



Collaborative Tools and Sociology Tutorial

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LBL



Outline



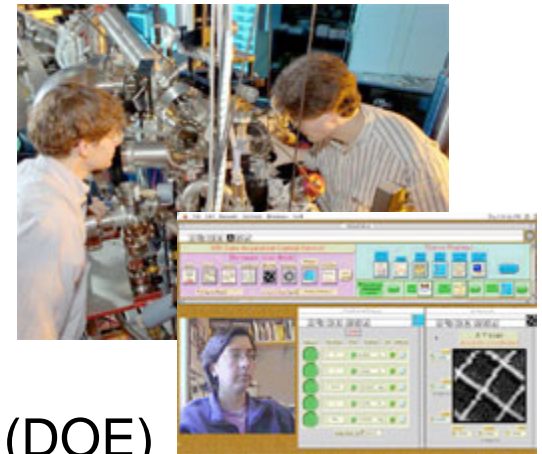
- Introduction
- Asynchronous interaction
 - Wiki/Blog
 - Peer-to-peer filesharing
 - Instant messaging and presence
- Synchronous interaction
 - Video Streaming – seminar broadcasting and archiving
 - Videoconferencing
 - ✓ H.323
 - ✓ VRVS
 - ✓ Access Grid
 - ✓ Conference XP
- Sociology
- Infrastructure services



LBNL Collaboratory Experience (10+ years)



- Support of collaborative science
 - SpectroMicroscopy Collaboratory (DOE)
 - Global Accelerator Network (DOE/NSF)
 - National Center for Hydrology Synthesis (NSF)
 - ESnet collaboration services (DOE)
 - Access Grid (DOE/NSF)
- Research and development of collaborative tools (DOE)
 - Remote camera control
 - Participation in the Science of Collaboratories project (UM/NSF)
 - Access Grid development and deployment
 - Authentication and authorization for collaboratory and Grid tools
 - Asynchronous interaction support
 - Secure peer-to-peer file-sharing
 - Secure and reliable group communication protocols
 - Collaborative workflow definition and tracking





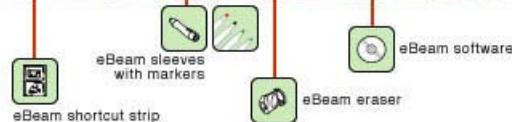
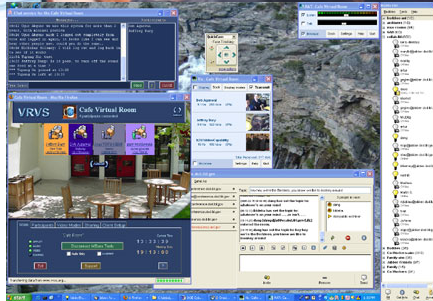
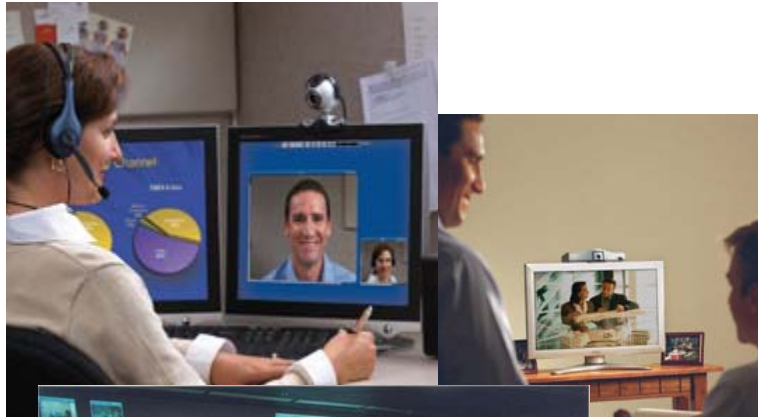
Collaboration Motivation



- Distributed science is a reality
 - Large-scale experiments
 - Large-scale simulations
 - Combined experiments
 - Teaming of disciplines to solve problems is becoming common
- Collaborations span the US and the globe and cross site boundaries
- Many collaborators never meet in person
- Collaborating groups range in size from two to hundreds
- A collaboration often begins with two or three members



Collaborative Tools Available



Buddy List

- buddies-ani (0/2)
 - turan@jabber.mcs.anl.gov
 - ivan@jabber.mcs.anl.gov
- mucs (4/4)
 - meadow
 - nc-wk-org
 - dsd-admin
 - lobby
- Co-Workers (0/1)
- archivers (0/5)
- collab-lbl (0/22)
- GAN (0/5)
- Buddies (2/6)

Welcome to the Bro Wiki Web

Forum is intended for Bro developers and users. Its goal is to provide a continuously updated overview over the current efforts around the Bro IDS. Anyone can read topics in this web, however only registered users can edit pages. This is not set in stone — if you're a wikiphile and know your way around Bro, then get in touch.

Topics in the Bro Web are arranged in five main categories, listed in the table below. You can assign a category to a topic by setting its parent to the category topic. By default the parent will be the topic from which you created the new topic. To assign a different parent, click on "More" at the bottom of page, and select the new parent.

How to add a Topic

You can create a new topic by adding a **WikiWord** for the topic on any page in the Bro web. Saving the edited page creates a link to the new page that you can click on to start editing. You can also use the **ScratchPad** to start a new topic or, if the topic will be part of the **BroDevelopment** category, start it listing it in the "Who is working on what?" section next to your name.

BroDevelopment (currently developed features)	BroHackersGuide (Bro code documentation)	BroAnalyzers (analyzer-specific documentation)	BroExternalTools (other tools etc)	BroMiscellaneous (everything else)
<ul style="list-style-type: none"> ApplicationAnalyzers BroCommunicationProtocol BroConnectionCompressor BroDebugLogger BroEventLoop BroGui BroIRCAalyzer 	<ul style="list-style-type: none"> BroBuiltInFunctions BroErrorHandler BroReferenceCounting BroTemers BroTypeSystem 		<ul style="list-style-type: none"> CreatingPatches 	<ul style="list-style-type: none"> BroLogo DiscussionTopic



Collaboration Environment



● Collaborative communication options

- Formal meeting in person
- Videoconference
- Teleconference/telephone
- Informal discussion/meeting
- File/document sharing
- E-mail/chat
- Papers/documents/web

Increasing % of time
↓
Decreasing synchrony



Design Space



- Sharing information, documents, and data
 - Provide shared space, context, and event notification
 - Persistent and pervasive capabilities
 - Supports asynchronous collaboration
- Enabling “semi-synchronous” interaction
 - Provide opportunities for chance encounters/interactions
 - Presence and availability information
 - Archiving and long duration conversations supported
- Supporting meetings and Lectures (fully synchronous)
 - Provide shared applications, powerpoint, and whiteboards
 - Good audio and video
 - Ease of use



Publishing and Distributing Content in a Collaboration



Outline



- Wikis
- Web logs (blogs)
- Web feeds (RSS/Atom)
- Social bookmarking
- Secure peer-to-peer file-sharing (scishare)



Wiki Examples



- **Wikipedia**
 - http://en.wikipedia.org/wiki/Main_Page
- **CERN wikis**
 - <https://uimon.cern.ch/twiki/bin/view/Main/WebHome>
- **Access Grid wiki**
 - <http://www-unix.mcs.anl.gov/fl/research/accessgrid/wiki/moin.cgi/FrontPage>
- **Future Technologies Group**
 - <http://ftg.lbl.gov/>



Wiki



- Enables documents to be written collectively through web browser
- Uses a simple markup language
- Version control
- Open philosophy



Wiki Browser Editing

A screenshot of a web browser window showing the editing interface for a Wiki page. The browser's address bar shows the URL "http://127.0.0.1:8000/scishareWiki?action=edit". The page title is "Edit 'scishareWiki' - scishareDocumentationWiki". The page content includes a navigation menu with "scishareWiki", "RecentChanges", "FindPage", and "HelpContents". A warning message states: "Other users will be warned until 2005-05-03 23:34:50 that you are editing this page. Use the Preview button to extend the locking period." The main heading is "Edit 'scishareWiki'", followed by a link to "HelpOnFormatting" and a note that the current page size is 270 bytes. The main editing area contains the following text:

```
This is the documentation wiki for the scishare software.  
  
= Contents =  
  
1. ["Introduction"]  
1. ["Installation Instructions"]  
1. ["User Manual"]  
1. ["Project Information"]  
1. ["Bug Reports and Feedback"]  
1. ["Related Pages"]  
1. ["Glossary"]
```



Wiki Formatting Example



Example bullets:

- * bullet
- * another bullet
- * '''bold bullet'''

[<http://dsd.lbl.gov> DSD]

Example bullets:

- bullet
- another bullet
- **bold bullet**

 [DSD](#)

Emphasis

"*italics*"; "**bold**"; "***bold italics***"; "*mixed "bold" and italics*"; --- horizontal rule.

Headings

= Title 1 =; == Title 2 ==; === Title 3 ===; ==== Title 4 ====; ===== Title 5 =====.

Lists

space and one of: * bullets; 1., a., A., i., I. numbered items; 1.#n start numbering at n; space alone indents.

Links

JoinCapitalizedWords; ["brackets and double quotes"]; url; [url]; [url label].

Tables

|| cell text ||| cell text spanning 2 columns ||; no trailing white space allowed after tables or titles.



Wiki Version Control



Info for "scishareWiki" - scishareDocumentationWiki

http://127.0.0.1:8000/scishareWiki?action=info

collab tools tutorial

scishareDocumentationWiki WebMaster | UserPreferences Search Titles Text

UserPreferences » Introduction » HelpOnFormatting » RecentChanges »

scishareWiki RecentChanges FindPage HelpContents

Edit Show Changes Get Info More Actions:

Info for "scishareWiki"

[Show "Revision History"] [Show "General Page Infos"] [Show chart "Page hits and edits"]

Revision History

#	Date	Size	Diff	Editor	Comment	Action
6	2005-04-21 09:24:30	281	<input type="radio"/> <input checked="" type="radio"/>	WebMaster		view raw print
5	2005-04-21 09:23:04	252	<input checked="" type="radio"/> <input type="radio"/>	WebMaster		view raw print revert
4	2005-04-21 09:21:09	98	<input type="radio"/> <input type="radio"/>	WebMaster		view raw print revert
3	2005-04-21 09:09:45	131	<input type="radio"/> <input type="radio"/>	WebMaster		view raw print revert
2	2005-04-21 09:09:12	107	<input type="radio"/> <input type="radio"/>	WebMaster		view raw print revert
1	2005-04-21 09:07:59	75	<input type="radio"/> <input type="radio"/>	WebMaster		view raw print revert

Edit Show Changes Get Info More Actions:

[MoinMoin Powered](#) [Python Powered](#) [Valid HTML 4.01](#)

Credits: A Scalable and Secure Peer-to-Peer Information Sharing Tool research and development is funded by the U.S. Dept. of Energy, Office of Science, Office of Advanced Scientific Computing Research, Mathematical, Information, and Computational Sciences Division; [Support Credits](#) identify the funding sources and the organizational context of the work described in this document.



Wiki Content Maintenance



- Philosophy: no review before modifications are accepted
- Maintenance: easy to monitor and remove updates
- Restrict authorship to authorized user



Example Wiki Setup



- MoinMoin

- Easy setup

- ✓ Python only requirement
- ✓ Standalone server option
- ✓ ACLs in configuration files

- Group membership maintained through Wiki page

- Popular and powerful

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Wiki Demo





Summary



- Document publishing by the community for the community
 - Requires community involvement for success
- Collaborative editing of individual documents
- Works well for:
 - Scientific processes
 - Software
 - Community practices



Blog Examples



- Boing Boing
 - <http://www.boingboing.net/>
- Slashdot
 - <http://www.slashdot.org/>
- EETD
 - <http://bleer.lbl.gov/>
- CTWatch
 - <http://www.ctwatch.org/blog/>



Web Logs (Blogs)



- Periodic time-stamped posts on a common webpage
- Often in reverse chronological order
- Older entries archived
 - Given a static address (permalink)
- Summary of latest entries offered



Web Logs (Blogs)



- Typically accessible to any Internet user
- Many enable visitors to leave public comments



Example Blog Setup



- Blojsom

- Easy setup

- ✓ Web application for Tomcat

- ✓ Administered through configuration files and through the application

- Articles can be edited as files

- Categories can be organized as folders

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Blog Demo





Summary



- Individual documents have single author
- Community involvement helps but not required for success
- Works well for:
 - Announcements (software updates, reports, publications, stories from the community)
 - PR with a personal touch



Web Feed Examples



- Blogging community
 - Normal
 - Podcasting (audio feeds)
 - Broadcatching (torrent feeds)
- Major news organizations
 - Reuters, AP, New York Times, etc.
- E-mail notification
 - Gmail, java.net forums



Web Feeds



- Short descriptions of web content
 - link to the full version of the content
- Typically information about latest articles/changes on website
- XML file published on the site
- Clients get XML file to learn about updates



RSS and Atom



- Many versions

- Plain XML

- ✓ Rich Site Summary (RSS 0.9x)
- ✓ Really Simple Syndication (RSS 2.x)
- ✓ Atom Syndication Format

- RDF-based XML

- ✓ RDF Site Summary (RSS 0.9 and 1.0)



News Aggregators



- Browsers
 - Firefox, Opera, Avant Browser, Safari (in Mac OS X 10.4), IE (with plug-ins)
- Mail readers
 - Thunderbird (native), Outlook Express (plug-ins)



News Aggregators



- Stand-alone clients
 - RSS Bandit (Win), NewsMac (Mac), NewsFeed (Python/Tk), and many many others
- Online
 - e.g. My Yahoo, Waggr, Bloglines
- Server side
 - e.g. MetaPlanet (PHP), Planet Planet (Python)

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Web Feed Demo





Summary



- Less-intrusive than mailing lists
- More anonymous than mailing lists (maybe)
- “Free” with blogs and wikis
- Additional uses:
 - CVS commit notification
 - Experiment status/monitoring



Social Bookmarking Examples



- Most popular

- <http://del.icio.us>

- Citations

- <http://www.citeulike.org/>

- extracts them automatically



Social Bookmarking



- Online service
- Users save and categorize personal collection of bookmarks
- Share those bookmarks with community
- RSS feeds typically provided

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Social Bookmarking Demo





Scishare Local View



The screenshot displays the Scishare Local View interface. The main window is titled "Scishare - Connected as Artur Muratas 208666". It features a menu bar with "File", "Edit", "Security", and "Help". Below the menu bar are tabs for "Search/Transfer", "Local", and "Sharing". The left pane shows a file tree under "LOCAL" with the following structure:

- LOCAL
 - D:
 - My Documents
 - cvs
 - java
 - scishare
 - xml
 - rdmf.xsd
 - qmsg.xml
 - scishare.xsd
 - qmsg2.xml
 - qmsg.xml
 - doc
 - images
 - search.jpg
 - additem.jpg
 - transfer.jpg
 - release

The right pane displays the metadata for the selected file "search.jpg":

- Description: search image
- Size: 73872
- Last Modified: Mon Jul 19 13:25:00 GMT-08:00 2004
- Meta Policy: PUBLIC
- Data Policy: PUBLIC

An "Edit" button is located below the metadata. An "Update" dialog box is open in the foreground, showing the following fields:

- Meta Policy: TRUSTED (with a dropdown arrow and a "New Meta Policy" button)
- Data Policy: P1 (with a dropdown arrow and a "New Data Policy" button)
- Description: search image (with a text input field and a dropdown arrow)
- Update description recursively
- OK and Cancel buttons

At the bottom of the main window are three buttons: "Refresh", "Add Item", and "Remove Item".



Scishare Search View



Scishare - Connected - User Identity: PSEUDO USER

File Edit Security Help

Search/Transfer Local Sharing

Type: Everything Documents

File Name: Exact match

Advanced Search

File Name	Description	Size	Last Modified	User Identity	Source
akcore.jar	jar file	250916	Thu Aug 19 15:1...	PSEUDO/Artur Mura...	131.243.2.119
bcprov-jdk14-123.jar		909550	Fri Jul 09 19:28:...	CN=Anita Pillai 6104...	131.243.2.189
commons-logging-api.jar		22327	Fri Jul 09 19:29:...	CN=Anita Pillai 6104...	131.243.2.189
commons-logging.jar		31605	Fri Jul 09 19:29:...	CN=Anita Pillai 6104...	131.243.2.189
ig.jar	jar file	320362			
java-getopt-1.0.9.jar		53875	Fri Jul 09 19:30:...	CN=Anita Pillai 6104...	131.243.2.189
junit.jar		121070	Fri Jul 09 19:30:...	CN=Anita Pillai 6104...	131.243.2.189
log4j-1.2.8.jar		352668	Fri Jul 09 19:31:...	CN=Anita Pillai 6104...	131.243.2.189
logobj.jar	jar file	22980			
logobj.jar	jar file	22980	Fri Jul 09 19:31:...	PSEUDO/Artur Mura...	131.243.2.119
logobj.jar	jar file	22980	Fri Jul 09 19:31:...	CN=Anita Pillai 6104...	131.243.2.189
lucene.jar	jar file	393902	Fri Aug 20 10:30:...	PSEUDO/Artur Mura...	131.243.2.119
lucene.jar		863074	Wed Aug 18 16:...	CN=Anita Pillai 6104...	131.243.2.189
myParser.jar	jar file	357563			
scishare.jar	jar file	1500188	Fri Aug 20 10:31:...	PSEUDO/Artur Mura...	131.243.2.119

Show Untrusted Users

Download

File Name	Destination	Size	Progress	Status	Time Left	User Identity
junit.jar	C:\Documents...	121070	100%	completed	00:00:00	CN=Anita Pillai 610489...
lucene.jar	C:\Documents...	393902	100%	completed	00:00:00	PSEUDO/Artur Muratas
ig.jar	C:\Documents...	320362	100%	completed	00:00:00	MULTIPLE SOURCES



Scishare



- Share local data
- Allows for extensible search
- Support ad hoc collaborations
 - Meetings at conferences
- Security
 - Confidentiality and integrity of communication
 - Fine-grained access control to resources
 - Easy-to-use fine-grained access control interface is a must
- Flexible security model
 - Quick and easy startup
 - Trust building
- Run on many OS and architectures



Summary



- Secure sharing between groups of collaborators
- Secure sharing between your computers
- Lightweight, easy to setup
- Low startup cost (time and resources)
- Software @ <http://www.dsd.lbl.gov/scishare>



Instant Messaging



Instant Messaging and Presence



- Internet Relay Chat
- iChat
- AOL Instant Message
- MSN
- Jabber



Jabber - Presence and Messaging



- “Jabber” - set of standard protocols for streaming XML elements
- Provides near-real-time messaging and supports long-running conversations
- Provides presence, messaging, events, and multi-user chats
- Open and extensible protocols
- Stable and widely used (likely millions of users)
- Large and active developer community,



Jabber Messaging



The screenshot displays the Jabber messaging application interface. On the left is the 'Buddy List' window, which is organized into several groups:

- buddies-anl (0/2)**: Contains two contacts, `turam@jabber.mcs.anl.gov` and `ivan@jabber.mcs.anl.gov`, both shown as 'Offline'.
- mucs (4/4)**: Contains four contacts: `meadow`, `nc-wk-org`, `dsd-admin`, and `lobby`, all shown as online with yellow lightbulb icons.
- Co-Workers (0/1)**: Empty group.
- archivers (0/3)**: Empty group.
- collab-lbl (0/22)**: Selected group.
- GAN (0/3)**: Empty group.
- Buddies (2/6)**: Empty group.

The main chat window is titled `meadow@conference.mcs.anl.gov`. It shows a list of open conversations at the top: `meadow@conference.mcs.anl.gov`, `nc-wk-org@conference.dsd.lbl.gov`, `dsd-admin@conference.dsd.lbl.gov`, and `lobby@conference.dsd.lbl.gov`. The active chat window displays a message history with timestamps and user names:

- `-10-26 09:21:03) Ivan': seems like it`
- `-10-26 09:21:09) Ivan': sore throat coming on strong`
- `-10-26 09:22:01) jrs: well, better this week than next, but that's small consolation`
- `-10-26 09:22:21) Ivan': yeah, since I leave for CA tonight until 5:30 am friday`
- `-10-26 09:22:28) Ivan': no rest for the wicked`
- `-10-26 09:22:55) jrs: ough thats not good . I hate flying when I don't feel well. Hopefully that clean California air will clear you up`
- `-10-26 09:23:04) Ivan': :wont know, will be in berkeley`
- `-10-26 10:14:06) cindy_office: maybe this cold/sore throat thing is traveling through hobbes....`
- `-10-26 10:15:19) ***bcorrie testing emote`
- `-10-26 13:04:36) Amado: (B)`
- `-10-26 13:05:17) Amado: cheers evryone have a nice night, we'll do it all again tomorrow`
- `0:51) Ivan' has set the topic to: Windows Beacon: http://www.mcs.anl.gov/~judson/common-1.1.win32-py2.3.exe`

On the right side of the chat window, a sidebar indicates '6 people in room' and lists the following participants: `cindy_ag`, `cindy_office`, `eric`, `jrs`, `lbldeba`, and `wes`. The bottom of the chat window features a toolbar with 'Invite', 'Remove', and 'Send' buttons.



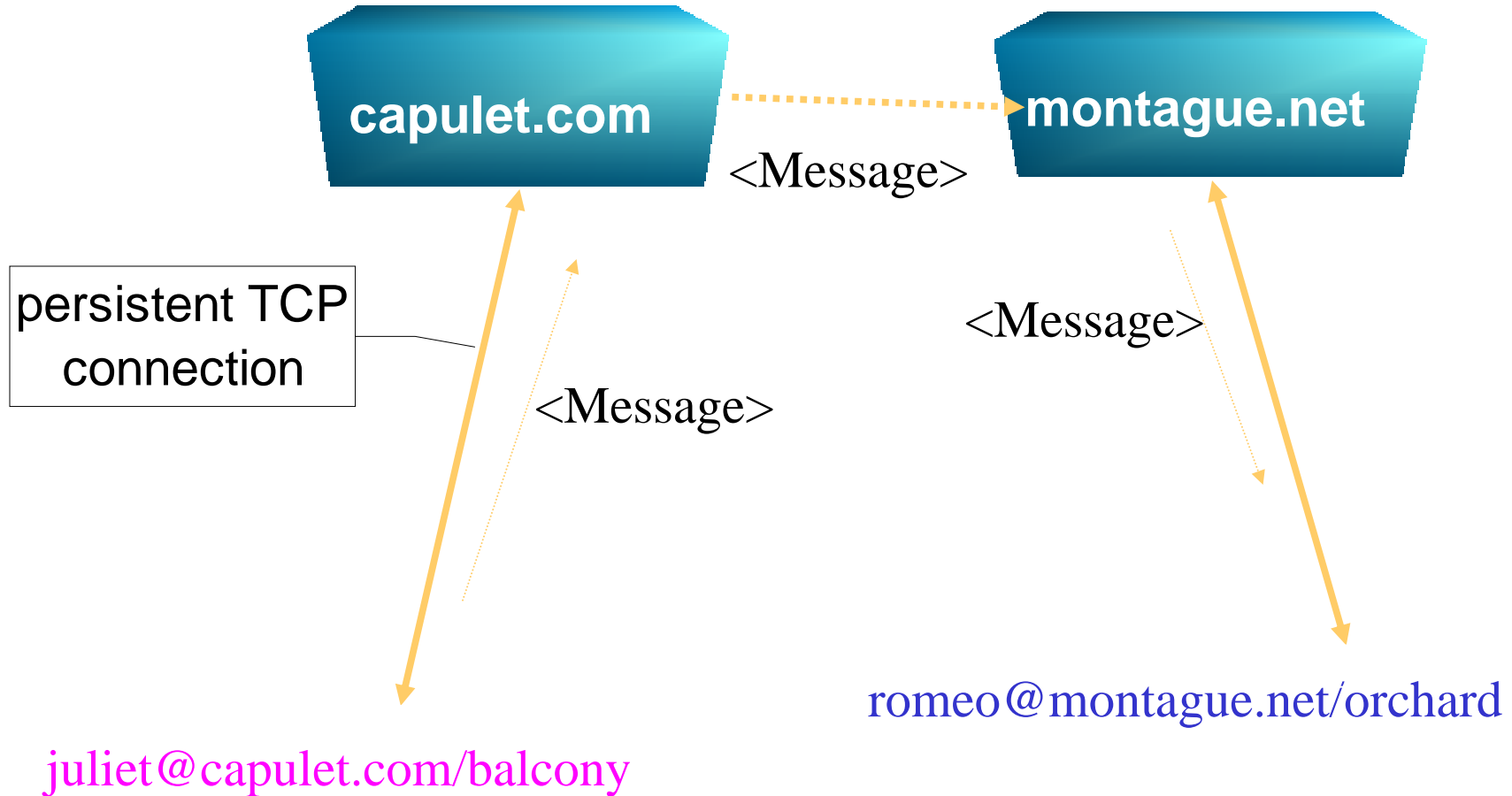
Jabber Protocol Architecture



- “Streaming” XML messages over a (duplex) TCP connection
- Messages are addressed to a “Jabber ID” (JID), which is *user@server/resource*
- *Network of servers* handle messages, and route messages not intended for them
- *Clients* live at the “edges” and talk to servers



Jabber Message Delivery





Jabber Existing Software



● Servers

- “jabberd” from jabber.com
 - ✓ GPL
 - ✓ Stable version is 1.4; beta 2.0 supports IETF protocol extensions (security)
- Other open-source: ejabberd, WPJabber
- Commercial: Rhombus, Accept

● Clients

- Gaim (popular universal IM client, works on Windows and Linux using Qt library, Mac/X11)
- PSI (Jabber-only client, Win/Lin/Mac)
- Many more: Exodus, RhymBox, Gabber, ...
- Web client interfaces also available



Jabber Clients & Devices



Palm



SMS



RIM



Pocket PC



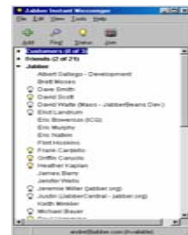
J2ME



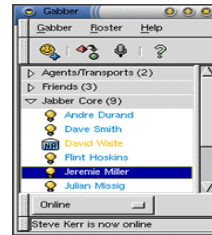
Symbian



WAP



Windows



Linux



Web

Source: <http://downloads.weblogger.com/gems/andredurand/JabberNetworkInterop.ppt>



LBLN Jabber Enhancements



● Personal Archiver

- Built a Python agent that archives chats and web page to search archives
- Runs with its own credentials
- Visible entity in the space
- Invite archiver to chatroom to archive a conversation
- Archive controlled by individual running archive
- Archives to searchable database or web page



AOL, iChat, and MSN



- All support presence and instant messaging
- Some support chat rooms
- Each uses a different protocol – they don't interoperate and most are non-standard protocols
- Servers run by a commercial company
- User population unlimited
- Adding video and audio capability or already have it



Skype



- Impressive voice conferencing quality
- Based on the Kazaa P2P infrastructure
- Provides presence and audio conferencing between up to 4 people
- Encrypts traffic
- Transmits all traffic through the P2P network
- Users behind firewalls are connected through nodes which are not behind firewalls
- Cross-platform
- Many sites are banning use due to the traffic volume



Videoconferencing



Videoconferencing Variables



- Format on the network and for display
- Equipment needed
- Ease of use
- Audio and video quality
- Transmission method
- Immersion level
- Interoperability
- Number of participants supported
- Availability at participant locations
- Availability of maintenance contract



Audio Exceedingly Important



- Microphones
 - Need enough to pick up everyone in the room
 - Reject room background noise
- Speakers
 - Need to be able to hear remote participants clearly
- Echo cancellation
 - Subtracts signal coming out the speakers from the signal seen at the mic to break the feedback loop
 - Headset echo canceller is user's head
 - Software echo cancellation is not very good
 - Difficult to recognize because problem site does not hear the echo
- Without good audio, video- and tele-conferences do not work



Video Considerations



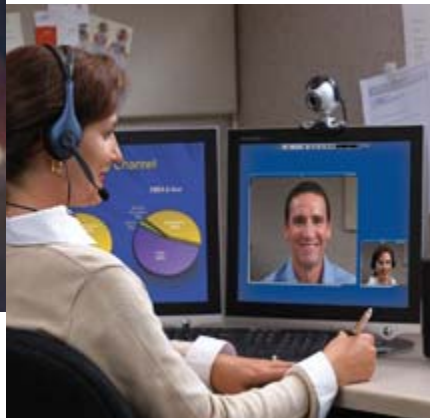
- Life-size pictures of remote people make them feel like peers
- Cameras at eye level also help create a feeling of peers
- Video frame rate and quality with enough detail to see non-verbal cues from participants
- Important to be able to see all sites and participants if it is a meeting rather than a lecture



H.323 Videoconferencing



- + Commercial products
- + Standard protocols
- + Installed and maintained by institution
- + Some free clients available e.g. netmeeting
- Requires a MCU
- Not immersive
- Poor multi-site properties





H.323 Protocols



- Standard recommended by the International Telecommunication Union (ITU)
 - Set of standards for real-time multimedia communications:
 - ✓ Voice
 - ✓ Video
 - ✓ Data conferencing
 - For packet switched networks
 - Originally approved in 1996
 - Current version is version 2



H.323 Components



- Terminals – end station equipment
- Gatekeepers – communication central
 - Address translation
 - Admissions control
 - Bandwidth control
 - Zone management
- Gateways – connect different networks
- MCU – connect more than two participants



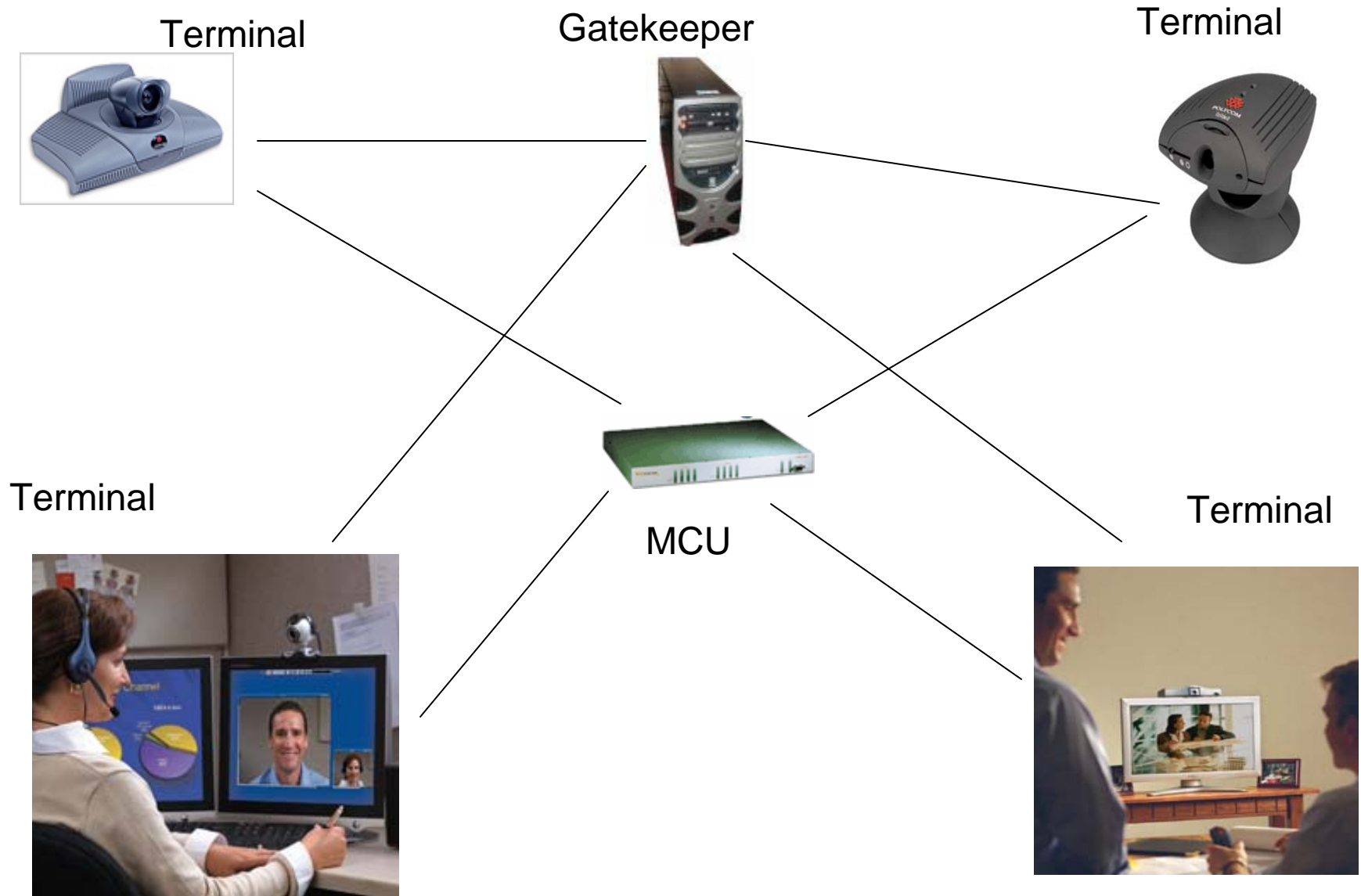
H.323 Protocols



- Audio - G.723 (G.711, G.722, G.728, G.729, MPEG 1)
- Video – H.261 or H.263
- System Control - H.225
- Security – H.235
- Data/application sharing – T.120

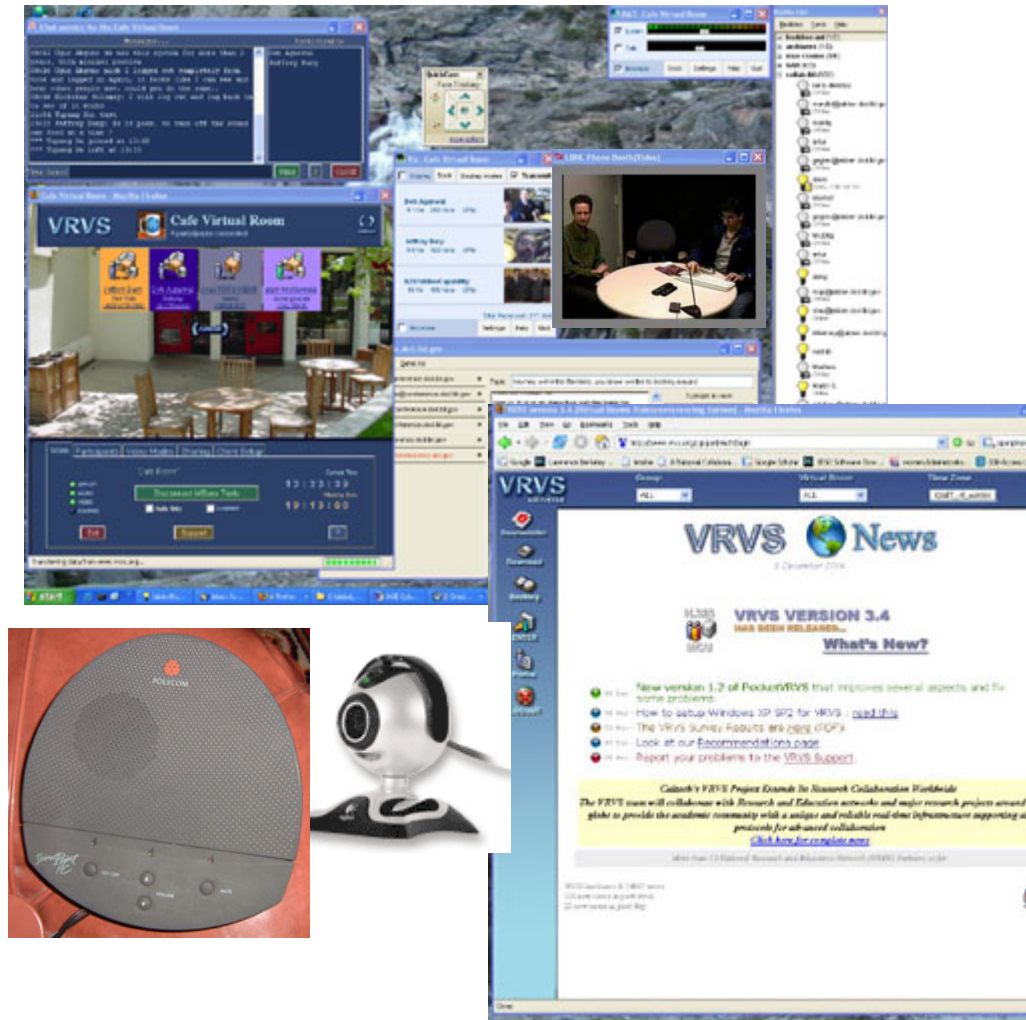


Components





VRVS Videoconferencing (CalTech)



- + High-Energy Physics uses to support collaboration
- + Interoperates with H.323
- + Free software
- + No MCU required
- + Virtual room paradigm
- + Reflector network
- + Automated network monitoring and recovery
- + Cross-platform
- + Web interface to launch
- + Supports Multi-party
- + Not immersive



VRVS Interface



VRVS version 3.2 (Virtual Rooms Videoconferencing System) - Microsoft Internet Explorer

Address: <http://www.vrvs.org/cgi-perf/Auth/login>

Community: Universe | Virtual Room: Earth / Island | Time Zone: GMT_1_winter

Island | YEAR | MONTH | DAY

February 2004

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2 L3 Analy PHOBOS C	3 tests UM umif bes IPPP-bes Fermilab	4 proba Atlas Siv	5 DO Simul SCIPP	6 SC2	7
8 TOKYO RC DO Elect	9 LHCb Lig L300	10 TK Elect TK Pixel	11 TK - TPO	12	13	14
15	16 CLEO Lun	17	18	19	20	21
22 LHCb TH	23 CLEO Lun	24	25	26	27	28
29						

← previous need help? → next

Use the *previous*, *next*, *YEAR*, *MONTH* and *DAY* buttons to browse the schedule...
...instead of the 'Back' and 'Forward' buttons of your web browser.

Ocean Virtual Room - Microsoft Internet Explorer

VRVS Ocean Virtual Room
6 participants connected

Participants:

- CERN 40-2A (Ben - CERN-BIT)
- Albert De Roeck (Ben - CERN-BIT)
- Javier Fernandez (Berlin - CERN-EU)
- javier cuevas (Oviedo - RadPIS)
- ugo gasparini (Rome - INFN)
- David Collados (VRVS) (CERN-BIT)

Buttons: Main | Participants | Video Modes | Sharing | Client Setup

"PR3 Tracker b tau"

APPLET: AUDIO: VIDEO: SHARING:

DISCONNECT MBone

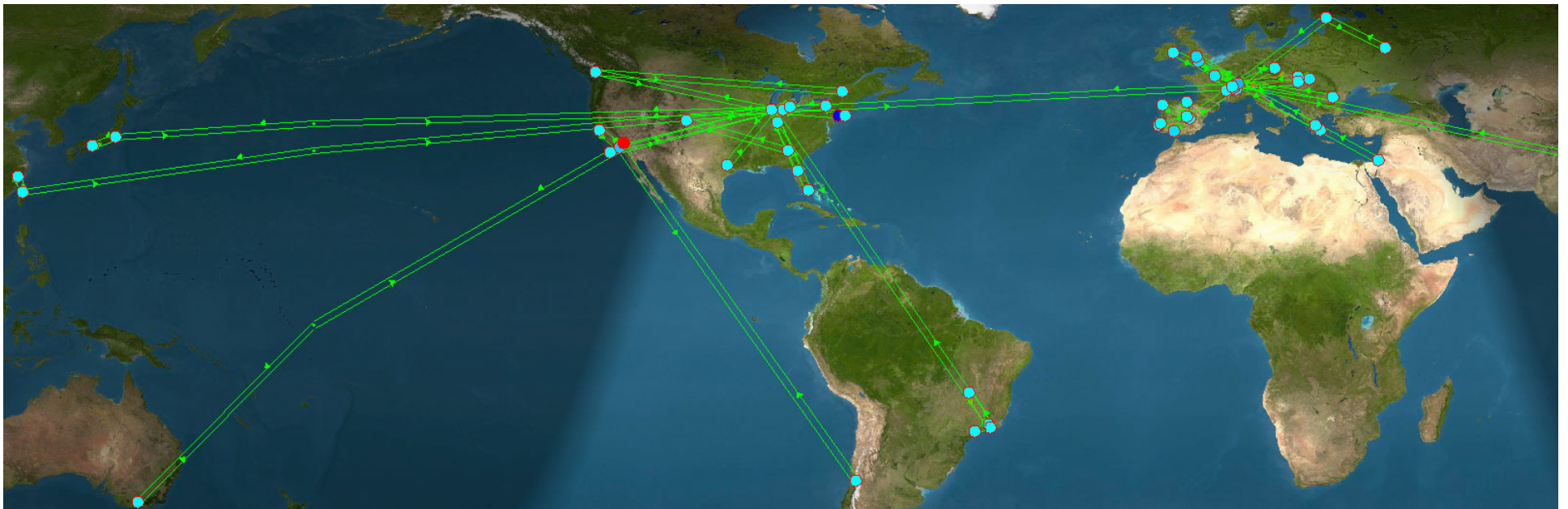
Audio Only Loopback

Current Time: 13:10:15
Meeting Ends: 13:28:00

Buttons: Exit | Support | ?



VRVS Reflector Network





Access Grid Nodes (ANL)



- + Many communities using
- + Immersive environment
- + Supports group-to-group
- Requires an operator
- Ease of use





AG Interface and Scheduling



AG SCHEDULE

Home | View Calendar | Schedule a Meeting | Add a Facility | Tour | Register

Today: 04/10/2003

Today's Lineup

- 9:00AM - 9:00PM NSF Topical site review
- 9:28AM - 11:53AM planning meeting for SC03 and such
- 12:30PM - 1:00PM Topical Architecture Conference
- 2:00PM - 3:00PM Workshop Meeting - Cold Data Summit

First Time Users - Take the Tour!

Welcome to AGSchedule! The exciting new website is designed to make scheduling easier to do on the Access Grid and more automated, and to be more attractive to non-users. Please take a tour of the site, and learn what it has to offer you.

News & Announcements

Wednesday, March 26, 2003

- AGSchedule now supports Desktop Saving Time! There are some changes that went into this upgrade, most important, time zone selection is now done via a selection box in the upper right. Try it out! You can now view meetings in any time zone. And the appropriate Daylight Saving Time change is made for you. If you are a grid operator, you should have noticed an initial dialog, any changes to your meeting times. Please check your meetings for errors and contact us if there are any problems. Set grids to Michael and Shawn for that help with on this upgrade.
- AGSchedule now offers to be for remote and mode operators. We have established a "Local Tech" so there can be a central contact for your site. Contact us if you wish to use this new feature. Access can now be "User", "Node Op" or "Person if". PG users can create a personal room for their TSO that only they can schedule.

Wednesday, January 29, 2003

- Please be sure to log in and create your ID character so you can launch and fully participate in meetings with AGSchedule. You can do this by clicking the "Profile" link in the light blue toolbar. This takes you to the "Set Profile" page where you can create your ID character and set other options.

AG Venue Client

Venue Preferences My Venues Help

https://vv2.mcs.anl.gov:9000/Venues/000000f5569d4ffc008c00dd000b00377de

Test Room

Exits <<

Access Grid Lobby

Participants

- Hubert Daugherty
- Jennifer Teig von Hoffman
- Jim Miller
- LANL
- Rolando Torio

Data

- vic.exe

Services

- AG Search

Applications

- Shared Presentation

-- Entered new venue
-- Entered new venue

Your message: Display

Add your personal data to venue



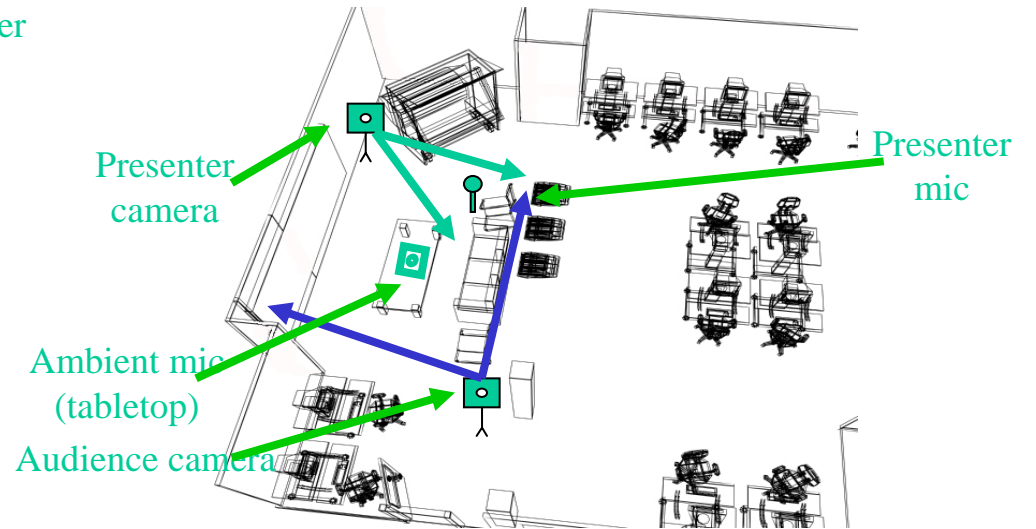
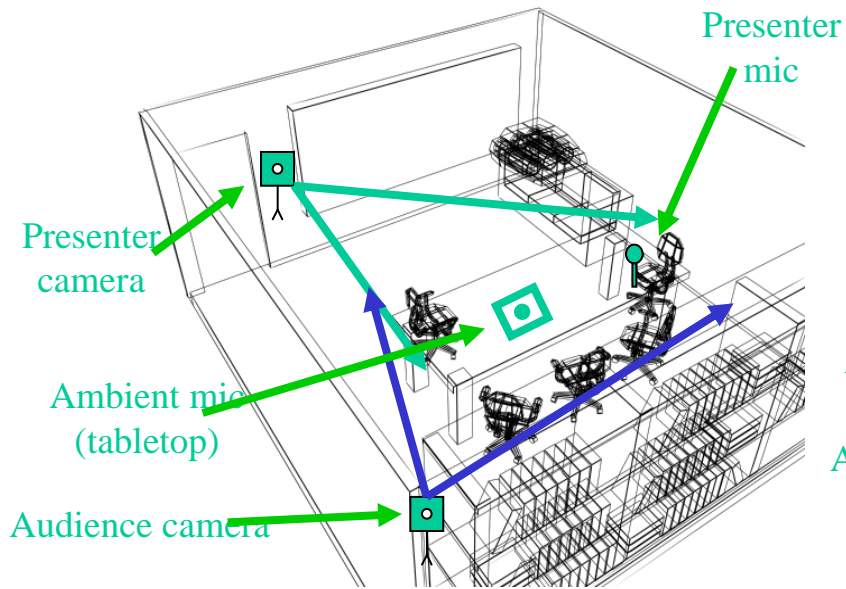
AG Equipment



- Room ideal
 - 3 cameras
 - Room microphones and speakers
 - Echo cancellation
 - Computer
 - Multiple displays
 - Good lighting and sound configuration
 - Operator
- Minimum
 - Camera hooked to computer
 - Headset
 - Network connection
 - Computer



Access Grid Nodes





Conference XP



The screenshot displays a remote learning environment. At the top left, a video feed shows a man with a headset. To his right, another video feed shows a man with glasses and a headset. A third window shows a whiteboard with handwritten notes: "July 27 - CS 123", "lib - hack avoid second", "interesting tutorial", and a code snippet: "Basic video game loop: while (playing) { get input }". Below the video feeds, a presentation slide titled "Scaleable Research Platform" is visible, featuring a diagram of wireless devices connected to a central "Wireless Network". The main window shows a code editor with a slide titled "Symbol Tables for JFlat (2)". The slide contains the following text:

- Global (cont)
- Single global table to map class names to class symbol tables
 - Created in pass over class definitions
 - Used in remaining parts of compiler to check field/method names and extract information
- All global tables persist throughout the compilation
- And beyond in a real Java or C# compiler...

Handwritten annotations in the code editor include:

```

class {
  M -> N
  F -> M
  + this.x;
}
class C {
  int v;
  public C(int x) {
    super();
    this.x = x;
  }
}
  
```

Other visible windows include "My Notebook" and "Scaleable Research Platform - Microsoft Office OneNote 2003".



URLs for more information



- www.h323forum.org
- www.packetizer.com/voip/h323/
- www.vrvs.org
- www.accessgrid.org
- www.conferencexp.net



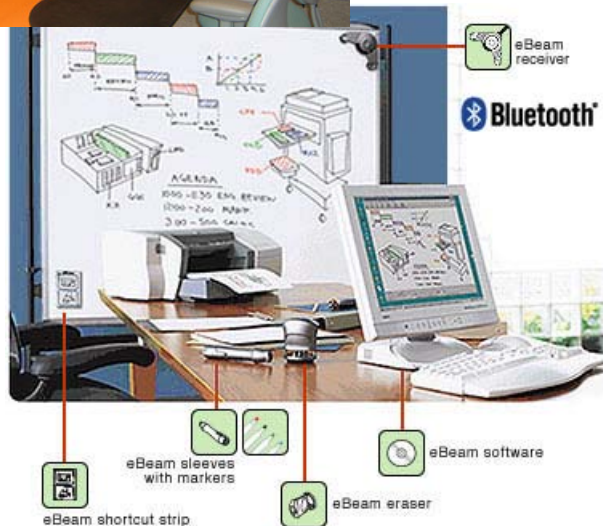
Shared Whiteboards



E-Beam Shared White Board



- + Portable sensor
- + Captures real and screen whiteboards
- + Free software
- + Inexpensive sensors
- + Web interface
- LBNL proximity sensors use the same ultrasound frequency as the eBeam





Whiteboards Cont.



- Other whiteboards
 - Media Lecture Board (MLB)
 - WB
 - Smartboard
- Issues
 - Natural writing interface - pen
 - Equal participation capability
 - Pen input – tablet PCs
 - Ability to import graphics and documents



Video Streaming



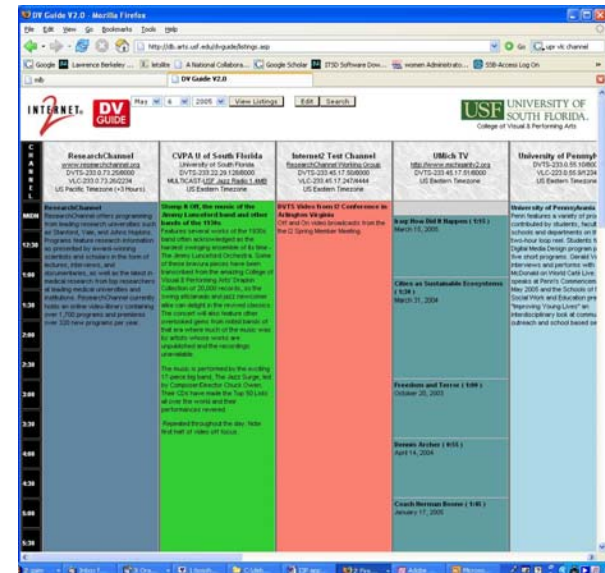
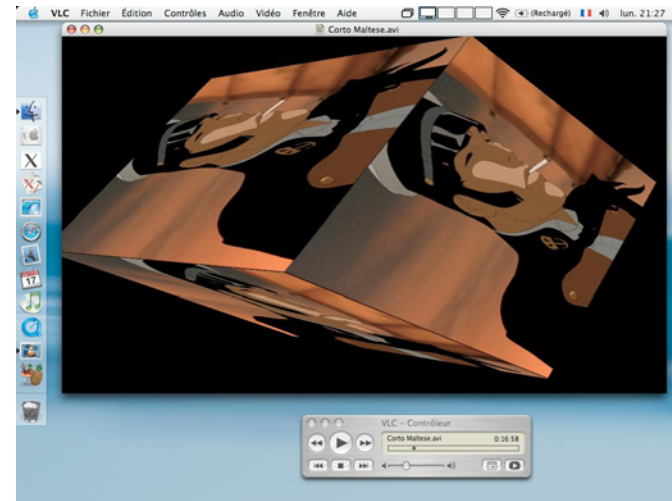
- Laptop capture
- VideoLAN
- Real networks
- Other products
- WebEx



Video Streaming



- VideoLAN – www.videolan.org
- Adopted by Internet 2 community for seminar transmission
- Easy to use and produce streams
- Cross-platform
- High quality video and audio stream
- Uses significant bandwidth
- <http://db.arts.usf.edu/dvguide/listings.asp>





Lecture Capture and Playback



- Capture equipment needed
 - Computer/laptop
 - Web camera
 - Microphone
 - Realvideo server
 - Capture software
- Playback via browser
- Several commercial products available

The screenshot shows a web browser window with the address bar displaying `http://www.lns.cornell.edu/public/COMP/AWSem/devin031120/index.htm`. The page content includes the Cornell University LEPP logo and a video player. The video player is paused and shows a man presenting in front of a screen. To the right of the video player is a 'Slides' section with the title 'Components' and a bulleted list of items:

- Application to create html pages with synchronized slides
 - soTV.Net's soTV.Presenter
- Real media server
 - RealNetworks' Helix Universal Server
- Web server
 - Apache HTTP Server
- Audience feedback
 - Email or LBNL Chat (<http://www-itg.lbl.gov/Collaboratories/pcce.html>)

Below the slides is a 'Table Of Contents' section with a list of items:

1. AWSem
2. Introduction
3. Solution
4. Components
5. soTV.Presenter
6. Helix Universal Server
7. HUS - Network Placement

At the bottom of the slide section, there is a 'DESCRIPTION' tab selected, showing the following text:

Presentation Title: AWSem Intro
Description: An introduction to technology behind LEPP's Accessible Webcast Seminars.



Sociology



Typical Decision Variables



- Capabilities provided
- Ease of use
- Available to collaborators
- Interoperability with other tools
- Required hardware, software, and operating system
- Availability of support and servers
- Security
- Availability of 'killer' content or capability
- Robustness and reliability
- Flexibility to add features or customizations
- Performance, bandwidth, cybersecurity issues



Collaboration Realities



- Collaboration takes effort and thus must
 - Provide a perceptible benefit to all participants
 - Fit with current work practices
 - Be accessible to the users
- Collaboration tools need to be used regularly (not on the shelf)
- Group must already have a strong need to collaborate



Collaborative Design Process



- Identify key activities to share
- Inventory available technologies and hardware
- Make sure all participants have an incentive
- Develop realistic use cases/interactions
- Role play the interactions
- Identify critical technologies to enable collaboration
- Keep it as simple as possible



Continuous Re-evaluation



- People typically do not always use the tools the way you intended
- New modes of interaction will develop over time using the tools
- Needs of the collaboration are not static
- New people who join after the collaboration has started may need help understanding the paradigm and terminology
- Introduce tools incrementally into the environment



Technology Adoption Stages



Innovators (I) The enthusiasts who like technology for its own sake.

Early Adopters (EA) Those who have the vision to adopt an emerging technology to an opportunity that is important to them.

The Chasm (C) Time gap in technology adoption, which is between the early adopters and the pragmatists.

Pragmatists (P) Early Majority Early majority pragmatists are the solid citizens who do not like to take the risks of pioneering, but are ready to see the advantages of tested technologies. They are the beginning of a mass market.

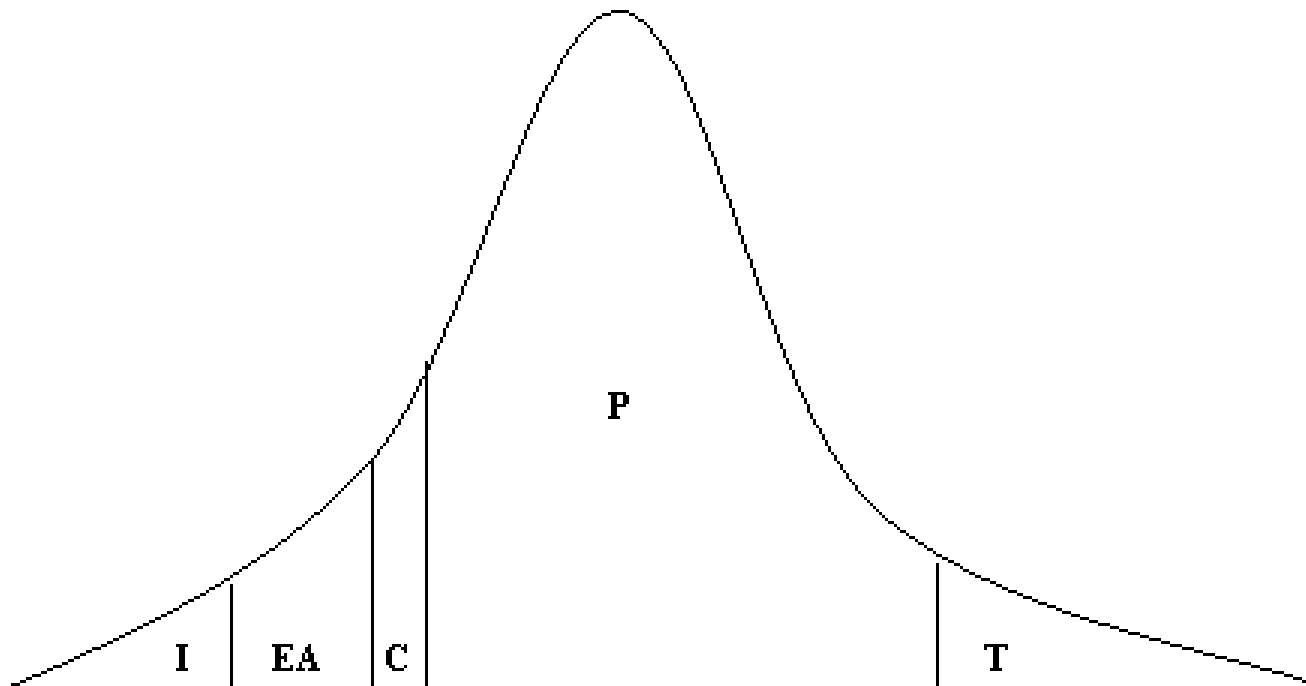
Pragmatists (P) Late Majority Late majority pragmatists, who represent about one-third of available customers, dislike discontinuous innovations and believe in tradition rather than progress. They buy high-technology products reluctantly and do not expect to like them.

Traditionalists (T) Traditionalists (laggards) do not engage with high technology products - except to block them. They perform the valuable service of pointing out regularly the discrepancies between the day-to-day reality of the product and the claims made for it.

From Crossing the Chasm (1991) - Moore



Technology Adoption Curve



From Crossing the Chasm (1991) - Moore



Some URLs



- Collaborative environments
 - Groove – www.groove.net
 - Sakai/Chef - collab.sakaiproject.org
- Videoconferencing
 - H.323 - www.ecs.es.net
 - Access Grid – www.accessgrid.org
 - VRVS – www.vrvs.org
 - Conference XP – www.conferencexp.net
 - VideoLAN - <http://www.videolan.org/>
- Components
 - Wiki – www.twiki.org
 - MLB - <http://www.informatik.uni-mannheim.de/pi4/lib/projects/mlb/>
 - XMPP/Jabber – www.jabber.org
 - E-beam shared white board - www.e-beam.com
 - SciShare file sharing system - www.dsd.lbl.gov/P2P/file-share/
 - Plone content management system – www.plone.org

ITSD

INFORMATION TECHNOLOGIES
& SERVICES DIVISION

Ed Ritenour

Networking and Telecommunications
Department

LBNL Supported Conferencing



- **First and foremost preferred method of conferencing is:**

Face to Face communications

- **But what if you can't physically be there ?**

- **Audio Conferencing**
 - Desktop phone
 - Cell Phone
 - Room speaker phone
 - **Audio Bridging, for multiple participants**
 - Internal to PBX
 - Audio bridge

- **Video Conferencing**

- Provides needs that lie somewhere between physically being there and communicating by phone.

- **Video Conferencing (Systems Supported)**
 - **Room systems**
 - Four public rooms at the Lab configured for lectures, presentations, and of course standard meetings
 - Three ISDN / IP rooms
 - One Access Grid room
 - **Portable unit**
 - Auditoriums or Large conference rooms
 - Large group of local people with one or more remote participants

- **Video Conferencing Systems**
 - **Personal systems (One Person)**
 - Desktop H323
 - AG PIG
 - **Bridges for multiple sites**
 - Provided free by ESnet

- **Video Conferencing**

- **Technologies**

- ISDN
- IP Unicast
- IP Multicast

- **Video Conferencing**

- **Conferencing Capabilities**

- **Point to point**
- **Multipoint (Multiple sites)**
 - (Requires a bridge)
- **Support Multicast IP**
- **Access Grid room**
- **Audio participants**
 - (Room systems and bridges all have audio ports)

- **Video Conferencing**

- **AG Node (Access Grid)**

- **Allows multiple video streams to be simultaneously received or sent**
- **Synchronized PowerPoint slides**
- **Non standard**
- **Uses Multicast IP**
- **Generally requires a operator**
- **Can be expensive to build and operate depending on your facility**
- **Still has a few bugs**

- **Video Streaming**

(Not to be confused with Videoconferencing)

- **RealPlayer**
- **Live and Video on Demand**
 - **Can stream live from both Auditoriums or Pers Hall**
- **We usually work with the Creative Services group when professional filming or editing is required for video on demand files.**

- **Data Sharing**
 - **White boards**
 - PC Applications
 - Electronic
 - Standard Electronic white board
 - E beam
 - **Data Sharing bridges**
 - **Documents**
 - Eroom

- **ESnet Conference Services**
 - Audio conference bridging service
 - Videoconference bridging service
 - Data sharing conferencing service

- **Support both Auditoriums and Pers Hall**
 - **Supported equipment**
 - **Ceiling mounted Projectors**
 - **Hand held microphones**
 - **Lapel microphones**
 - **Pointers**
 - **Overhead projectors**
 - **Portable Videoconference unit**

- We do charge a fee for all our services
- Where to Find: <http://tscweb.lbl.gov/home/home.html>
 - For LBNL Audio conference requests:
 - Via phone Ext 7997
 - Reach us via Email at: tsc@lbl.gov
 - For LBNL Videoconference and Streaming and A/V requests:
 - Phone Ext 6767
 - Email at: videoconf@lbl.gov
 - Email at: ag@lbl.gov
 - Email at: av@lbl.gov
 - For ESnet Services: <http://www.ecs.es.net>