

NAGIOS, Cacti, Prism Monitoring at NERSC

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- **Monitoring at NERSC**
 - Node Security
 - Web vs. shell vs. ??
- **NAGIOS**
- **Cacti**
- **Prism**
- **Real Life Examples**

Monitoring at NERSC

- **Performance vs. Fault**
- **Each system gets a dedicated monitoring node**
 - Node is owned and maintained by NERSC, but is interconnected where possible to internals of system.

Security of monitoring node

- **Security is provided by firewalling nodes to outside world.**
 - **Https only to web access.**
 - **Firewalled, iptables, and apache access controls**
 - **Few or no local accounts**
 - **Managed by NIM/LDAP**

Web based

- **Allows portability.**
- **System allows outside world access to data via tunnels.**
- **Logging of access is performed.**

- **NAGIOS - <http://www.nagios.org/> is primary fault monitoring system.**
 - All systems have a NAGIOS monitoring process.
 - Some plugins are locally written
 - Ddn fault & temperature
 - Engenio/FaSTT fault
 - Cray Cabinet temperature
 - Cray xtcli node & link faults

Cacti

- <http://www.cacti.net/>
- Used to collect data from network, temperature, and ddns statistics.
 - Locally written plugins for thermal and ddns statistics.

Prism

- **Locally written**
- **Understands RDF feeds.**
- **Can aggregate feeds into one display.**

NAGIOS status

Franklin Nagios - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://localhost:8080/nagios/

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Nagios

General

- Home
- Documentation

Monitoring

- Tactical Overview
- Service Detail
- Host Detail
- Hostgroup Overview
- Hostgroup Summary
- Hostgroup Grid
- Servicegroup Overview
- Servicegroup Summary
- Servicegroup Grid
- Status Map
- 3-D Status Map
- Service Problems
- Host Problems
- Network Outages

Show Host:

Reporting

- Trends
- Availability
- Alert Histogram
- Alert History
- Alert Summary

Tactical Monitoring Overview

Last Updated: Wed Apr 29 15:55:53 PDT 2009
Updated every 90 seconds
Nagios® 2.12 - www.nagios.org
Logged in as *tdavis*

Monitoring Performance

Service Check	0.01 / 4.13 / 0.828 sec
Execution Time:	
Service Check Latency:	0.00 / 0.89 / 0.195 sec
Host Check Execution Time:	0.01 / 1.69 / 0.050 sec
Host Check Latency:	0.00 / 0.00 / 0.000 sec
# Active Host / Service	162 / 512
Checks:	
# Passive Host / Service	0 / 0
Checks:	

Network Outages

0 Outages

Network Health

Host Health: ██████████

Service Health: ██████████

Hosts

0 Down	0 Unreachable	162 Up	0 Pending
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Services

2 Critical	5 Warning	0 Unknown	505 Ok	0 Pending
2 Acknowledged	1 Unhandled Problems			
	4 Acknowledged			

https://localhost:8080/nagios/cgi-bin/extinfo.cgi?type=4

localhost:8080

NAGIOS – xtcli status

Franklin Nagios - Mozilla Firefox

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Show Host:

Comments

- Downtime
- Process Info
- Performance Info
- Scheduling Queue

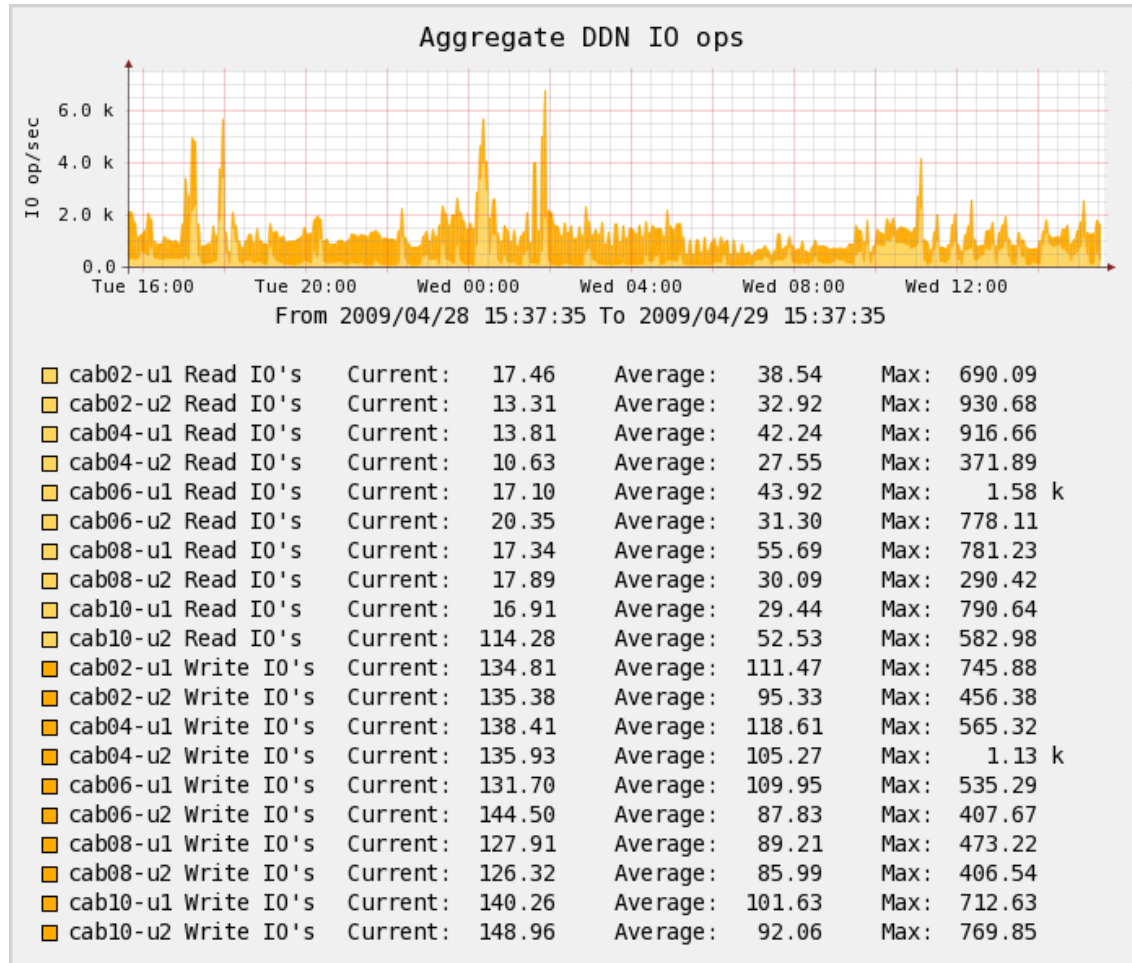
Reporting

- Trends
- Availability
- Alert Histogram
- Alert History
- Alert Summary

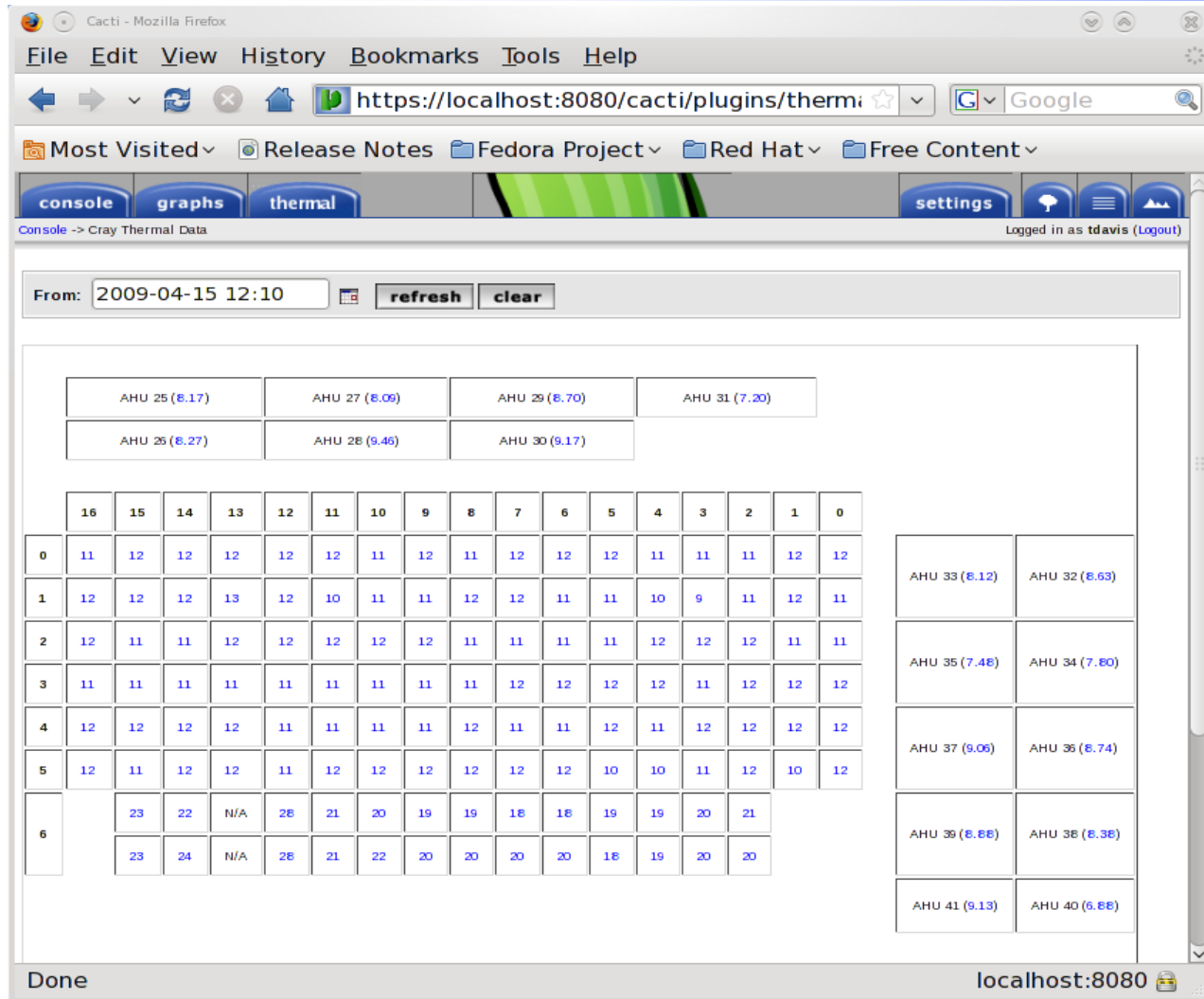
Host	Service	Status	Last Check	Duration	Attempt	Status Information
c12-1	CRAYCABINET	OK	04-29-2009 15:52:16	14d 2h 19m 4s	1/2	CABINET OK: Fanspeed: 32 HZ: Pressure 133/100 Inches: Inlet 12C: Outlet 41C, 41C, 42C, 42C, 41C, 43C, 44C, 42C
	CRAYXTCLI- CHASSIS-0	OK	04-29-2009 15:55:24	93d 3h 20m 12s	1/1	OK: c12-1c0: 32 of 32, 0 down, 0 sysdisabled. 0 1 2 3 4 5 6 7 UUUUUUUU UUUUUUUU UUUUUUUU UUUUUUUU
	CRAYXTCLI- CHASSIS-1	WARNING	04-29-2009 15:55:55	0d 10h 57m 57s	1/1	WARNING: c12-1c1: 31 of 32, 1 down, 0 disabled. 0 1 2 3 4 5 6 7 UUUUUUUU UUUUUUUU UUUUUUUU UUUUUUUU
	CRAYXTCLI- CHASSIS-2	OK	04-29-2009 15:55:46	17d 23h 55m 4s	1/1	OK: c12-1c2: 32 of 32, 0 down, 0 sysdisabled. 0 1 2 3 4 5 6 7 UUUUUUUU UUUUUUUU UUUUUUUU UUUUUUUU

Done localhost:8080

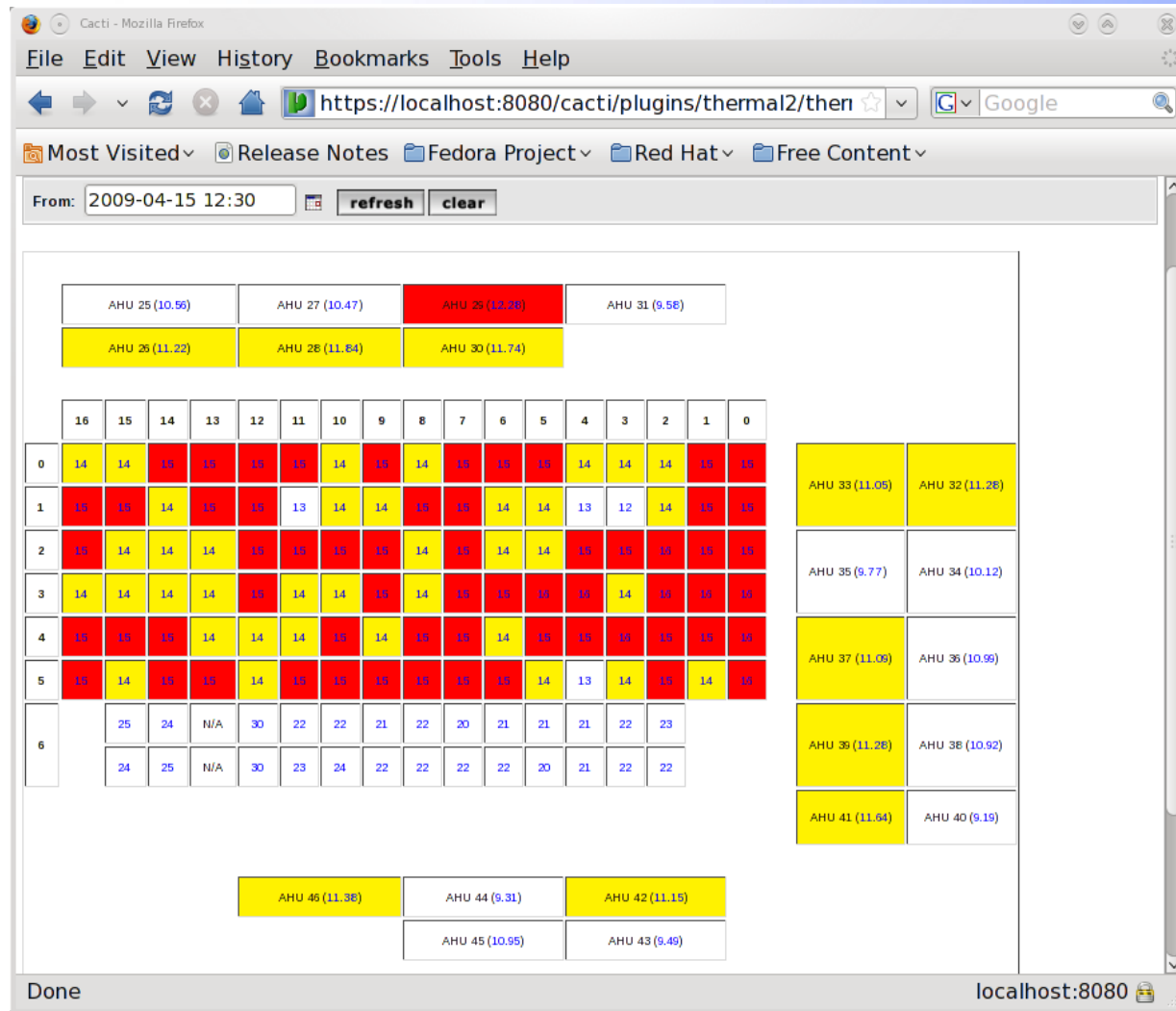
Cacti – DDN statistics



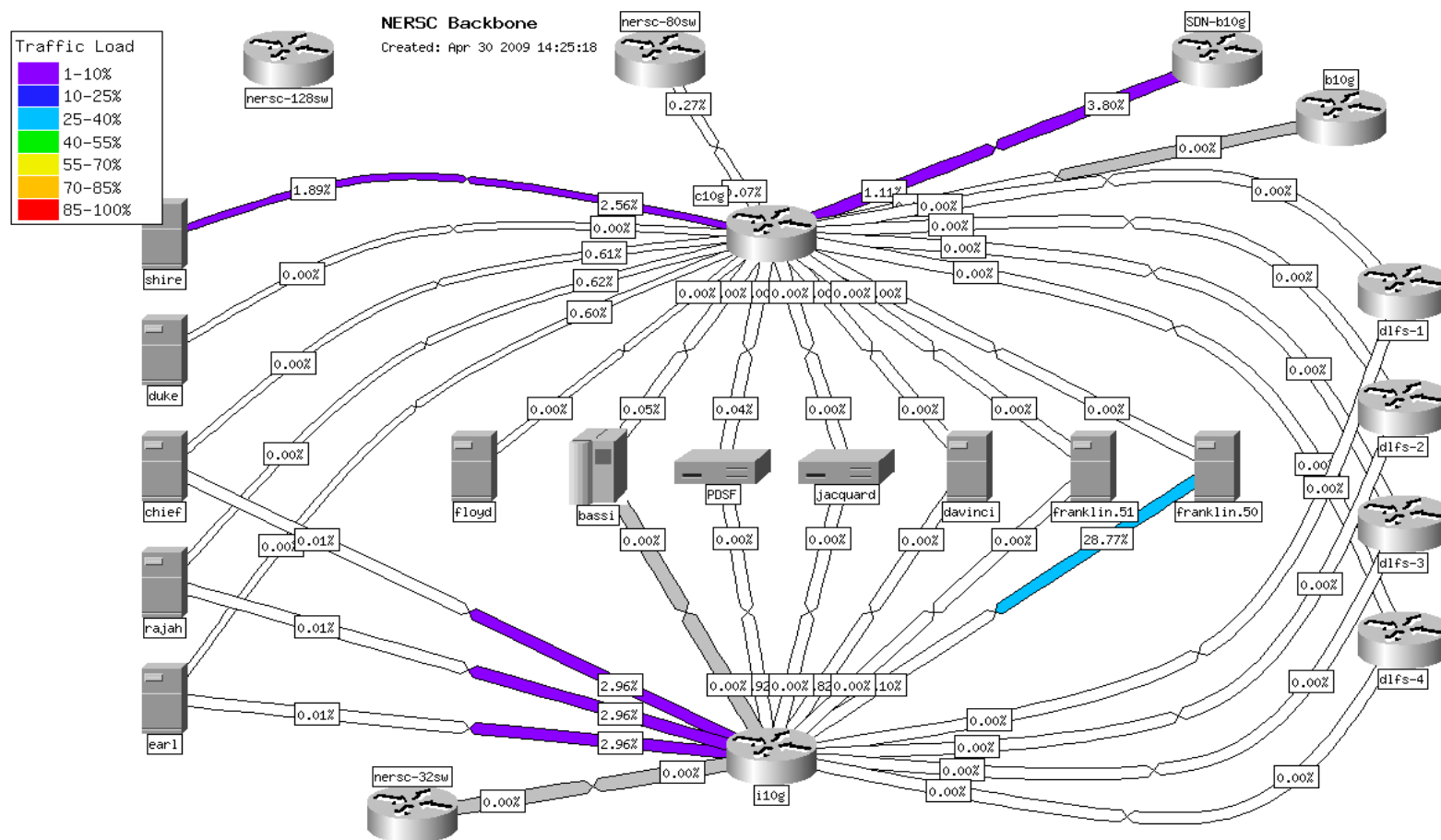
Cacti – Thermal Plugin



Cacti – Thermal Plugin



Cacti – Network Weather Map



Prism

NERSC Systems and Service Status - Mozilla Firefox

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https://localhost:8081/prism/

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Cacti NERSC Systems and ...

System	Host			Service		
	Critical	Warning	Unknown	Critical	Warning	Unknown
Bassi	0/0	0/0	0/0	0/0	0/0	0/0
Franklin	0/0	0/0	0/0	0/2	0/7	0/0
FSG	0/1	0/0	0/0	0/0	0/0	0/0
Jacquard	0/2	0/0	0/0	0/1	0/0	0/0
NASTMON	0/3	0/0	0/0	0/0	0/1	0/0
Opsmon	0/0	0/0	0/0	0/0	0/0	0/0
PDSF	0/0	0/0	0/0	0/2	0/0	0/0

PRISM | [Help](#) | [Refresh Now](#) | [Logs](#) | [Contact](#)

Local Time : Wed Apr 29 2009 23:05:55 GMT-0700 (PDT)
Next Refresh in 56 seconds

System/Service	Status	Title	Date	Details
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Done localhost:8081