Federating CRON with OnTimeMeasure

Status Report

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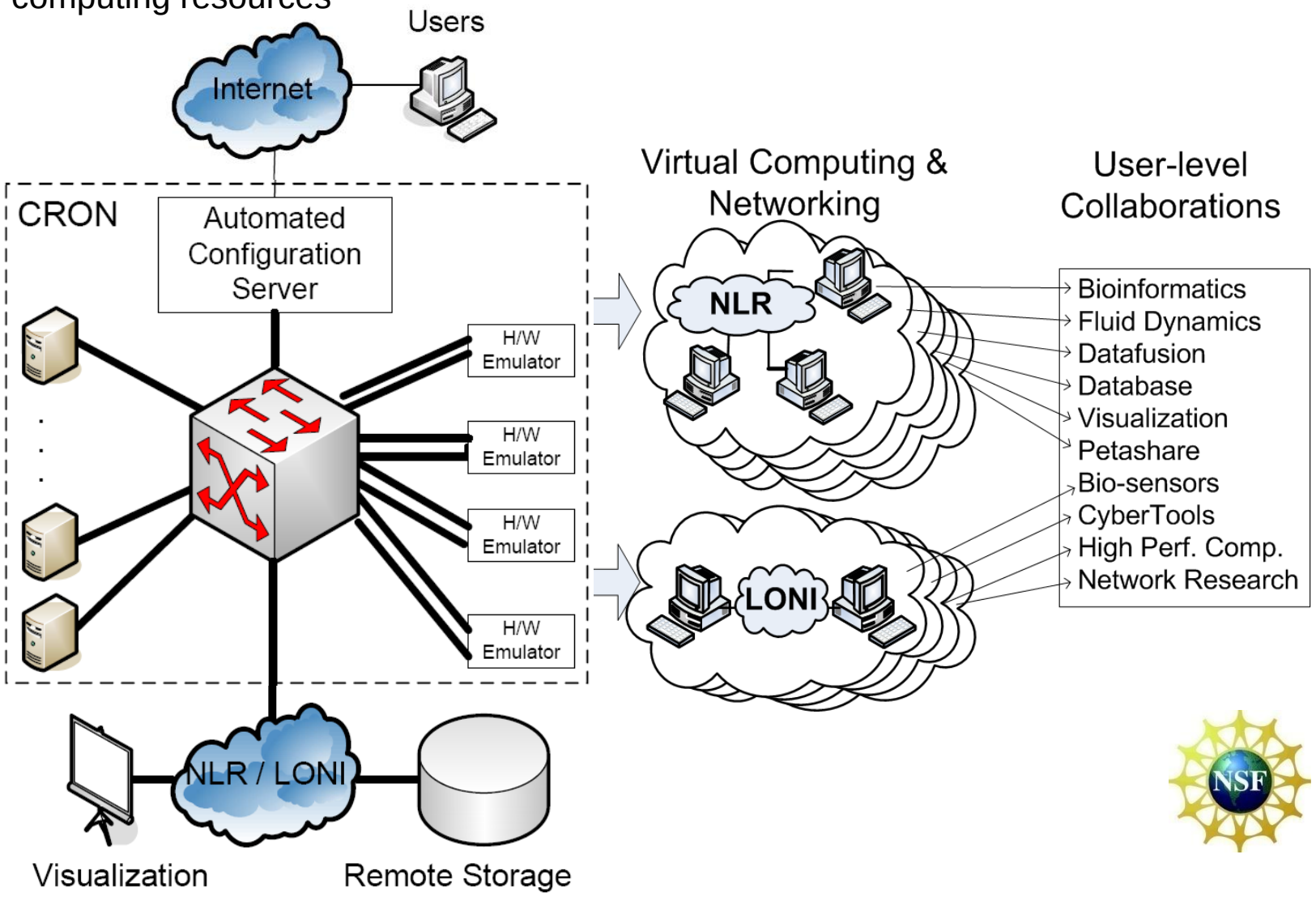
CRON

Cyber-infrastructure for Reconfigurable Optical Networks

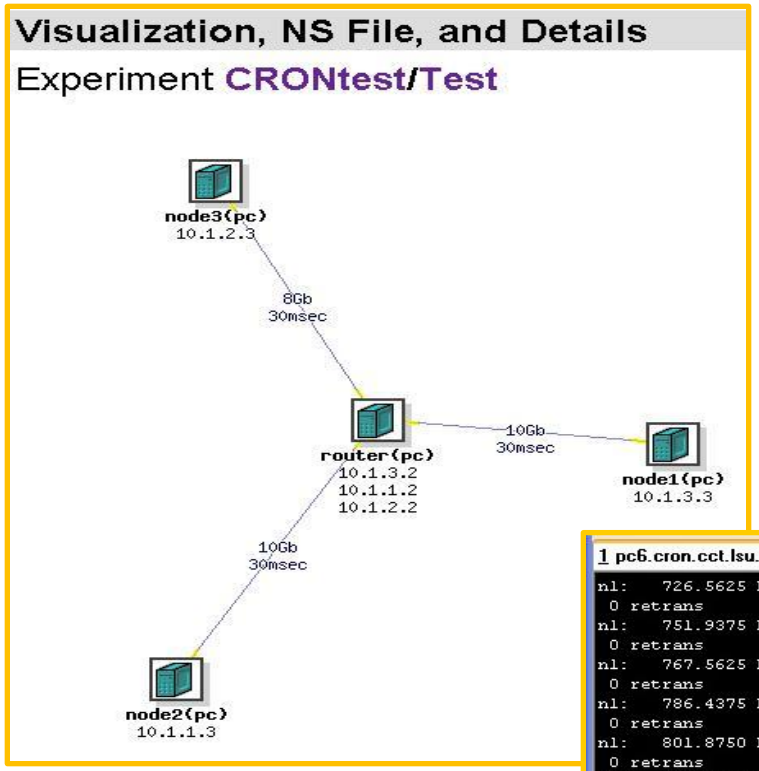
- Objectives :Developing virtually shared 10Gbps networking and high-end computing resources



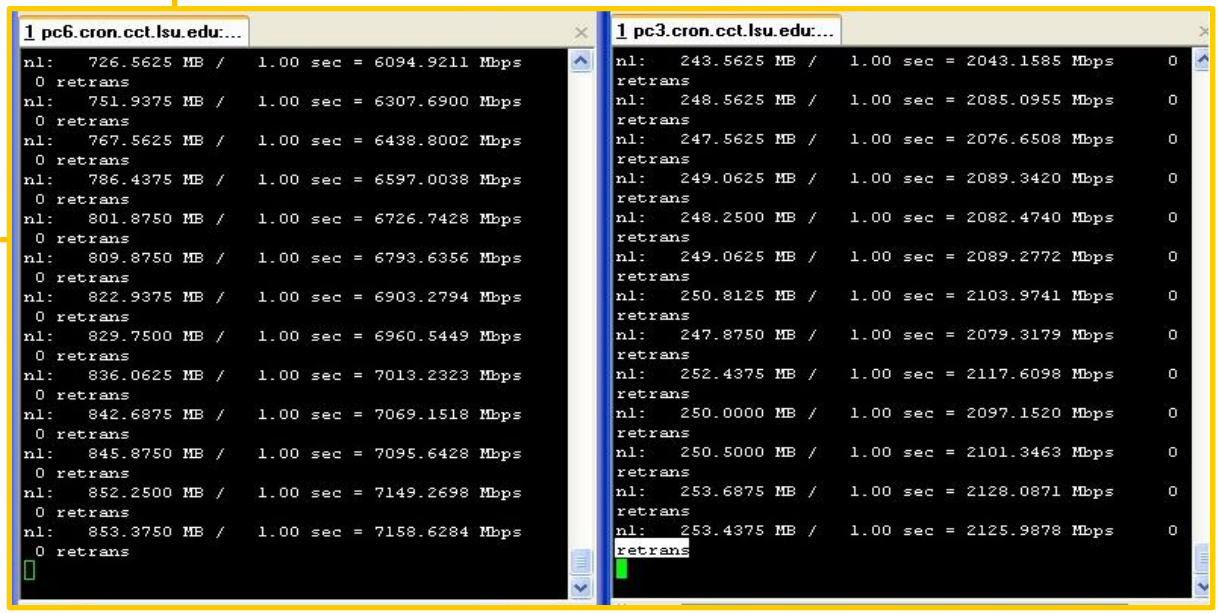
Components

- Switches
  - Data plane: Cisco Nexus 5020 switch consisting 50 X 10GE ports
  - Control plane: Cisco 3560 switch
- Emulators
  - Hardware Emulators: 4 X Anue 10GE emulators for upto 10Gbps bandwidth
  - Software Emulators: modified Dummynet & NistNet for less than 5Gbps bandwidth
- Workstations
  - 20 X Sun X4250 servers (two quad-core CPUs with 10GE)

CRON Experiment



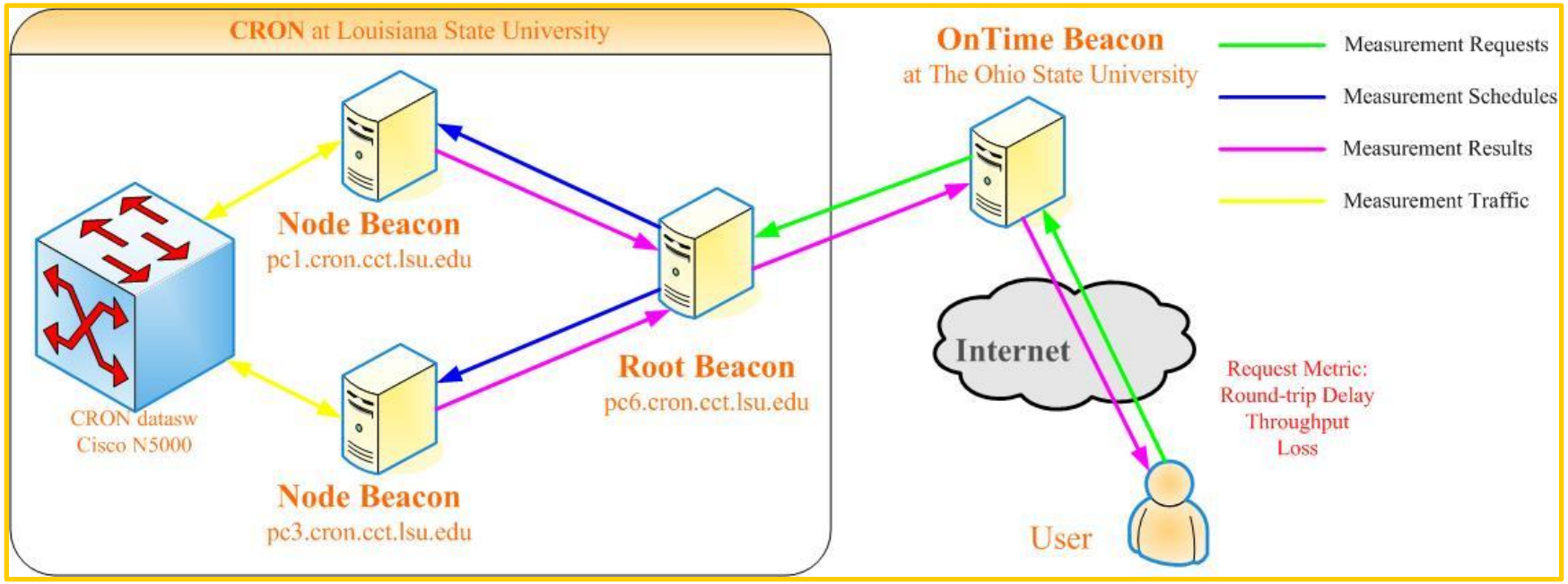
- Emulab GUI and interface
  - WWW.CRON.CCT.LSU.EDU
- Resource Allocation to GENI
  - Up to 20 Servers
    - Quad-cores with 10GE NIC
    - 64bit Ubuntu and 64bit FreeBSD
- Measurement services available
  - OnTimeMeasure



Aggregating OnTimeMeasure Service

- Procedure
  - Install Node/Root beacons at nodes after loading OS image
  - Collect measurement data from each Node beacon and send to Root Beacon; OnTime Beacon at OSU controls collection

See details at - http://groups.geni.net/geni/wiki/OTM-CRONInstall



Aggregating OnTimeMeasure Service (Cont.)

- Measurement data
  - Throughput, delay, jitter, etc., from each link
  - CPU load from each node