



Network Performance Reference Lab

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Prepared for BWEST June 7, 2002

<http://www.calngi.org>

CalNGI NPRL

- Partner focused network and application performance test and measurement to support NGI development projects.
- Contribute to achieving the optimum user experience with NGI developed technology.
- Partnering with Industry Leaders in Performance Test and Measurement.
- Verify subscription to industry standards.
- Knowledge Sharing Relationship Between NGI Developers and Test and Measurement Partners.

Lab Equipment

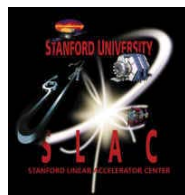
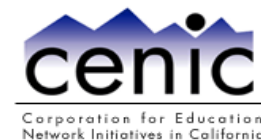
- **Cisco Systems**
 - CiscoWorks
 - Quality of Service Manager
 - Virtual Private Networking/Security Manager
- **Hewlett Packard**
 - OpenView Network Node Manager and IT Operations, including MeasureWare Performance Agent Technology
- **NetIQ**
 - Chariot
 - Applications Scanner
- **Spirent Communications**
 - Adtech broadband traffic generator/analyzer
 - SmartBits active measurement, FE, GigE, OC3, OC12, OC48

Lab Equipment (2)

- **Netscout**
 - 2Port GigE RMON Probe
 - 4 Port GigE RMON Probe
 - Synthetic Agents
 - Ngenius Management Station
- Netoptics
 - 4 port single-mode regeneration tap
 - 4 port multi-mode regeneration tap
- Foundry, Cisco, HP
 - Layer 2 and layer 3 switches, 10/100/1000

NPRL In Action





Southern California Next Generation Internet Application Center

San Diego Supercomputer Center



Current and Pending Activities

- 10 Gigabit Ethernet Interoperability at N+I
- 10 Gigabit Ethernet Inaugural Conference
- Internet2 Internet Technology Evaluation Center designation
- Internet2 E2E and OC192 deployment testing
- SDSC 10GigExperience II – Fall Quarter
- ATEAM Charter Member

Engaging Industry in the NPRL

- Variety of services offerings:
 - Creation of network environments for NGI application testing – ideal, real world, and congested
 - Reference tests performed from CalNGI at SDSC and between CalNGI and Net21 UCB
 - Publication testing
 - Network performance ghost busters
- Contact NPRL at npri@calngi.org
- Develop Statement of Work
- Develop Test Plan
- Execute plan - test, document, and verify

Engaging Academic Research in the NPRL

- We are not computer science people.
- We have a pronounced relationship with industry.
- We want to learn what the academic research tools do and compare them to industry standard commercial tools.