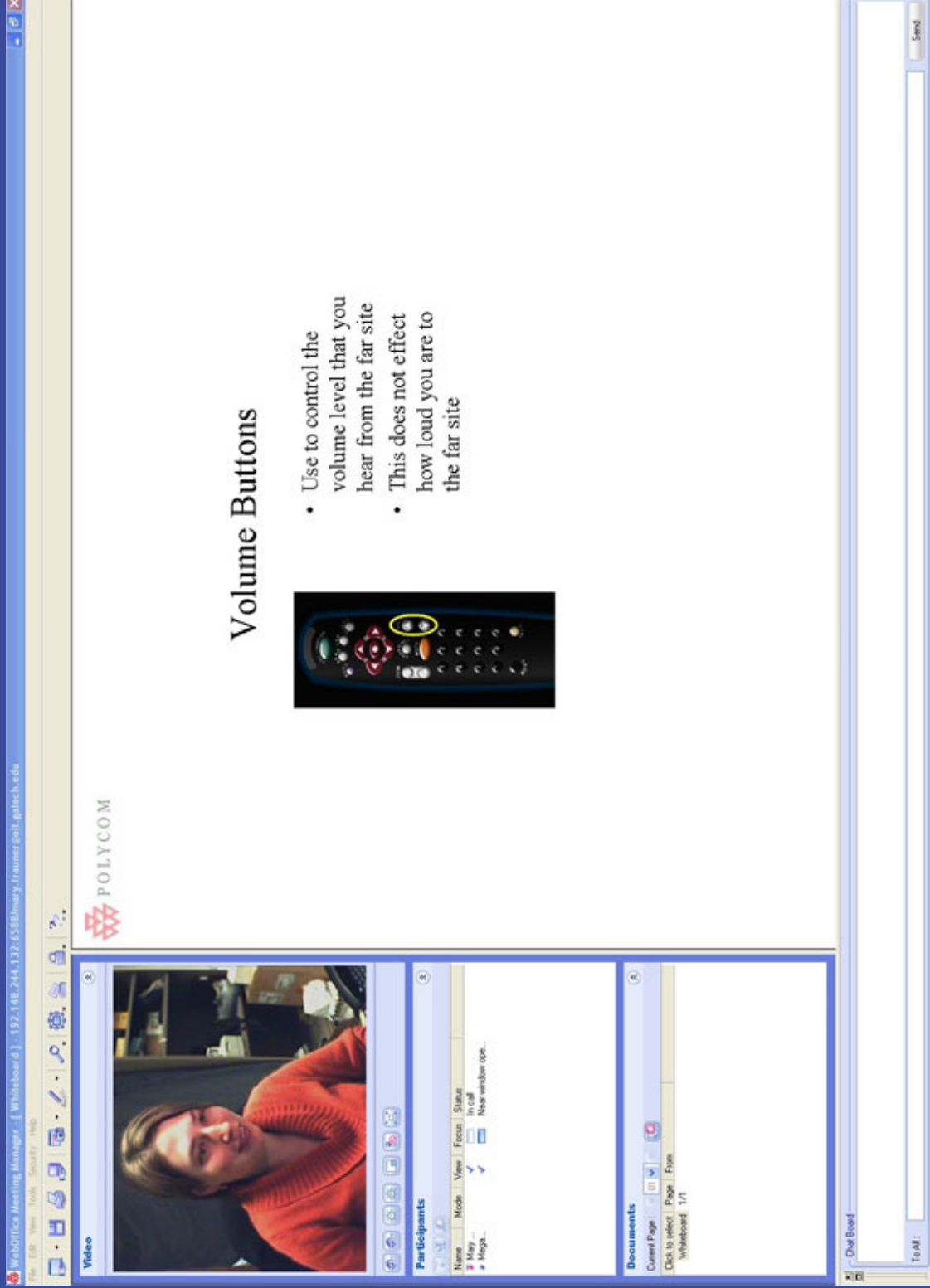
Polycom Visual Concert

Separate Video Streams

H.239

- H.239 is a new standard that supports one or more parallel streams for sharing data and presentations. (July, 2003)
- Basically, H.239 defines multiple channels (video, audio, or data.) and their “role” (Live, Presentation).
- H.239 is relevant to H.32x video conferencing with implementation only in RadVision’s MCU at this time.


Virtual Offices (Polycom WebOffice)



POLYCOM

Volume Buttons

- Use to control the volume level that you hear from the far site
- This does not effect how loud you are to the far site



Video

Participants

Name	Mode	View	Focus	Status
[Name]	[Mode]	[View]	[Focus]	Not in window (pc...)

Documents

Current Page: [Page]

Click to select | Page | From

Whiteboard | 1/1

Chat Board

To All

Send

Virtual Classroom (Eliminate vClass)

The screenshot displays a virtual classroom interface with the following components:

- Participant Info:** A list of participants with columns for Name and a status icon. One participant, "Mary Trauner (Me)", is listed.
- Direct Messaging:** A panel for sending messages to all participants. It includes a "Show:" dropdown set to "All", a text input field, and a "Send" button. The input field contains the text: "Join: 2004-03-09 09:44:17", "Exit: 2004-03-09 11:41:22", and "Join: 2004-03-09 11:41:34".
- Whiteboard - Main Room:** A central whiteboard area with a toolbar at the top. It displays a 3D scene with a black chair, a blue double-headed arrow, a computer monitor showing a cartoon scene, and a video window showing a person in a room.
- Calculator:** A standard Windows-style calculator window is open, showing a graph of a blue parabola on a grid. The equation $Y = X^2$ is visible.
- Audio Control:** A panel at the bottom left shows "ON THE AIR" status, a microphone icon, and a speaker icon.
- System Tray:** A status bar at the bottom right indicates "Class in session for 17 minutes".

Virtual Desktop (Wave3 PictureTalk)

The screenshot displays a virtual desktop environment. The desktop background is blue with a 'Macintosh HD' icon. The taskbar at the bottom includes icons for 'My Documents', 'My Computer', 'My Network Places', 'Recycle Bin', 'Internet Explorer', 'WinZip', 'Norton Antivirus 2002', 'Microsoft Outlook', and 'Media Library'. The system tray shows the time as 'Tue 2:00 PM' and the volume icon.

The main window is titled 'My Perpetual Meeting - Picture Talk' and displays a PDF document titled 'reg156.pdf'. The document is a DMV application form for license replacement. The form includes the following sections:

- APPLICATION FOR REPLACEMENT PLATES, STICKERS, DOCUMENTS**
Complete all sections of this form and submit it by mail or to the nearest Department of Motor Vehicles office.
NOTE: There is a fee to replace most items.
- SECTION A**
PRINTED NAME (LAST, FIRST, MIDDLE)
TRUE FULL NAME (LAST, FIRST, MIDDLE)
RESIDENCE OR BUSINESS ADDRESS
CITY
MAILING ADDRESS (IF DIFFERENT FROM ABOVE)
CITY
- SECTION B**
I am requesting replacement of check appropriate box(es):
 License Plates
 License Sticker
 Registration Card
 Disabled Person Placard
 License Sticker
 Vessel Sticker
 Vessel Certificate of Number
- SECTION C**
PLATES, STICKERS, DOCUMENTS INFORMATION
I am requesting replacement of check appropriate box(es):
 Disabled Person Placard
 License Sticker
 Vessel Sticker
 Vessel Certificate of Number

The form also includes a 'NOTE' at the bottom: 'NOTE: If your address is different from that which appears in the records of the department, please indicate the address in the comments section of the application. The item requested was: [redacted]'. There are several red circles and lines highlighting specific fields and checkboxes on the form.

In the background, a 'PictureTalk' window is visible, showing a meeting interface. The window title is 'Session - bkennedy'. It displays a list of participants: Jeff King, Main Board Room, demobox, jschwartz, and mkeenan. The meeting duration is 38:52. There are also video thumbnails for 'S jschwartz' and 'S Jeff King'.

Persistent, Peer to Peer (Groove)

The screenshot shows a Groove chat window titled "DMNS IT Seminar - Web Browser - Groove". The main content area displays a seminar announcement for "Information Technology Seminar Series" for Spring 2002, sponsored by the Office of the Vice President for Information Technology at Indiana University. The announcement includes a photo of a man and the text "Advanced Networking Initiatives".

The chat log shows the following messages:

- Hello Doug are you there
- Doug Pearson: 3/13/02 9:28 AM
Polycorn hosed, rebooting
- furia: 3/13/02 10:11 AM
back in a minute
- Joe Stevens: 3/13/02 10:19 AM
be right back..

The interface includes a status bar at the bottom with "Active" (Doug Pearson), "Online" (bhinesly, cjgolden, Curto, furia, Joe Stevens, Leroy@iupui, vicops), and "Suspended" sections. There are also buttons for "Invite", "Conversation", "Hold-to-Talk", "Hide Chat", and "Navigate Together".

Case Studies

Remote Instrumentation
Laboratory Discussions
Distance Learning

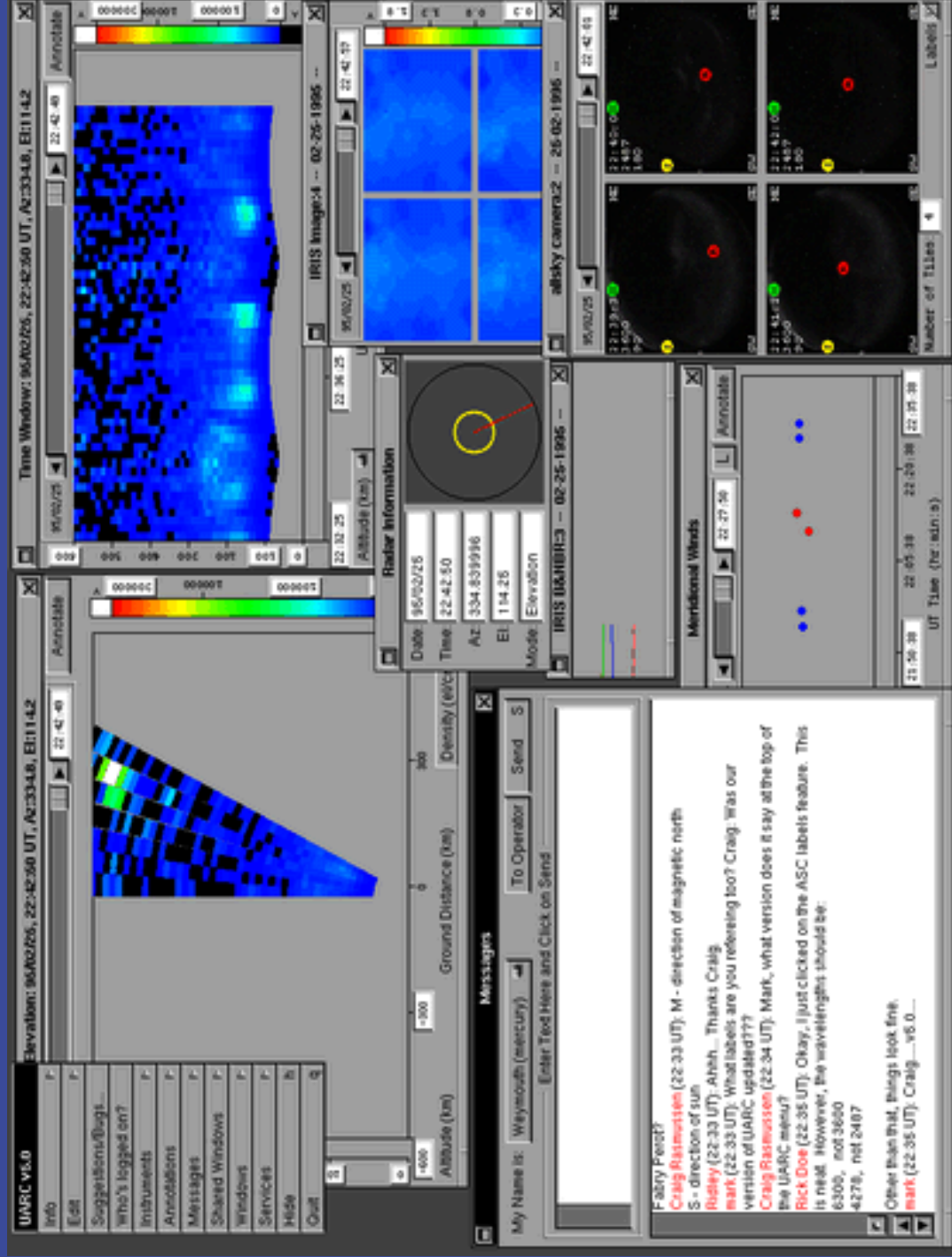
UARC / SPARC

- NSF-funded Upper Atmospheric Research Collaboratory and Space Physics and Aeronomy Research Collaboratory projects
- Remote instrumentation of facilities for upper atmospheric science
- Provided simultaneous viewing of multiple instruments, archival data and model visualizations in a collaboratory environment

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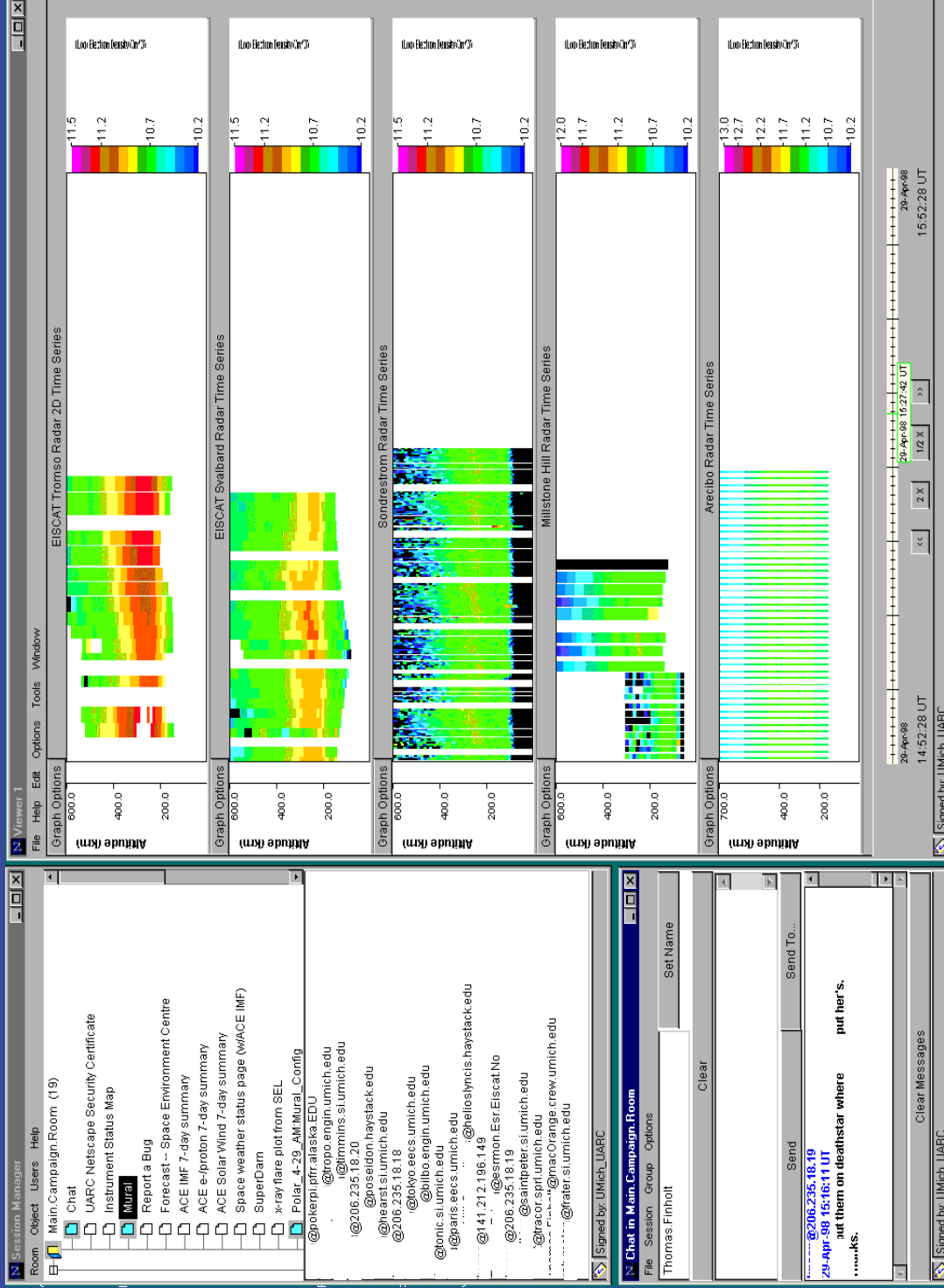
UARC 5.0



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UARC 6.0



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SPARC

The screenshot displays the SPARC Netpage interface with several panels:

- Top Panel:** A news article titled "A Shock Has Been Detected by ACE at 15 UT Today, 99/05/05" with a sub-headline "Initial effects of the solar disturbance should be seen at Earth at ~16 UT. Compression Effects are Apparent in the GOES Satellites Magnetic Field Measurements". Below the article is a "LATEST DEVELOPMENTS" section with a "Begin: 15" indicator.
- Left Panel:** A "User list" containing names: Alan Burns, Jeff Thayer, Jon Anderson, Tony van Eyken, and Enrique Sanchez. There is a "Chat" window with "Send" and "Clear" buttons.
- Center Panel:** A "Bar chart" showing "ACE RTSW (Estimated) MAG & SWEPAM" data from 1999/05/05 12:00:00 to 1999/05/05 18:00:00. The y-axis ranges from 0.0 to 9.0.
- Right Panel:** A "Line graph" showing "ACE Satellite Magnetometer" data from 1999/05/05 18:00:00 to 1999/05/05 18:16:00. The y-axis ranges from -20.0 to 20.0.
- Bottom Left Panel:** A "Heatmap" showing "Prediction of Neutral Temperature" with a pressure level of 1.0.
- Bottom Center Panel:** A "Heatmap" showing "Prediction of Electron Density" with a pressure level of 1.0.
- Bottom Right Panel:** A "Heatmap" showing "Elect Temp" data from 1999/05/05 18:00:00 to 1999/05/05 18:16:00. The y-axis ranges from 30 to 45.
- Top Right Panel:** A "3D visualization" of a globe with magnetic field lines and data points, labeled "Sandre".
- Bottom Right Panel:** A "Video player" showing a live video feed of a person in a white lab coat working at a computer workstation.

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Distance Learning

Eliminate vClass

The screenshot shows a virtual classroom window titled "Eliminate Live! - SURAVIDE TEST". The main content area displays a slide with the following text:

CORN
Collaboration tOols for
R_e_s_e_a_r_c_h & i_n_s_t_r_u_c_t_i_o_n

Background
What is "CORN" ?
CORN Efforts Underway
Eliminate Demonstration

At the bottom of the slide, it says "The University of Iowa" and "Les Finken <les-finken@uiowa.edu> Academic Technologies".

The interface includes a top menu bar with "File", "View", "Tools", "Window", and "Help". Below the menu is a toolbar with various icons for navigation and interaction. A "Participant Info" panel on the left shows a list of participants, including "Unoflowa Vclass A..." and "0/1 hands raised.". A "Direct Messaging" panel is also visible, showing a "Show:" dropdown set to "Private" and a "Join:" timestamp of "2004-03-16 12:12:57". An "Audio" panel at the bottom right shows "ON THE AIR" status, microphone and speaker levels, and a "Send" button. A status bar at the bottom right indicates "Class in session for 3 hours, 13 minutes".

Conclusions

"Especially when dealing with advanced technology: ... the demand won't be there until you have the tool itself. It's very difficult for people to imagine a collaborative environment until they're experienced it. The ideas for the service and the development of service will have to lead the demand."

Conclusions

"Our standards, our tools, our approaches and methods are so fragmented across the industry, it's very difficult to create a collaborative environment. The idea that we can share across multiple media and multiple functionality is defeated by having multiple interfaces, proprietary architectures, multiple standards. When that barrier is broken of the diversity and fragmentation of the standards, we're going to see a very rapid increase in the demand for those services."

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