

Central Nagios Monitoring at SLAC

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Why Nagios?

- Leading open source tool
- You can monitor almost anything on a network
- Extensive notification options for alerting

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Nagios or Ganglia?

- Strengths in different areas
- Ganglia originally made for large compute clusters:
 - Dynamic hostgroups w/o central configuration
 - Metric aggregation for summary graphs
- Nagios designed for reporting status of services:
 - Is the service OK, may need attention (WARNING), or about to collapse (CRITICAL)?
 - Take action before it goes belly up

System Overview

- ~8500 checks distributed across 1500 devices
- Accessible from SLAC network only!
- Single active production Nagios server:
 - Nagios 3.x
 - Dual quad-core Nehalem CPUs
 - 24GB RAM
 - RHEL5 64bit
 - Hardware RAID for redundancy and IOPs

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Active & Passive checks

- Active checks are triggered by the Nagios server according to a schedule
- Passive checks are initiated from the device being monitored
- Many active checks require remote execution agent (NRPE)
- Majority of our checking is active with some justification for passive checking:
 - Restricted SLAC networks (EPN)
 - Check frequency may place too much load on Nagios server

'Black Box' devices

- Dedicated appliances with little/no OS interface:
 - NetApp NFS storage servers
 - Ambient sensors for temperature, humidity
 - PDU with network interface
- Nagios server can query status via SNMP and parse syslogs
- Monitor system activity inside the box and keep track of the server room environment

Metrics and Graphing

- Checks may also feed performance data to Nagios
- Nagiosgraph plug-in generates RRDs from data returned from checks
- Users are presented with RRD graphs similar to those displayed in Ganglia web pages
- Data values may also be stored in a lossless format via a MySQL plug-in

Groundwork Monitor

- No single package really 'does it all'
- Groundwork interface attempts to integrate Nagios, Ganglia, Cacti, etc.
- Acts as a central collector for multiple data feeds
- Customizable views of data AKA 'dashboards'
- Configuration management tools simplify Nagios administration

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