



SURA IT Initiatives Overview

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BRIN Planning Meeting

July 27, 2004

SURA IT Organization & Leadership

- The SURA IT Committee
 - Comprised of CIO or equivalent representation from each SURA member institution
 - Develops SURA IT strategy and makes recommendations to the SURA BoT for major IT projects.
- The SURA IT Steering Group
 - A subset of the full IT Committee. The SURA IT Committee Chair also chairs the IT Steering Group and is a member of the SURA Board of Trustees Executive Committee.

Major SURA IT Program Areas

- Regional Infrastructure Development
- NMI Middleware Testbed
- SURA Workshop Series

2003/2004 SURA IT Strategy Summary – Highest Priorities

- Foundation-Building
 - Connectivity
 - Regional (USA Waves, Crossroads)
 - National (National Lambda Rail, Internet2)
 - International Opportunities
 - High Performance Computing
 - “Grids”
 - Data storage
 - Middleware
- Program Development
 - SCOOP
 - Bio-Informatics/ Medical Research

2003/2004 SURA IT Strategy Summary – Secondary Priorities

- Nuclear Physics
 - Still need a vehicle for more collaboration
 - what does JLab/DOE need from the CIOs
- Homeland Defense and Bio-Terrorism
 - Awaiting clarity on funding opportunities
- Information Assurance and Security
- Minority Serving Institutional Advancement

2003/2004 SURA IT Strategy Summary – Tertiary Priorities

- Digital Video Conferencing
 - Focus video conferencing expertise on supporting high priority program areas
- Middleware
 - Focus middleware efforts on grid and authentication services to support high priority program areas
- International Opportunities
 - Pursue IEEAF partnership
 - ‘aggressively watch’ for opportunities
 - Leverage opportunities for other SURA programs

Bioinformatics/BioGrid Program Plan

- **Program Goals**
 - Establish increased collaboration of regional Bioinformatics resources with view toward establishing a regional BioGrid
 - Increase Federal Funding for bioinformatics in the region through the development and support of intrastate and regional Biomedical Research Infrastructure Networks (BRINs)
 - Seek extra-regional and international partnerships that could enhance SURA region activities and advance research competitiveness of biomedical research at member institutions.
 - Leverage NIH's Division of Research Infrastructure (in the National Center for Research Resources) Programs for the benefit of member Universities and the region.

Bioinformatics/BioGrid Program Plan

- **Program Elements**
 - Establish a SURA Bioinformatics/BioGrid steering committee that includes biomedical researchers, CIOs and leaders of State BRINs
 - Establish active communication between state BRINs (at least seven) in the region.
 - Begin program planning and the search for funds to deploy a regional BioGrid that builds on and aggregates the current statewide BRINs in the region
 - Hold an annual workshop on bioinformatics and biogrids
 - Establish active communications between the SURA region BRIN state leaders.

Bioinformatics/BioGrid Program Plan

- **Resource Strategy**

- Utilize existing resources for project planning
 - Identify a regional champion for bioinformatics/biogrid to work with SURA staff
 - Current IT Staff to facilitate member activities
 - SURA IT Committee members to advise/participate
- Devote one SURA staff to regional bioinformatics/biogrid initiatives
- SURA to support an annual regional workshop on bioinformatics/biogrids
- Use existing human resources (SURA IT staff and participants from member institutions) for regional communications between BRIN members
- Seek opportunities for federal support
 - Programs like IDeA & EPSCOR

SURA Regional Network Infrastructure Initiative

- Began in early 2000
 - Recognition that region could benefit from a unifying network infrastructure
 - Needed more inclusive, pervasive, ubiquitous....
 - Pulled participants from all major gigapops in SURA region
 - Evolved to explore both dark fiber and managed bandwidth solutions
 - GEO-Matrix consulting contract
 - Mapped out SURA member locations plus other important institutions
 - Fed labs, Hospitals, Research Centers, etc.
 - Identified and evaluated regional and national telecom vendors with infrastructure in the SURA region
- Involved other organizations in “National Buyers Consortium”
- Formed “USAWaves” as a program vehicle for extending reach beyond the SURA region

SURA Regional Network Infrastructure Initiative

- Ended up focusing on network startup Velocita
 - Very good coverage in SURA region
 - Receptive to creative relationship with higher ed
- Followed Velocita assets through May 2002 bankruptcy
- Assets acquired by AT&T in late 2002
- Leveraged relationship with Velocita CTO who transitioned to AT&T
- Resulted in SURA - AT&T GridFiber Agreement

SURA - AT&T GridFiber Agreement

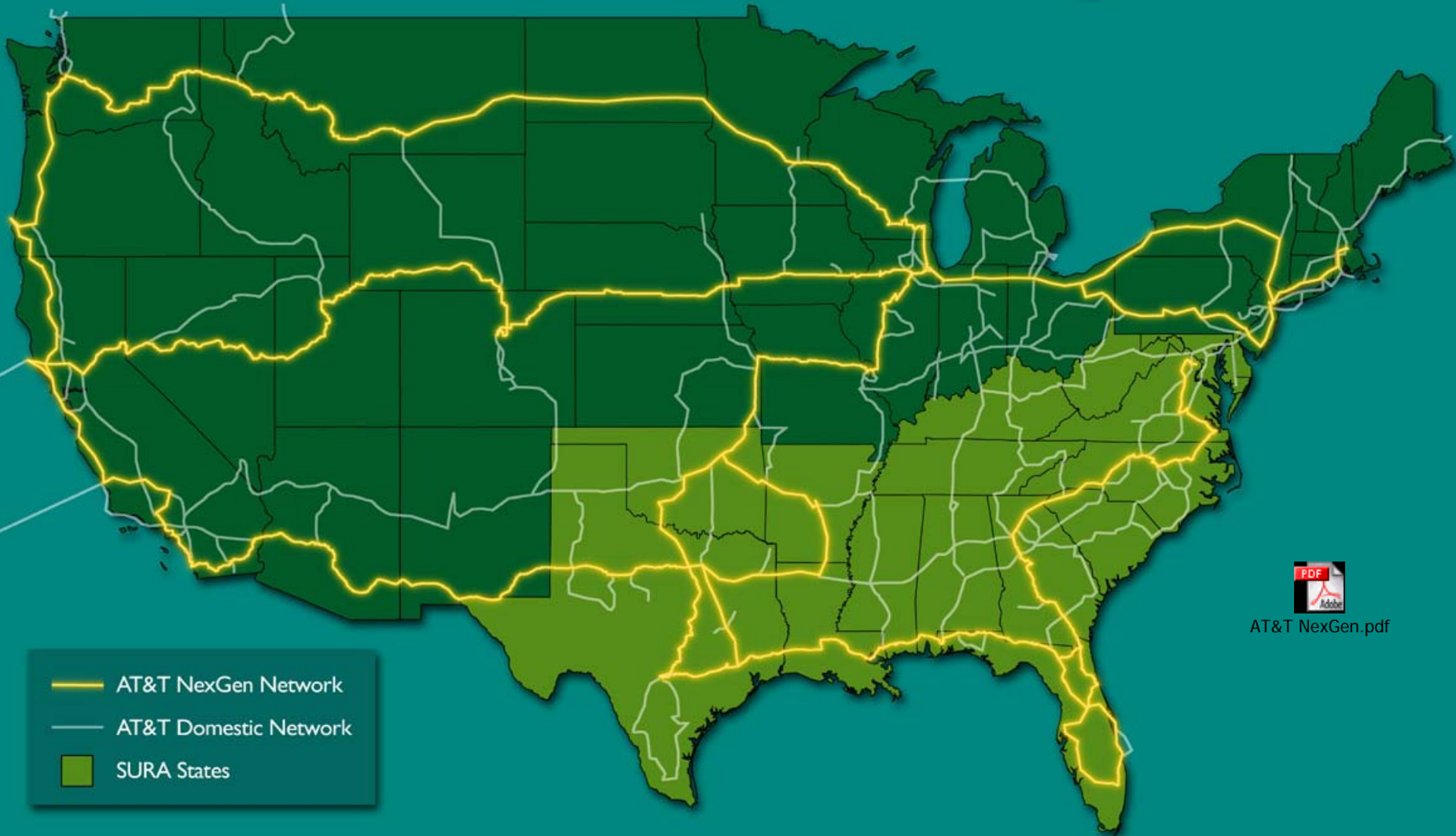
Major Provisions

- Agreement announced on Dec. 16, 2003
- Provides access to no-cost 20 yr. IRUs on 6000 pair miles of dark fiber on AT&T's national "NexGen" network.
- Access to AT&T equipment collocation facilities.
- Low dark fiber maint. (O&M) rates
- 2000 pair miles of additional dark fiber for "network research" w/\$0 fiber O&M
- Ability to purchase additional dark fiber at \$250/strand mile - a very aggressive price



USA Waves

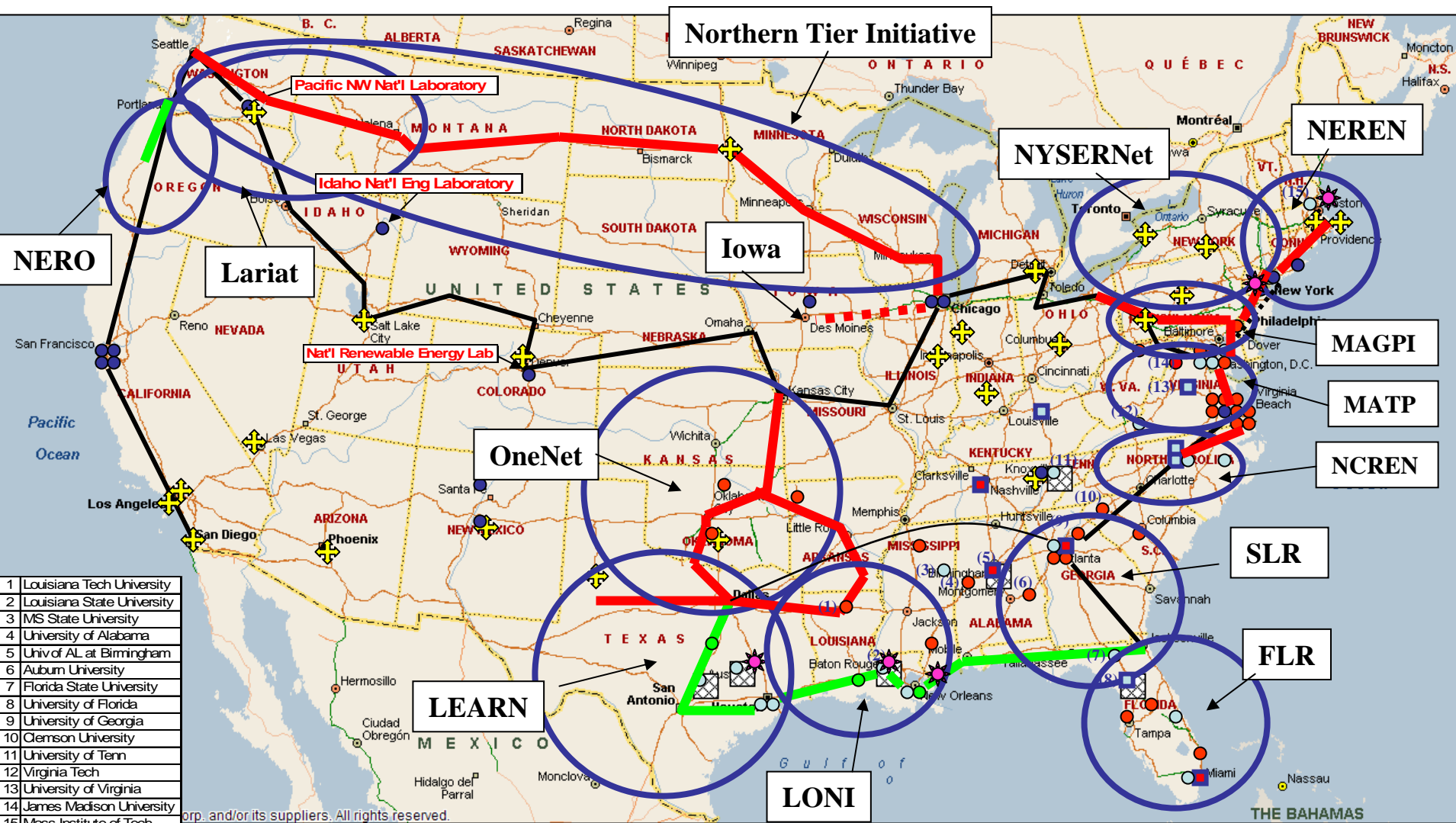
AT&T–SURA Grid Collaboration Agreement



AT&T NexGen.pdf

Examples of Regional-State Initiatives Overlaid with AT&T Network (red lines)

● = SURA member. ● = National Laboratory. ○ = SURA HPC sites (CASC member). ■ = SURA Medical Research sites.
□ = SURA Grid computing sites. ✳ = SURA member in SCOOP. ✚ = CASC member (non-SURA)



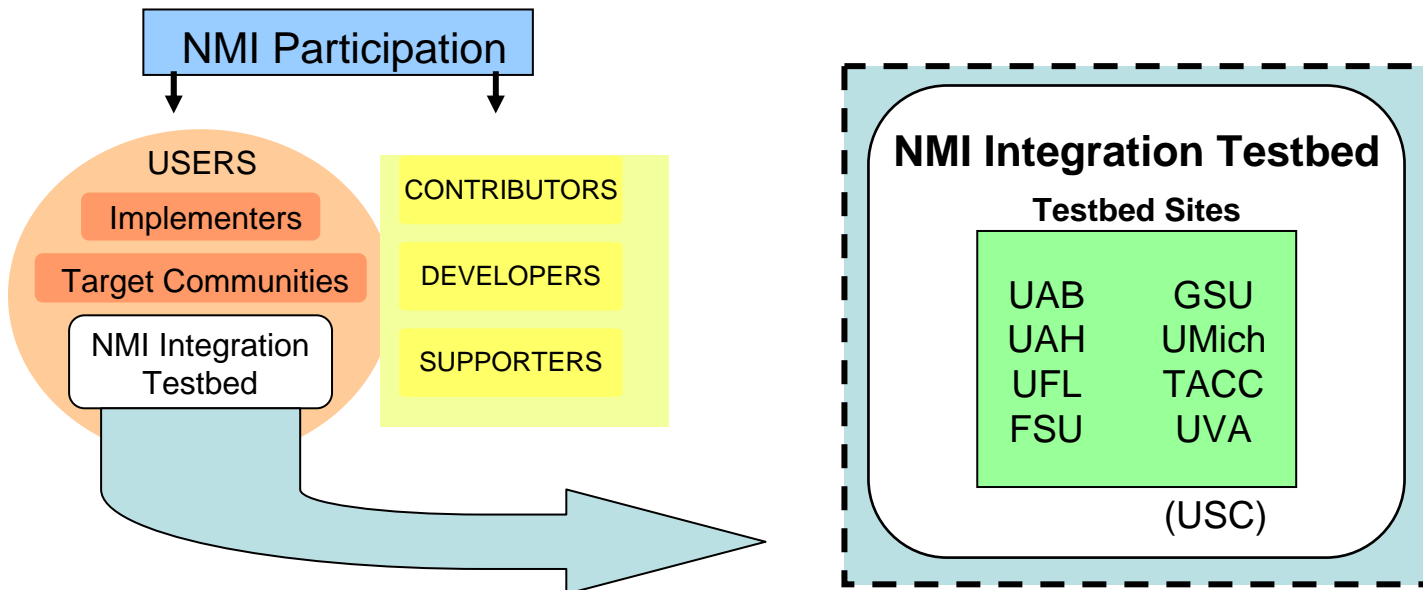
1	Louisiana Tech University
2	Louisiana State University
3	MS State University
4	University of Alabama
5	Univ of AL at Birmingham
6	Auburn University
7	Florida State University
8	University of Florida
9	University of Georgia
10	Clemson University
11	University of Tenn
12	Virginia Tech
13	University of Virginia
14	James Madison University
15	Mass Institute of Tech

SURA is Enabling Regional Network Initiatives with AT&T Assets

- How does this work?
 - Organizations can request access to no cost AT&T 20 yr IRUs from SURA
 - Organizations can purchase dark fiber from AT&T under this agreement for \$250/strand/mi (20 yr IRUs)
 - Organizations can request no cost access to AT&T “research fiber” from SURA
- To date, SURA has agreed to assign 1,760 pair miles of dark fiber under the AT&T agreement to NLR, U of Oregon and U of Texas

NMI (NSF Middleware Initiative) Integration Testbed

- Part of 3-year multi-institutional NSF award that began the NMI in September 2001
- Program management by SURA; nine institutions participating as Testbed sites
- Testbed sites evaluate each NMI middleware release for “real life” utility and usability
- Collective expertise covers enterprise and grid middleware
- Funding ends August 31, 2004; no-cost extension requested through August 2005
- More on the NMI Testbed: <http://www.nsf-middleware.org/testbed>



Current Status

- Ongoing project & enterprise middleware integration at each institution
- Case study documentation to capture middleware integration successes and lessons learned
- Examination of inter-institutional “utility” (vs. project-specific) grids through NMI Testbed Grid project
- Student involvement through NSF REU (Research Experience for Undergraduates) program
- “Finale” results workshops coming this September & October ([see Testbed Web site for details & registration](#))

SURA IT Workshops

- SURA often explores new areas of regional collaboration by sponsoring targeted technology oriented workshops. Past events have included workshops in the following areas:
 - *Optical Network Technologies*
 - *Computational Chemistry*
 - *Bioinformatics Grid Workshop*
 - *Enterprise Directory Implementation Tutorials*
 - *Annual ViDe Workshop*