

*TAMU ITEC.*  
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&  
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Internet2

# *The VoIP Vision*



- *To make the combination of the Internet and voice communications the leading collaboration tool used by researchers, educators and*

# *VoIP Internet2 Initiatives*



- Internet2
  - 205 Member Universities with OC-192 backbone (Abilene Network). See [www.Internet2.edu](http://www.Internet2.edu).
  - Network is essentially free of latency, jitter and packet loss.
  - Most work done through Working Groups (VoIP, Digital Video, Presence, IPv6, Multicast etc.)



# *Internet2 VoIP Initiatives*

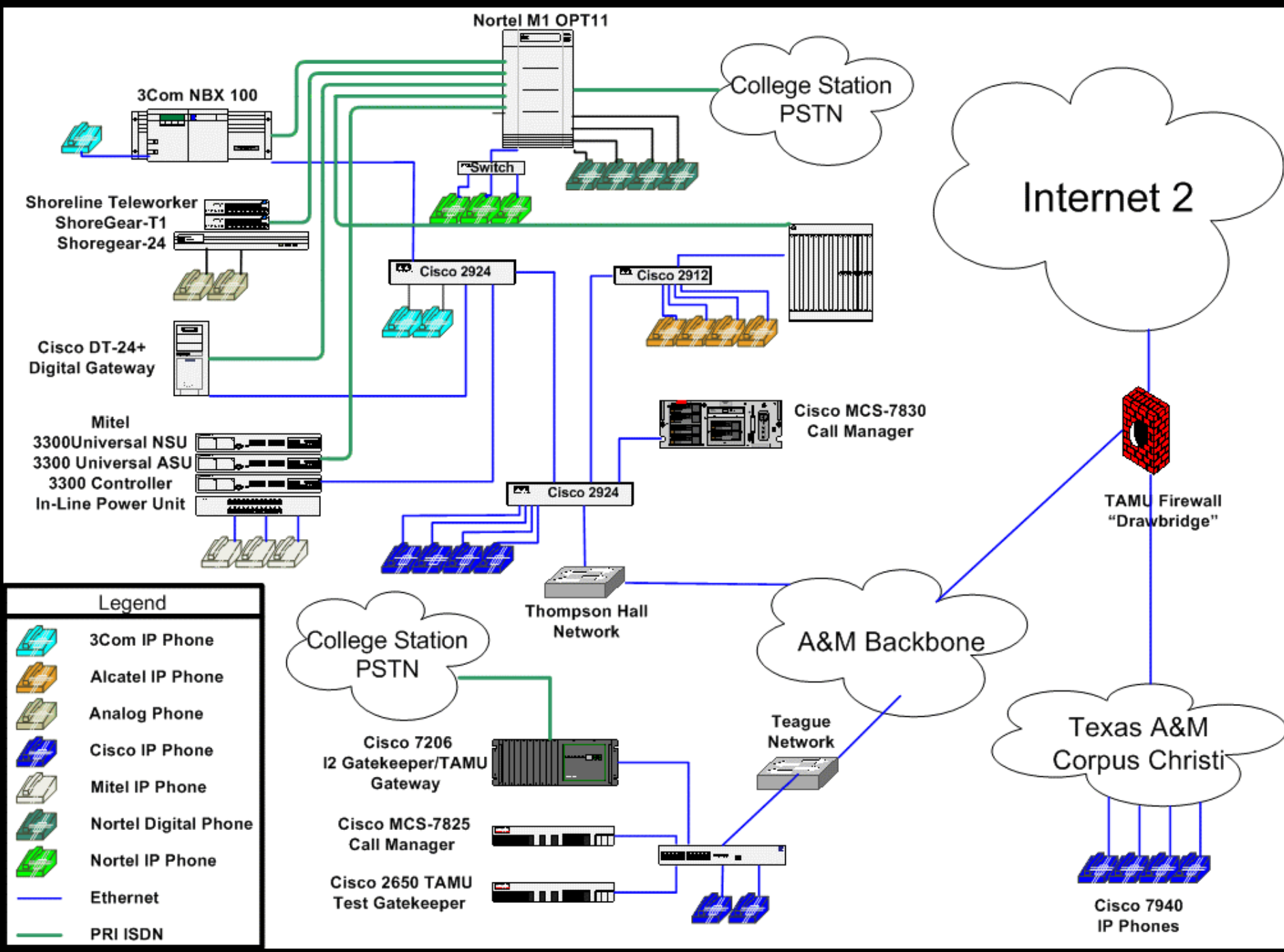


- VoIP Testbed – 20 Plus Universities peering VoIP systems for long distance access
  - Includes many International sites (Mexico, Australia, Czechoslovakia, Netherlands, and Brazil).
  - Manual system at this time
- Disaster Recovery Project
  - Trunking derived from remote location
  - Headed up by Georgetown University
  - Partners Broadsoft and PaeTEC

# *Internet2 VoIP Initiatives (cont.)*



- *SIP.edu – SIP deployment initiative*
  - *Universities currently involved (MIT , Yale and University of Pennsylvania at this time)*
  - *Directory services initiative – distributed LDAP (University of Washington and Duke possibly to lead this)*
  - *VoIP addressing initiative*
    - *E.164*
    - *ENUM*
    - *SIP ([55588@sip.tamu.edu](mailto:55588@sip.tamu.edu) or [walt@sip.tamu.edu](mailto:walt@sip.tamu.edu))*
- *Information Sharing - VoIP workshops (TAMU and Indiana, Joint Techs meetings)*
- *TAMU VoIP test lab – in Fermier Hall*



Legend	
	3Com IP Phone
	Alcatel IP Phone
	Analog Phone
	Cisco IP Phone
	Mitel IP Phone
	Nortel Digital Phone
	Nortel IP Phone
	Ethernet
	PRI ISDN

*Equipment not shown on previous  
slide*



- Broadsoft
- Pingtel
- Spectralink (cordless VoIP)

# *Internet2 Technology Evaluation Centers (ITEC)*



- Partnership between UCAID, Member Institution(s) and Industry.
- Mission is to:
  - Answer technology implementation questions (white papers).
  - Resolve technology problems (best practices).
  - Act as liaison between industry and research community in establishing standards.

# *Internet2 ITECs*



- Ohio ITEC – Established in 1999 to evaluate infrastructure problems and emerging technologies.



# *Internet2 ITECs*



- North Carolina ITEC – Provides evaluation of high end routing systems for the Internet2 community.



# *Internet2 ITECS*



- San Diego Super Computer Center  
ITEC – evaluates technologies in support of end-to-end performance, grid computing



# *The latest ITEC – TAMU ITEC*



- Established by MOU on 19 November, 2003
- First application based ITEC
- Subject to approval by Board of Regents
- To be housed at Research Park facility (May 2004)
- Facility to be shared with Integrated Center for Homeland Security (ICHS) and Network Testing Lab (Department of Computer Science, CIS and TTVN).
- Reports to Vice President for Research (Dr. Richard E. Ewing).



# *ITEC Staff*



- Walt Magnussen – ITEC Director
- Lance Parr – ITEC Lab Manager
- Ben Teitelbaum –UCAID Internet2 liaison
- Associated Faculty
  - Dr. Joseph Morgan
  - Dr. John Fike
  - Willis Marti
  - Pierre Catalla
- Student Workers

# *VoIP ITEC Initiatives*



- 2003 Projects
  - Sip Phone Interoperation Tests
  - Inbound call SS7 rerouting
  - Network Impairment – Codec study (how much jitter, latency and packet loss is to much?)
- 2004 Proposed Projects
  - VoIP power best practices
  - VoIP testing and measurement tool analysis
  - Protocol/Server security analysis (robustness)

## *Next Steps*



- Signing of MOU and Board of Regents approval
- Construction of Facility (by March 2004)
- Embracing Industry supporters
- Visit us at [itec.tamu.edu](http://itec.tamu.edu)