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RIT

Mission

Help researchers do better research via -

CyberInfrastructure
Collaboration
Community

R·I·T

Vision

CI - Friendly, integrated research environment

Community - Persistent Connected Communities

Collaboration - Easy, productive relationships

Current CyberInfrastructure

(Startup systems)

Large memory computer - 32 GB RAM, 4 cores, Opteron

HPC cluster - IBM 52 nodes, 2 cores, P3, 512MB RAM

Fileserver + Backup combined basic - ~ 6 TB of fast disk

HTC - 1000+ clients across campus under Condor (student help)

Network - 10 GigE core, 1 GigE to research center desktops

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Strategic Issues

too few users with scaleable apps

lack of accessible interfaces, middleware

high initial demand per user

high initial investment per user

Tactical Options

share resources, users

partner with industry, state

use grid communities

e.g., NYSGrid, Open Science Grid, SURAgrid,
Great Plains Network, TeraGrid

R & D

- HPC cluster backplane (CISCO)
- MPI Spanning clusters (CISCO)
- High Speed filesystems (CISCO, NETERION)
  - SUN (Loaner SunFire x4500 "Thumper" & Sun 10 GigE NICs w/ Lustre filesystem connected to Indiana U. Data Capacitor on TeraGrid)
  - SUN (Acquiring two "Thumpers" for 98 TB of high perf data servers*)
- High Speed networks (CISCO, NETERION, NYSERNET, Internet2, Georgia State)

*Choquette

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CI Vision

Research Computing shared central systems

RIT campus grid of mixed resources

New York State grid of institutions such as Buffalo, RPI, Stony Brook, Cornell

global grid community of Open Science Grid, TeraGrid, SURAgrid, Great Plains Network, and others

Current Collaboration Infrastructure

ICELab - Interactive Collaboration Environments Lab in the Center for Advancing the Study of Cyberinfrastructure

Mission - R&D, Teaching&Learning, Events, Evaluation

5 "enhanced" Access Grid nodes on campus

- partnership with Sun AEG program for 3 Ultra40 workstations*
- Center for Imaging Science, Color Science, CASCI, IT Collaboratory
- Student Co-op staffing

*Choquette

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Strategic Goals

Build Connected Communities
Foster Collaboration
Outreach

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Projects

Philadelphia Orchestra Live Broadcasts to RIT over Internet2

Virtual Theatre live performances via Access Grid between RIT and U. Utah

East High School, Rochester, Access Grid for Ghana, UK student partners

Tactical Plan for ImagineRIT

12 "CyberPortals" on campus - 8 colleges, Library, Student Alumni Union, CIMS, Field House

3 in Rochester - Strong Memorial Hospital, East High School, School of the Arts

3 at RIT campuses abroad - Kosovo, Dubrovnik, Dubai

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R & D

- Uncompressed high definition video over IP
  - CISCO, iHDTV (U. Washington) and UltraGrid (McGill, ISI)
- New network protocols for 10 GigE and 40 GigE
  - Georgia State U., CISCO, NYSERNet, Internet2
- GUI development to access multipoint streams
  - open
- Compute engines to handle high network loads
  - open
- Restricted audio in public spaces
  - NTID

Collaboration & Community Vision

- Advanced Network Infrastructure for Collaboration
- Unified RIT campus
- Connectivity to Rochester regional partners
- Global interactions - ad hoc/planned/persistent

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