GRETC

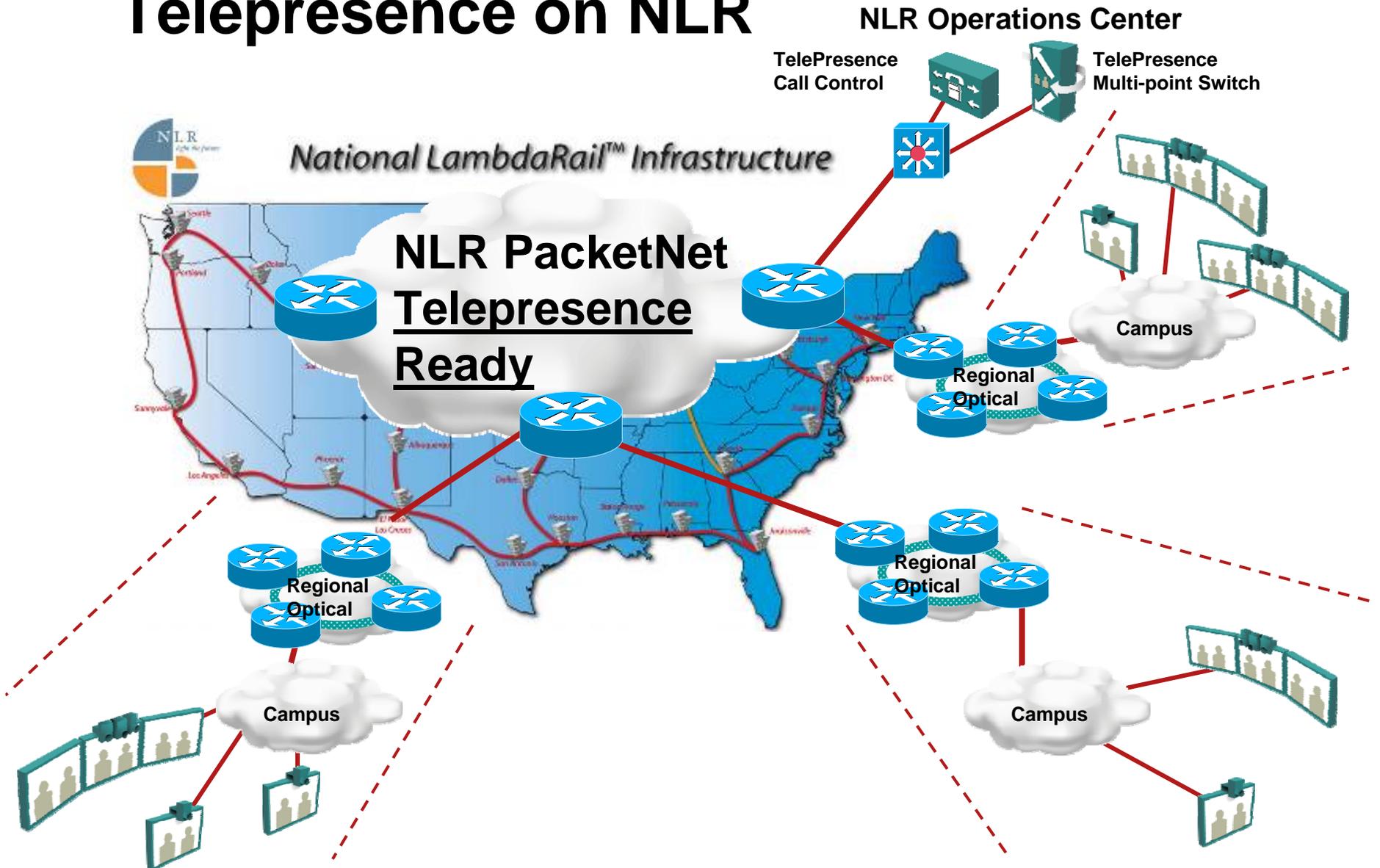## Global Research & Education TelePresence Community

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NLR & TelePresence

- NLR has implemented Cisco TelePresence and this new capability is changing the way it interoperates as an organization.

- NLR is a distributed organization and in the past relied mostly on email and telephone calls to make progress on collaborative projects. TelePresence has become NLR's primary means of facilitating collaborative communication between engineering staff members.

- NLR member universities are now implementing and utilizing TelePresence.

- TelePresence has been used for researcher to researcher collaboration, professor's discussions with graduate students, distance education.

Telepresence on NLR

NLR Operations Center

TelePresence Call Control

TelePresence Multi-point Switch

National LambdaRail™ Infrastructure

NLR PacketNet Telepresence Ready

Campus

Regional Optical

Regional Optical

Regional Optical

Campus

Campus

Global Research & Education TelePresence Community (GRETC)

- To expand the utility of TelePresence to its members NLR is establishing GRETC – the Global Research & Education TelePresence Community.

- GRETC is especially attractive to universities connected to NLR or any NREN because there is no additional cost for extra bandwidth or dedicated circuits to support TelePresence.

- NLR has established and is running its own exchange (a Session Border Controller and Multi-point switch) with which it is providing TelePresence connectivity service to its university members and other NRENs.

- NLR (USA) and ANKABUT (UAE) are the first NRENs to participate in GRETC. NLR has invited Internet2 and other NRENs from around the globe to join GRETC.

GRETC Technical Goals

Establish Technical Committees to Coordinate:

- Inter Exchange Connection

- Dial Plans

- Directory Support

- Scheduling Tool Implementation

- Support Desks and Trouble Shooting

TelePresence Uses in Research & Education

- Distance Education and Training

- Collaborative meetings between researchers and staff at different universities – including multi-point meetings

- Participation from a distance by guest speakers at workshops and conferences

- Time and travel saving for university staff and executives

    - e.g. The UCSD Chancellor has used TelePresence to enable face to face meeting with the President of the University of California System – saving critical executive time and travel budget

Universities with Cisco TelePresence

MIT (Massachusetts Institute of Technology)
  Stanford University
  Cornell University
  Purdue University
  North Carolina State University
  University of North Carolina Chapel Hill
  UCLA (University of California, Los Angeles)
  UCSD (University of California, San Diego)
  Johns Hopkins University
  Georgia Board of Regents (multiple units)
  California State University System (multiple units)
Penn State
Virginia Tech Modeling and Simulation Center for Collaborative Technologies
Pittsburgh Supercomputing Center
  University of North Carolina Chapel Hill (RENCI)
UAE Ministry of Education (Multiple Units)
Stenden University (Netherlands)
Khalifa University of Science, Technology and Research (UAE)

Pending
  NSF (National Science Foundation)
  FIU (Florida International University)
  UC Irvine (University of California, Irvine)
  UIC (University of Illinois at Chicago)
Indiana University
  CENIC (California State R&E Network)
  Pittsburgh Supercomputing Center

Future
Georgia Tech
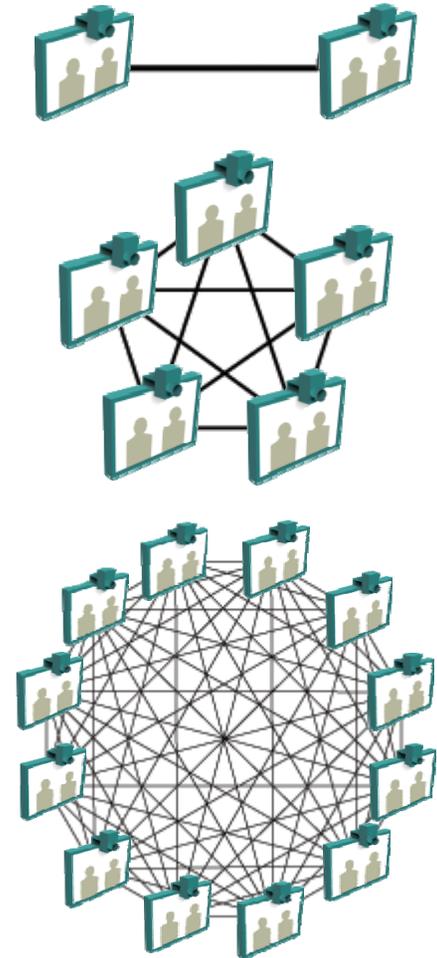 Berkeley (University of California, Berkeley)
  University of Washington
  Indiana University (multiple units)
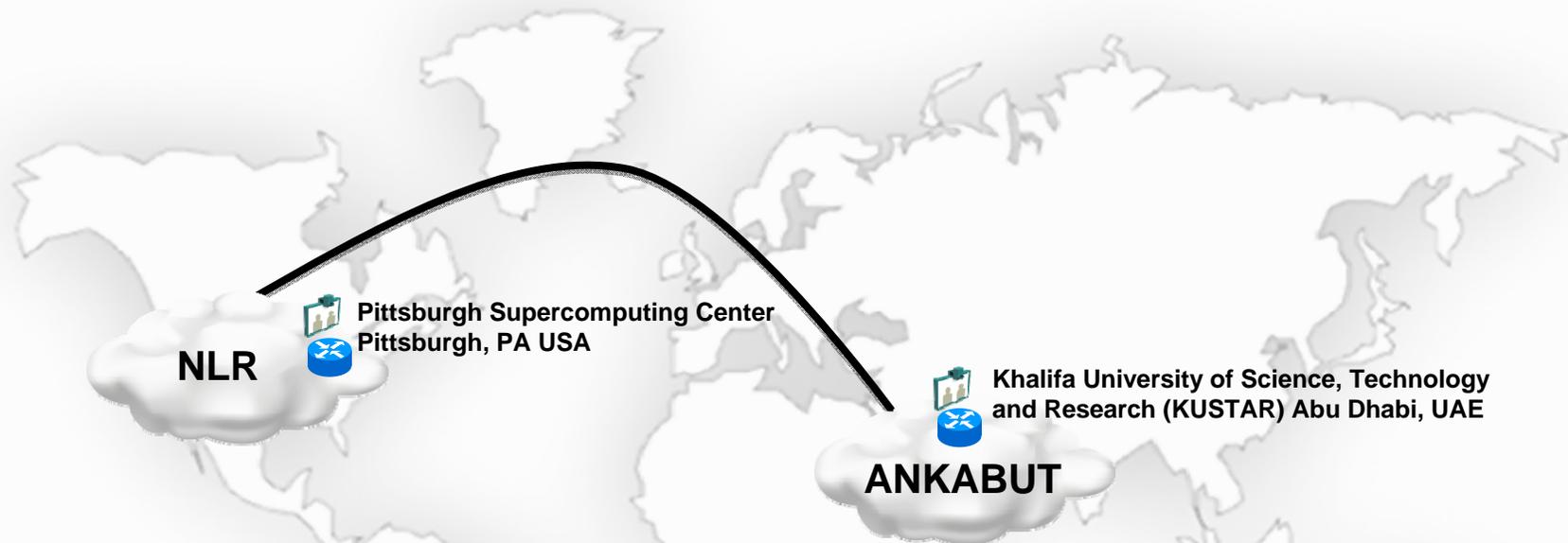Florida Lambda Rail (multiple units)

The Value of a Community

- Metcalfe's law states that the value of a telecommunications network is proportional to the square of the number of connected users of the system (n^2) not n+1.

- Metcalfe's Law applies to GRETC. Each new member represents yet another end point for a collaborative meeting and a source or destination of distance learning.

- The TelePresence systems being implemented represent break through technology but the true value of GRETC is in the community TelePresence makes accessible.

International Members

- Europe – NLR is formulating plans to implement an NLR TelePresence Exchange in Amsterdam.

- Asia – which is more geographically disbursed than either the United States or Europe will benefit even more from the travel-less collaboration. TelePresence will help counties like Australia overcome "The tyranny of distance"

- Emerging Markets countries can take advantage of TelePresence ability to enable distance learning

  - Universities in Nigeria are excited about the possibility of PhD's from the Nigerian Academic Diaspora using TelePresence to lecture at Nigerian Universities.

  - TelePresence over Satellite offers the potential of expanding distance learning to places with out reliable broadband Internet service.

Global Research & Education TelePresence Community (GRETC)

Pittsburgh Supercomputing Center Pittsburgh, PA USA

NLR

Khalifa University of Science, Technology and Research (KUSTAR) Abu Dhabi, UAE

ANKABUT

NLR & ANKABUT demonstrate the first international TelePresence call between universities over GRETC!

- **This is part of a community effort, led by NLR and supported by Cisco, to create a Global Research & Education TelePresence Community (GRETC) which will enable academic collaboration and distance learning between universities worldwide.**

UAE ICTRF2009 - 5th APRIL 2009
KHALIFA UNIVERSITY - ABU DHABI

Cisco TelePresence Endpoint Portfolio
Expanding User Experiences

New!

CTS 500
1–2 Seats

CTS 1000
2 Seats

CTS 1300 Series
Multipurpose Room

CTS 3000
6 Seats

CTS 3200
18 Seats

CTS 500	CTS 1000	CTS 1300 Series	CTS 3000	CTS 3200
- Flexible use	- High immersion	- One screen	- High immersion	- Transforming governance processes
- Private office	- Flexible deployment	- High immersion	- Transforms business process	- Distanced learning
- Tele-commuter	- <5 Mbps at 1080p	- Rapid deployment	- 15 Mbps at 1080p	- 15 Mbps at 1080p
- <5 Mbps at 1080p	- Wideband audio	- <5 Mbps at 1080p	- Spatial wideband audio	- Spatial wideband audio
- Wideband audio		- Wideband audio		

Personal

Multipurpose

Group/Team

One-Button-to-Push Call Launch, Easy Scheduling, 48-Location Multipoint, Interoperability and Intercompany Capabilities Across the Entire Portfolio

TelePresence is much more than Video Teleconferencing

TelePresence refers to a set of technologies which allow a person to feel as if they were present, to give the appearance that they were present, or to have an effect, at a location other than their true location.

- **QUALITY - It's All About the Experience**
  - Ultra High Definition Video – 1080p (Twice the video quality of HD today)
  - Every participant has "a seat at the table" – life size images
  - Eye contact, facial gestures and emotion create engagement
  - Audio is spatial, sound comes from participants using normal voice levels
  - Imperceptible latency

- **SIMPLICITY - As Easy as Placing a Phone Call**
  - Technology is invisible to the user
  - Single button to push when integrated with groupware
  - Standards based (SIP)

- **RELIABILITY – Uses the Network as the Platform**
  - Leverages the Network as the Platform along with Cisco Unified Communications to deliver advanced
  - levels of reliability, resiliency, & security

Cisco TelePresence on Fox Vanished

Click box below to start video
TP_on_FOX.mpg must be in the same folder as the GRETC_vX.ppt for this to work

Cisco Highly Confidential