A Few Things Important to the Suits…
NLR/I2 Merger and CETF

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Joint Techs Workshop
Univ. of New Mexico - Albuquerque
06 February 2006
Last tech stop for 100 miles (of policy)

dump-on-panic;
class operator-local {
    interactive-commands info;
redundancy {
    failover on-loss-of-keepalives;
    family mpls {
        vlan-id 121;
    family inet {
        address 198.32.11.65/30;
        clocking internal;
            input flow-sample;
            address 2001:468:ff:f4f::1/64;
        disable;
    family iso;
    oid interfaces;
    community "<removed>" {
        authorization read-only;
    rib inet.2 {
        martians {
Please come back to Utah sometime…

Jt Techs Feb 2005
Merger chronology - I

• Jan 2005
  – Groups A & B chartered
• May 2005
  – Group A report issued
• June 2005
  – Group B report issued
  – Both Boards OK merger negotiations
• July 2005
  – Joint merger team created
Group A report

• Group A was sanctioned by NLR and Internet2 boards to investigate next generation architecture and service requirements
  – Chaired by Wendy Huntoon (PSC)
• Report envisioned a far richer network service environment over the coming five years
  – Multi-dimensional attribute space
    • Network layer (dark fiber, wavelengths, GigE and SONET circuits, MPLS, IPv4/v6)
    • Duration
    • Resilience
  – Best-effort, persistent IP service (layer 3) remains important, but is no longer a ‘one-size-fits-all’ service
Potential Model for Services and Capabilities to be Offered in Next Generation Higher Education Network Infrastructure

Capabilities and Services:
Layer 0: Dark fiber
Layer 1: Wavelengths
Layer 2: GigE lightpaths
   (+ SONET circuits?)
Layer 2.5: MPLS tunnels
Layer 3: IPv4/v6
Group A report - II

• A new view of end user support and end-to-end connectivity delivery assurance is needed
  – *Common Interconnection and Service Deployment Model*
  – Working across campus, regional & national scales
  – Effective campus penetration of new services is a critical issue

• *Regional optical networks* and *carrier-class exchange points* are critical components of the next generation infrastructure

• Quilt Fiber workshop (1/2006) demonstrated forward progress toward these ends by the regionals
Group B report

• Likewise, Group B was sanctioned by NLR and Internet2 boards to study the optimized organizational configuration to support community’s advanced networking needs

• Investigated several options
  – Enhanced cooperation of separate organizations (alliance)
  – Joint venture
  – New organization
Group B report - II

• Four key recommendations
  – Merge NLR and Internet2 as quickly as possible and as equals
  – Integrate governance
    • New Board of 40 members
    • Six committees
      – Executive, Strategy, Capabilities & Policy, Operations, Finance, Audit, Nominations & Governance
  • Four advisory councils
    – Network Research
    – Science Research
    – Applications Strategy
    – Industry Strategy
  – Continue all services of both organizations at first
    • Develop an integrated financial model over the first year
    – Organizational leadership
NLR/Internet2 Joint Merger Team

- **NLR**
  - Tracy Futhey, CIO, Duke University (NLR Board chair)
  - Tom West, NLR CEO
  - Erv Blythe, CIO, Virginia Tech
  - Ron Johnson, CIO, University of Washington

- **Internet2**
  - Larry Faulkner, former President, University of Texas, Austin (Internet2 Board chair)
  - Doug Van Houweling, Internet2 CEO
  - Jack McCredie, CIO, Berkeley (NPPAC chair)
  - Don Randel, President, University of Chicago
Merger process has proven difficult

- Good advice not followed:
  - 3rd party, professional mediation from outset
- Joint merger team worked very hard
- Both organizations are 501(c)3 non-profits and serve the same community, but...
- Fundamental differences exist and have proven difficult to bridge
- Recent positive progress to report

“We have met the enemy and he is us” – Walt Kelly
Fundamental difference in organizational philosophies

- **Membership**
  - Basis (campus vs. regional)
  - Level of financial commitment

- **Governance**
  - Board structure
  - Leadership

- **Business plan**
  - Scope
  - Staffing
  - Financial reserve
  - Network design basis
  - Corporate partnership strategy
  - ‘Crown jewels’
Merger chronology - II

• November 2005
  – Austin meeting of JMT yielded partial set of principles for new organization
  – ‘FOG’ issues left for further work
    • Finance, Organization, and Governance

• December 2005
  – NLR Board approved these principles
  – Concept of extensive contract between NLR and Internet2 emerged
  – Internet2 board approved principles, dissolved its half of team, and gave responsibility to Board chair & CEO
Merger Team Principles (Austin)

• Commitment to Research
• Community Engagement
• Representative Board
• Owned Infrastructure
• Unity of the Network Infrastructure
• Acceptable Use Policy
• Sustaining Financial Model
• Partnership Investment Model
• Sources and Uses of Funds
Merger chronology - III

• January 2006
  – Compromise proposal advanced by community members
    • Including NLR board and I2 NPPAC members
    • Internet2 Board endorsed and NLR Board rejected
  – Smaller group resumed effort on expanded principles
    • Meeting in Durham – January 27

• February 2006
  – NLR Board approved expanded principles
  – Due diligence and financial pro forma work continuing
  – Joint IP Network Group forming (Huntoon & Corbato, co-chairs)

• Summary
  – Tough sledding to date; recent positive signs
  – Events are beginning to overtake process
Internet2 next generation network drivers

• March 21
  – FiberCo dark fiber
    • Expiration of original 3-year IRU pricing term with Level 3

• March 31
  – Abilene transport (wavelengths and SONET)
    • 18-month contractual trigger for another 1-year extension with Qwest
    • Otherwise, current agreement expires September 2007

• April 24-26
  – Internet2 Spring Member Meeting, Arlington VA
For more information

• Many relevant links are available at:
  – www.internet2.edu/consolidation/
  – www.nlr.net/consolidation/