

Internet2:

What is it?

Why would you use it?

How do you use it?

Jill Gemmill

UAB Telecommunications Services

Information Technology Day

May 6, 1999



What is Internet2?

- An organization of the top 100+ US research institutions, in partnership with government and industry
- A high speed network reserved for education and research use, only.
- Projects: high performance video, storage, quality of service

<http://www.internet2.edu/>





UAB Internet2 Project Team

UAB PI's

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CISCnet

MILESTONES: Summary

- **\$5 MILLION IN FUNDED GRANTS**
- **GULF CENTRAL GIGAPOP**
 - 3 campus coordination
 - ITC^Deltacom partner
 - AREN NOC services
- **LIVE CONNECTION TO NATIONAL NETWORKS**
 - April 1998
- **CAMPUS NETWORK INFRASTRUCTURE UPGRADE**
- **CAMPUS NETWORK EQUIPMENT**
 - Experimental ATM
- **UAB I2 WEB SITE**
- **UAB I2 APPLICATIONS WORKING GROUP**



If you don't enter, you can't win

Use of Internet2 networks is restricted to institutions that are connected to at least one of the networks.

You cannot gain Internet2-type network speed to a non-connected institution.

Collaborative Network Initiatives

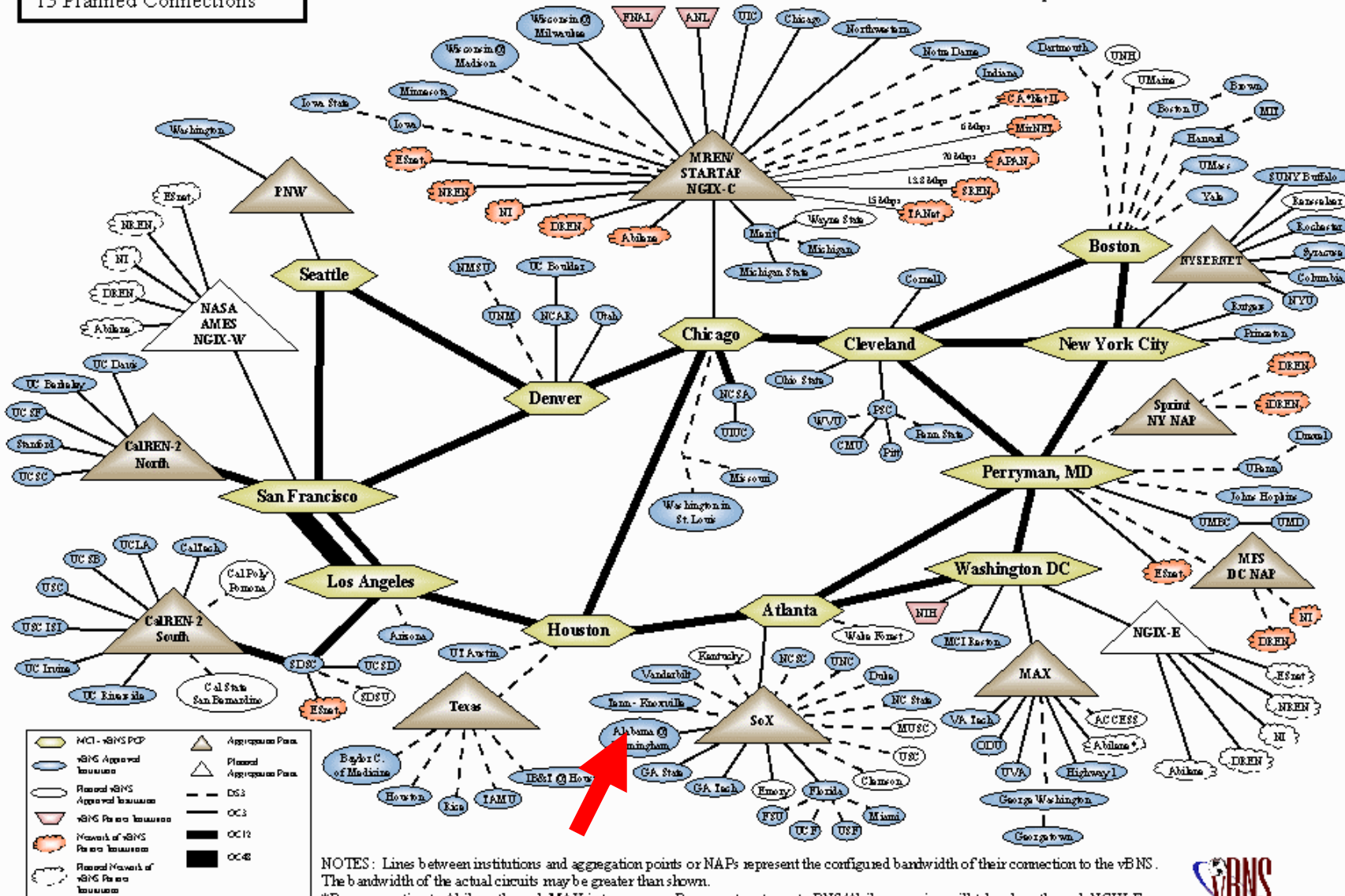
- National Science Foundation vBNS
- Internet2 Abilene
- Southeastern Universities Research Association SOX and MAX
- UAB, UA, UAH Gulf Central GigaPOP
- Alabama Research and Education Network AREN2



91 Operational Connections
13 Planned Connections

vBNS Logical Network Map

Last Updated 04/26/99



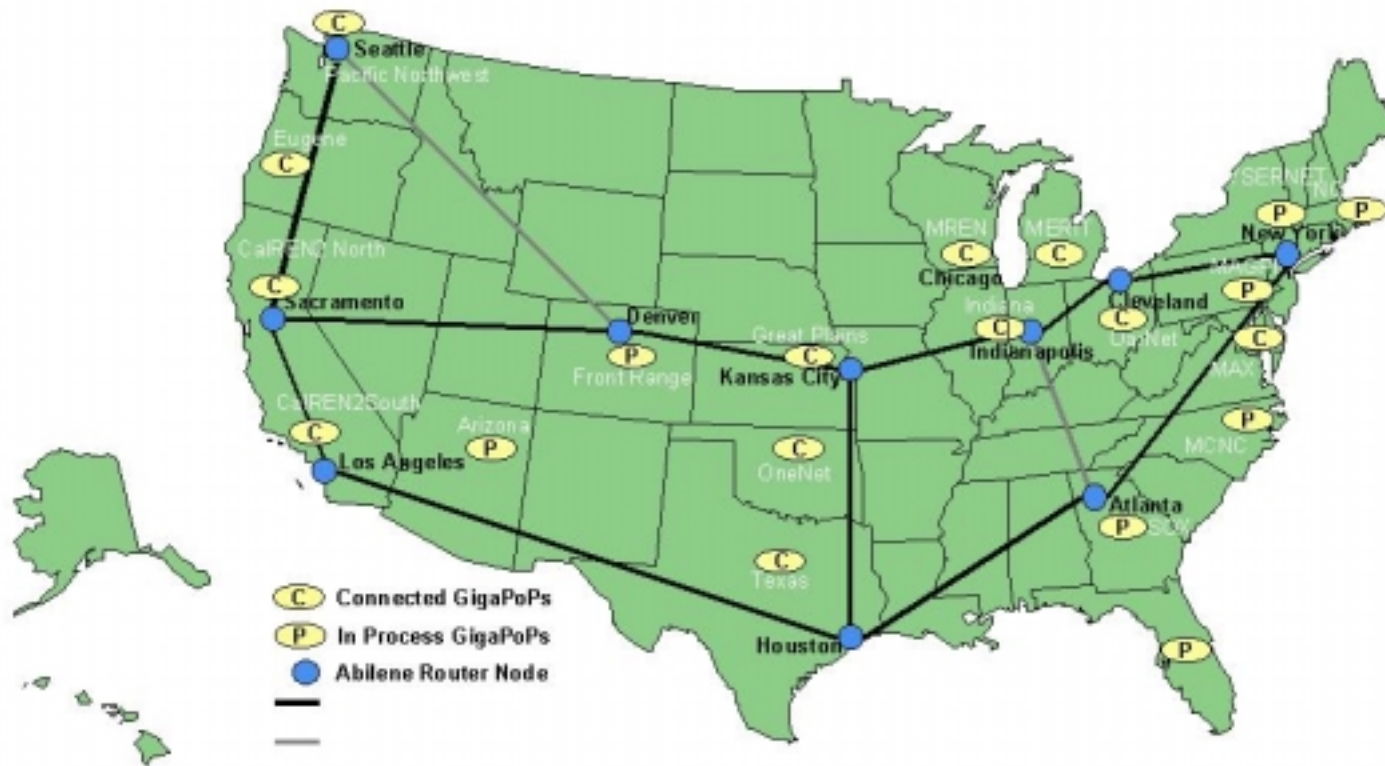
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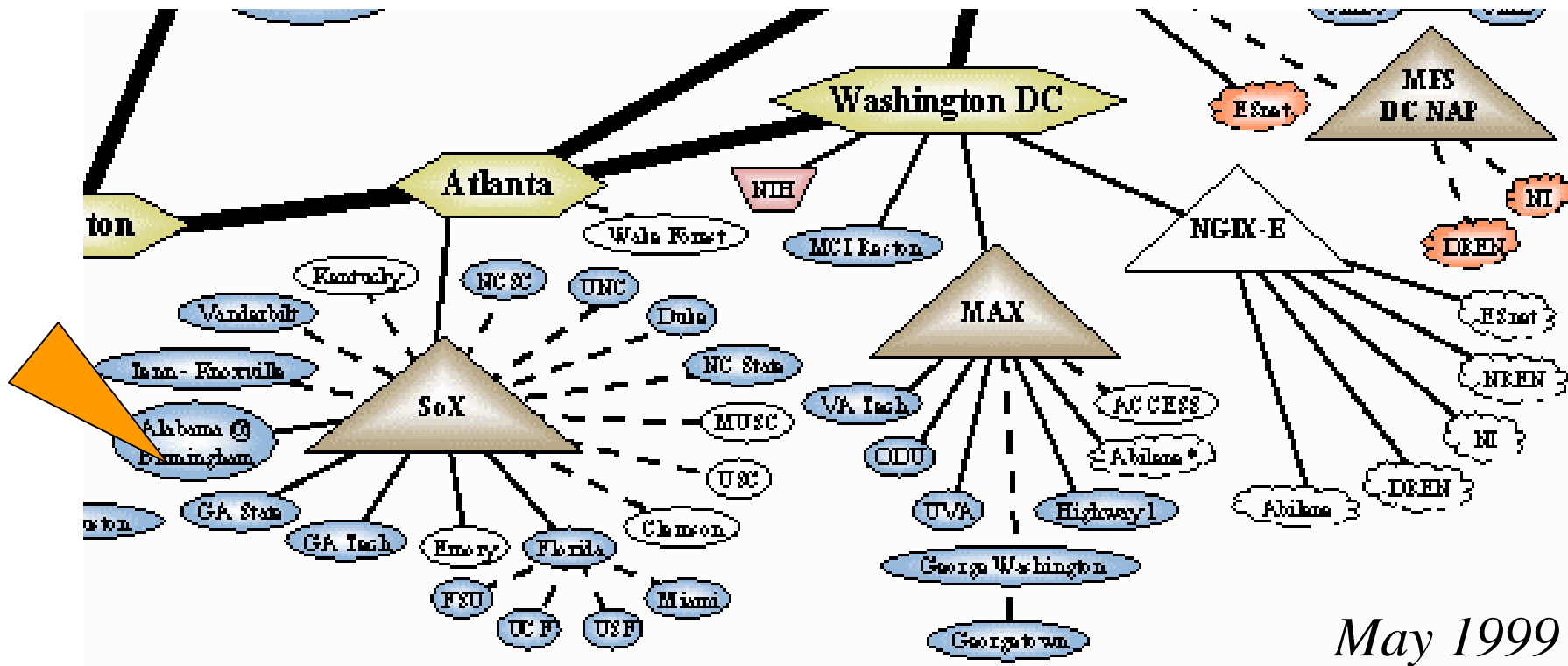
National Science Foundation: *very Broadband Network Service*



Abilene Network

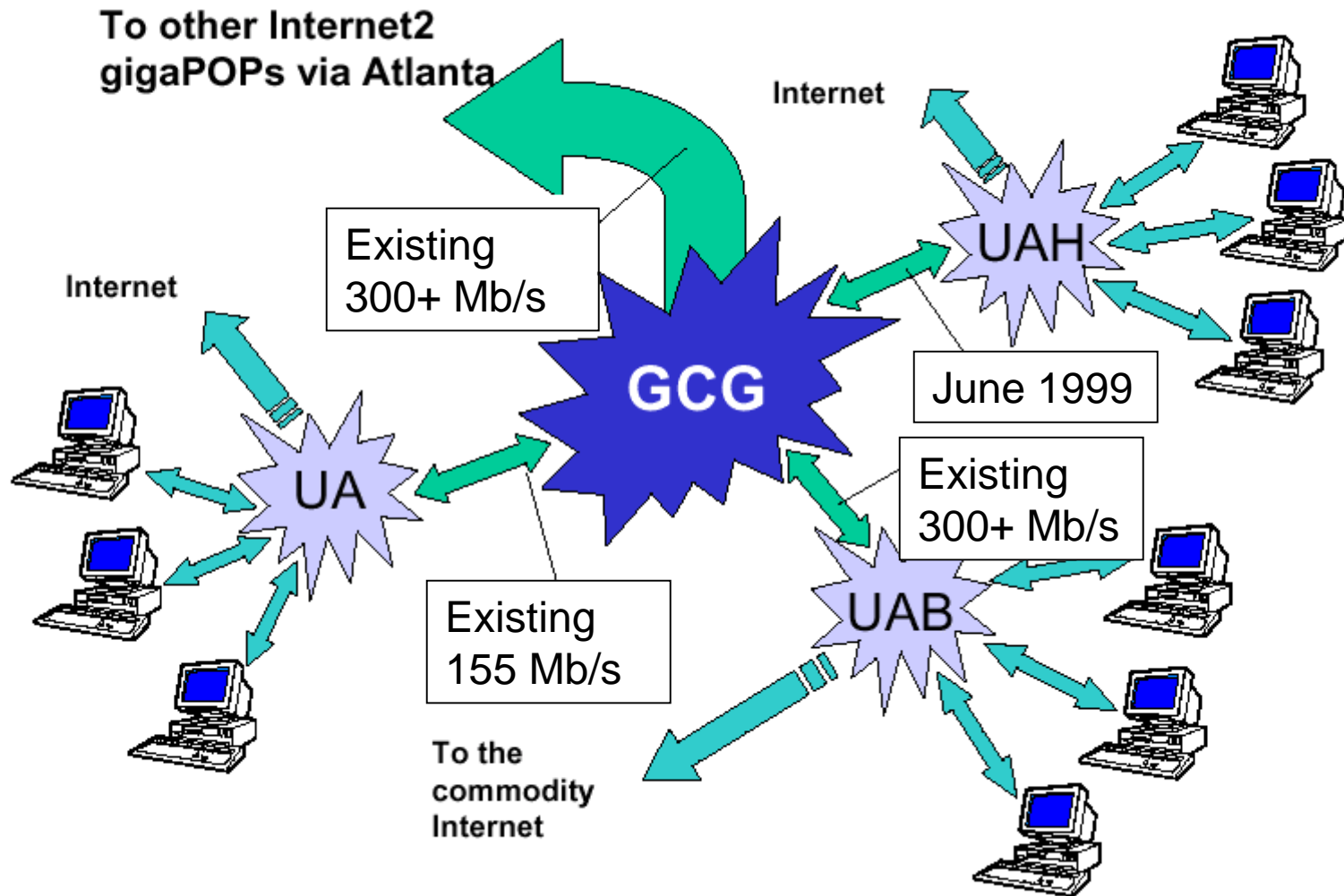


Southeastern Universities Research Association (SURA) “Southern Crossroads” (SOX) and “Mid-Atlantic Crossroads” (MAX)



May 1999

Gulf Central GigaPoP

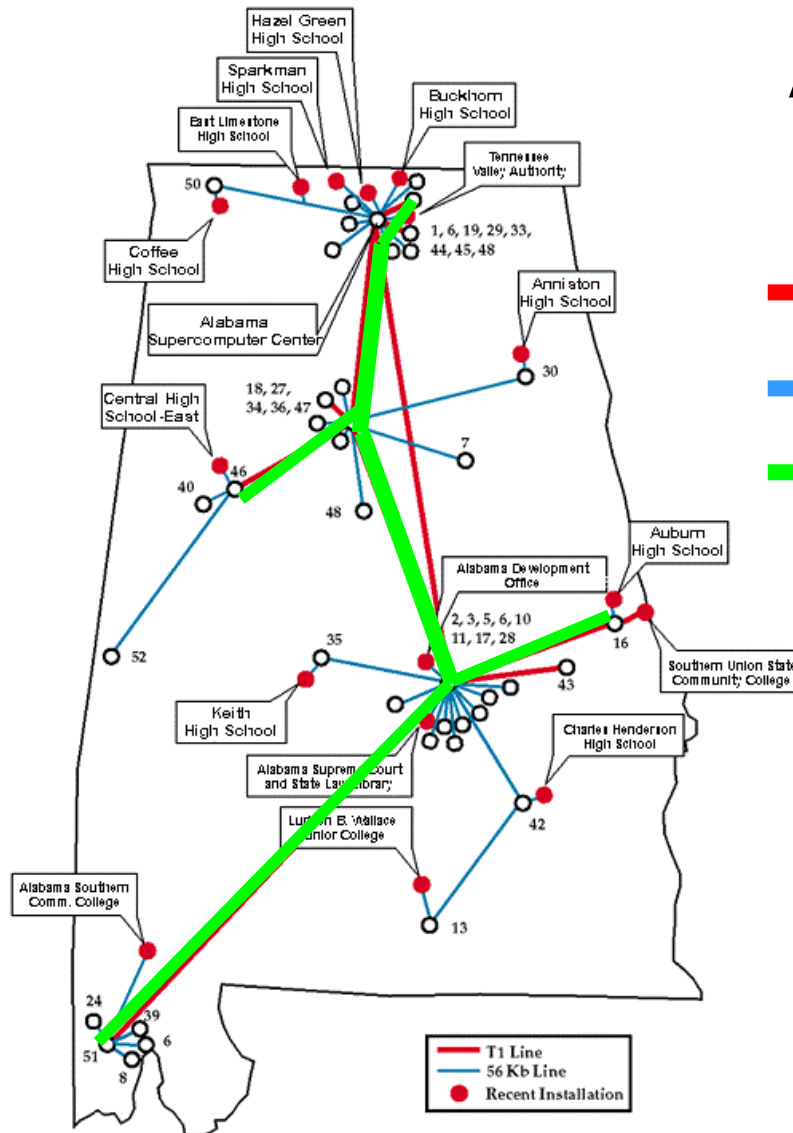


Alabama Research & Education Network

AREN2

**\$3+million
federal
EPSCoR +
State
EPSCoR \$
+ AREN \$**

**= jump
start for
state
network
upgrade**



- T1 (1.5 Mb/s)
- 56 Kb line
- DS3 (45 Mb/s)



UAB I2 Web Site



Home
Introduction
Research Application
UAB Survey
NSF vBNS Award
EPSCoR Award
Gulf Central GigaPOP
NLANR
International
National
SouthEast
Alabama
Funding Sources
Presentations

What is Internet2?

Any UAB person interested in I2 may [request access](#) to the Internet2 MEMBERS ONLY area of the national I2 web site.

Web-based Instruction/Distributed Learning

The university-wide Faculty Interest Group on Web-Based Instruction/Distributed Learning has come together to respond to the considerable interest in the academic schools and schools for health-related professionals to explore various platforms for Web-based instruction. The purpose of this Faculty Interest Group on Web-Based Instruction is for faculty to share information, to provide support to each other, and to inform the administration on Web-based instruction related issues, so that interested faculty and administration may make informed choices about future strategies and plans. Contact [Chris Lorish](#) (Medicine) or [Joann Lan](#) (Education)

On-line Video: Advanced Networking:

Connecting to the Future is a 5 minute video that highlights the promise and potential of applications made

CONTENTS

SEARCH
■ UAB Network Requirements Survey Tell UAB campus planners about your high performance network requirements
■ I2 Member Universities
■ Calendar Conferences, video presentations, and Workshops
■ Conferences Announcements of Conferences on new networking technologies, supercomputing, etc.
■ Contacts Internet2 Contacts at UAB

<http://www.uab.edu/internet2/>

Internet2

How do I access Internet2?

What can I do with it?

QUESTION: Who can use the vBNS and SoX networks?

ANSWER: All education and research activities at UAB are permitted to use these networks.

QUESTION: What special arrangements are required to use these networks?

ANSWER: None. The connection is transparent. All traffic destined for a connected institution will take the fastest route available.

QUESTION: What other institutions are now or will be connected to these networks?

ANSWER:

<http://www.vbns.net/>

<http://www.sox.net/>

<http://www.startap.net/>

<http://www.internet2.edu/>

QUESTION: What about Internet1? When will it improve?

ANSWER:

- UAB's Internet1 upgrade 3/99
- MCI to offer commercial vBNS
- GCG/SOX etc. can set own Acceptable Use Policies



QUESTION: What about connections to Europe and the Orient?

ANSWER:

High speed connections exist:

- Canada and Europe
- Japan; Singapore in prog.
- new connections monthly

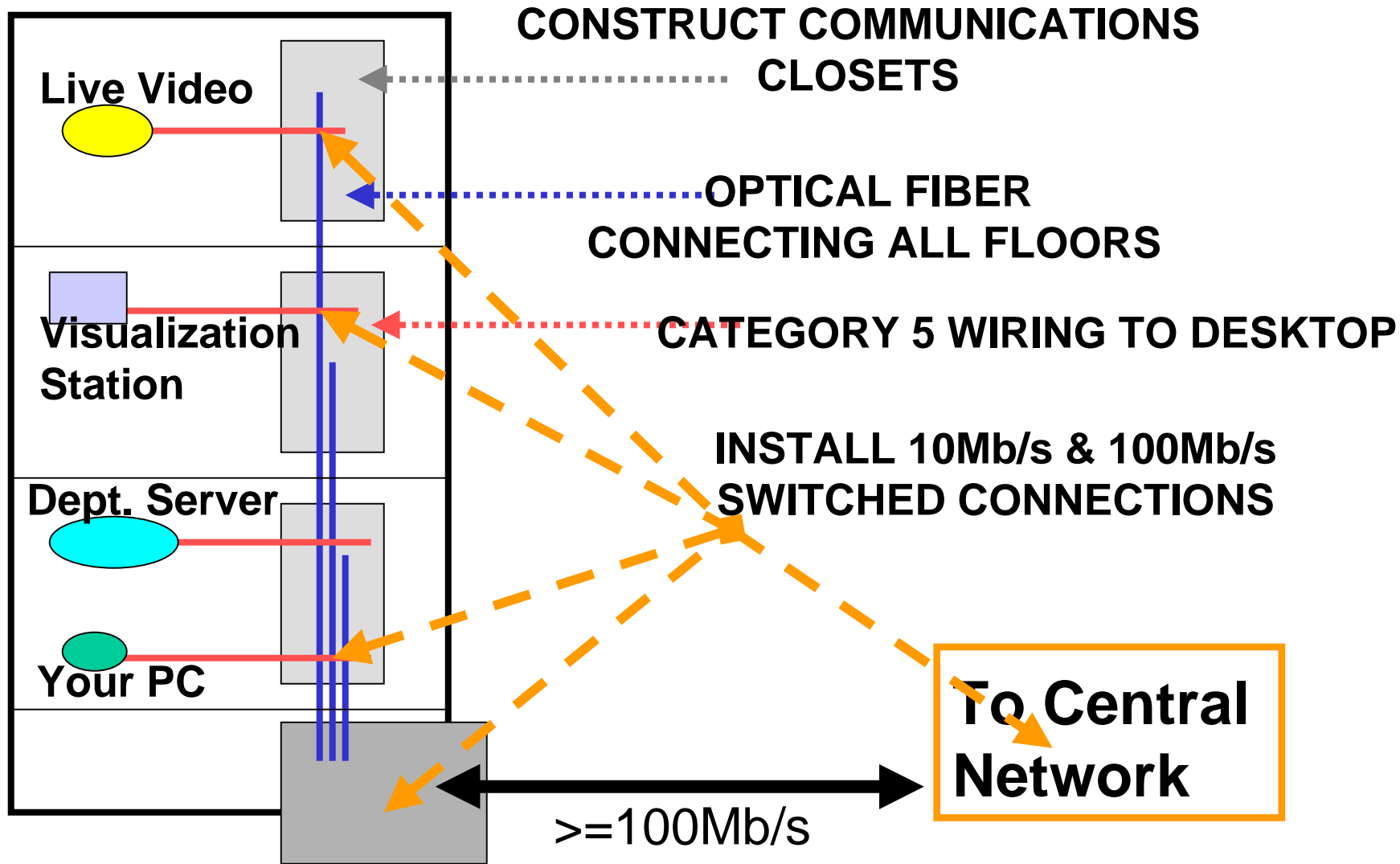
QUESTION: Is the network connection in my office ready for Internet2?

ANSWER: Maybe. Building wiring must be up to current standards and adequate electronics connecting you to the “on-ramp” are required.

UAB Network Infrastructure Upgrade

- Six year, 20+ million dollar building wiring and electronics module upgrade
- Will support high performance network applications, including research, teaching, and administrative applications
- Approved by President Reynolds and UAS Board of Trustees February 1999





UAB Campus Building

Year 1 - UAB Network Infrastructure Upgrade

First year priorities:

desktops of grant co-investigators

Wiring Ready

- Bevill
- Hoehn
- Engineering
- Volker (partial)

Complete

- McCallum(BHSB)

In Progress

- Worrell
- Campbell
- Administration
- Education
- Humanities

Hospital

- New Hillman
- Russell Ambulatory
- Jefferson Towers
- Kracke
- Children's Hospital



QUESTION: Do I need to purchase new equipment or network cards?

ANSWER: No--and Yes.

Improved campus network architecture will eliminate bottlenecks that prevent your existing equipment from operating optimally.

QUESTION: How will the Internet2 Applications Working Group be of benefit to my school's programs?

ANSWER: Advise regarding new opportunities, assist with connecting to UAB's high performance network, provide national exposure for innovative projects, assist with related grant proposals.

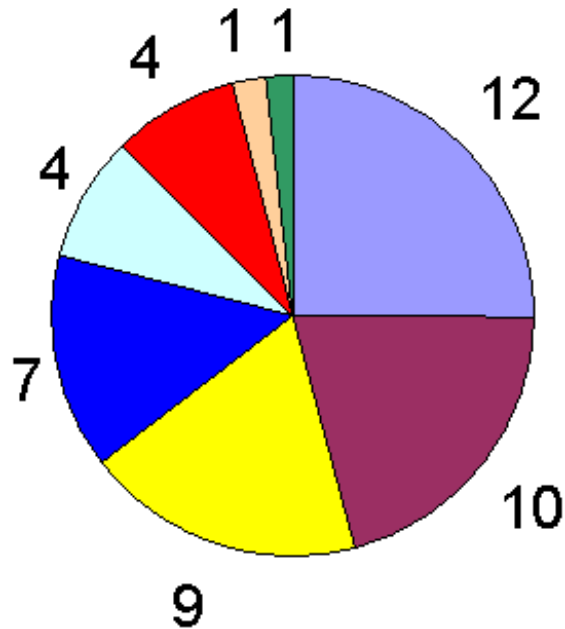


Internet2 APPLICATIONS WORKING GROUP

- Obtain maximum benefit from new, advanced telecommunications technology
- Increased campus-wide awareness of new facilities and capabilities
- Arena for on-going cooperation and communication between Provost's Office/Academic and UAB Telecomm.



UAB Reported High Performance Network Applications



- Distributed Classroom, Continuing Education
- Large, Distributed Databases/Files
- Remote Modeling/Visualization
- Distributed Computing
- QoS Requirements
- Remote Supercomputer Use
- Remote Instrumentation
- Network Engineering

QUESTION: What new activities can be realized using high performance networks ?

ANSWER:

- Very large database processing
- Large scale multi-site computation
- Digital Libraries
- Interactive Network Based Instruction (video conferencing; multimedia)

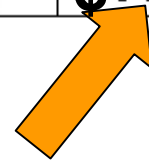
QUESTION: What new funding opportunities exist because of high performance networking ?

ANSWER: Next Generation Internet (NGI), Knowledge and Distributed Intelligence (KDI), NIH IT², and more.

Next Generation Internet (NGI) FY98 Budget

(Dollars in Millions)

	DoD/ DARPA	NSF	DoE	NASA	NIST	NLM/ NIH	TOTAL
Goal 1: Technologies	20	2	6	2	3		32
Goal 2: Testbed	20	2	25	3			55
Goal 3: Applications		1	4	5	2	5	18
TOTAL	40	10	35	10	5	5	\$105



QUESTION: What is the Internet2 Applications Working Group doing?

ANSWER:

UAB Videoconferencing Roundtable

Friday May 21 11:30 CH301

SURA High Performance Applications
Workshop

September 7-9 at UAB



SUMMARY

- The most important part of the network is what people do with it.
- Adequate services and infrastructure provide the foundation.
- Applications : new ways of exploring, collaborating, teaching, and discovering are really what Internet2 is about.