

# Cacti

A complete network graphing solution designed to harness the power of RRDTool's data storage and graphing functionality.

Presented to the

**OKC Linux Special Interest Group**

by

Chad Eddings

[chad.eddings@gmail.com](mailto:chad.eddings@gmail.com)

[www.the-eddings.com](http://www.the-eddings.com)

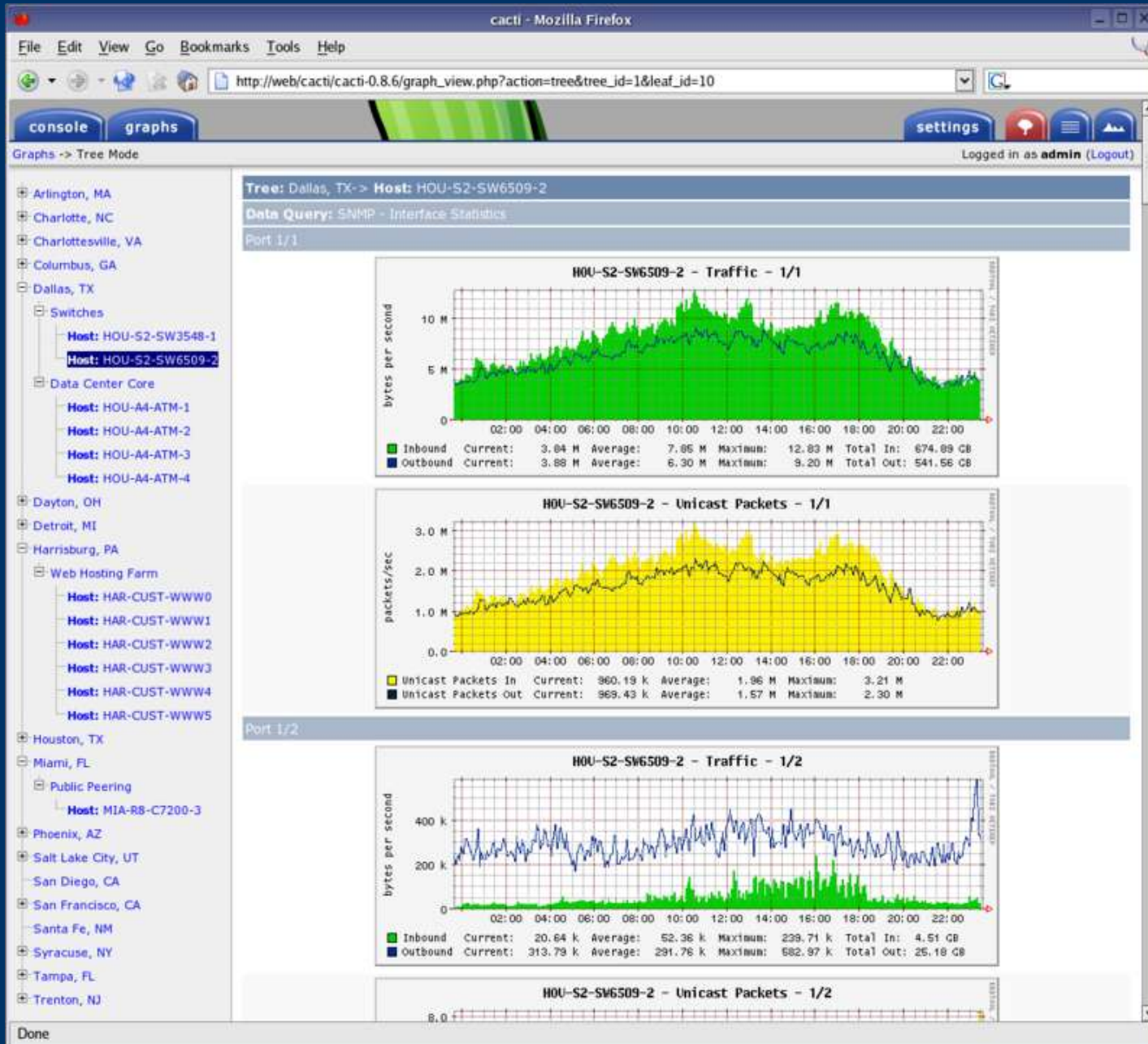
---

---

# What?

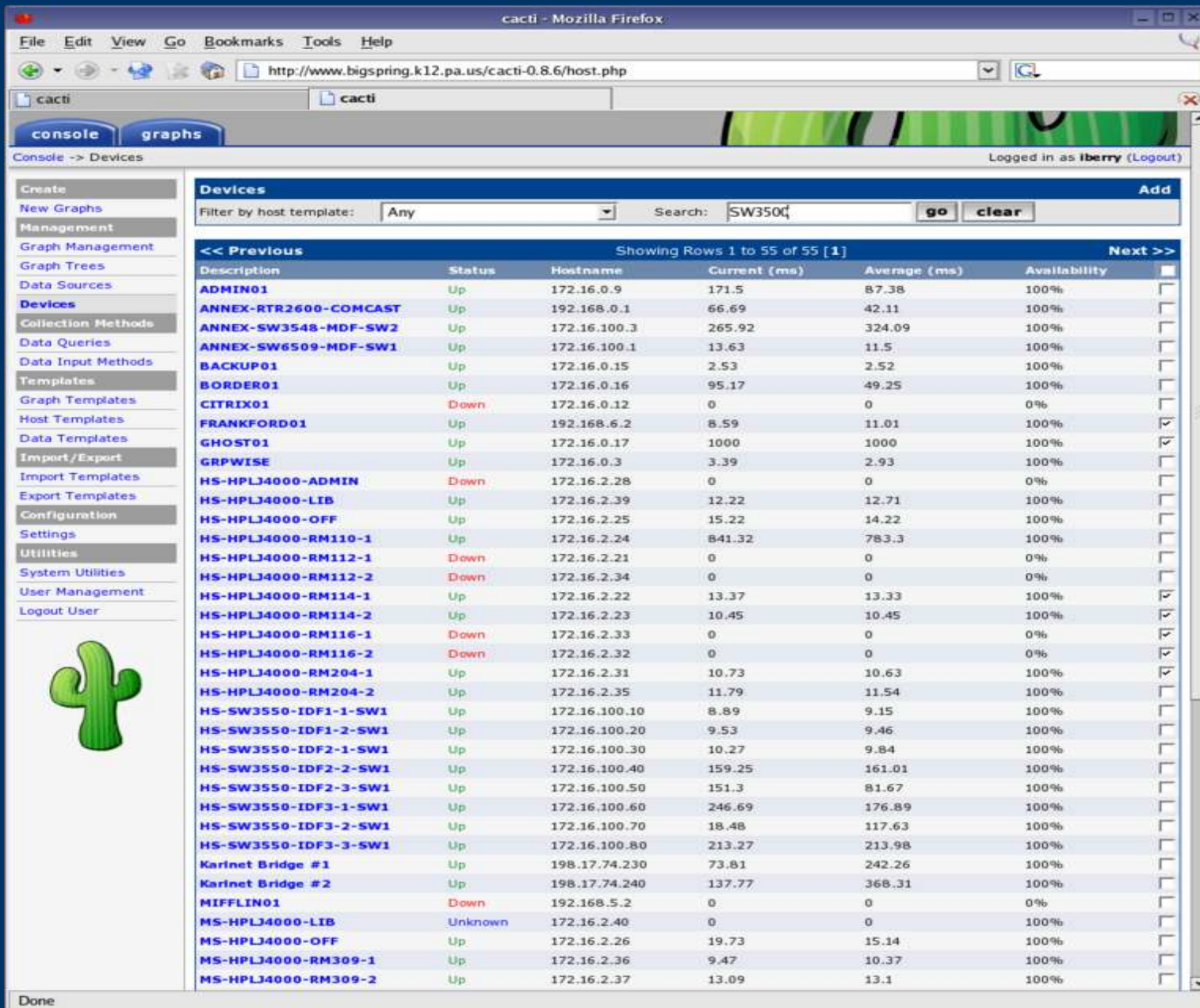
- Network graphing tool based on RRDTool
- PHP browser-based “front end”
- MySQL for configuration storage
- Written by Ian Berry
  - <http://home.raxnet.net/>

# Examples: Dual Pane Tree Mode



On the right you can see a demonstration of the group by data query index feature new to 0.8.6. When you apply this feature to a switch or router, the display is broken down into a header for each port on the device.

# Examples: Device Management



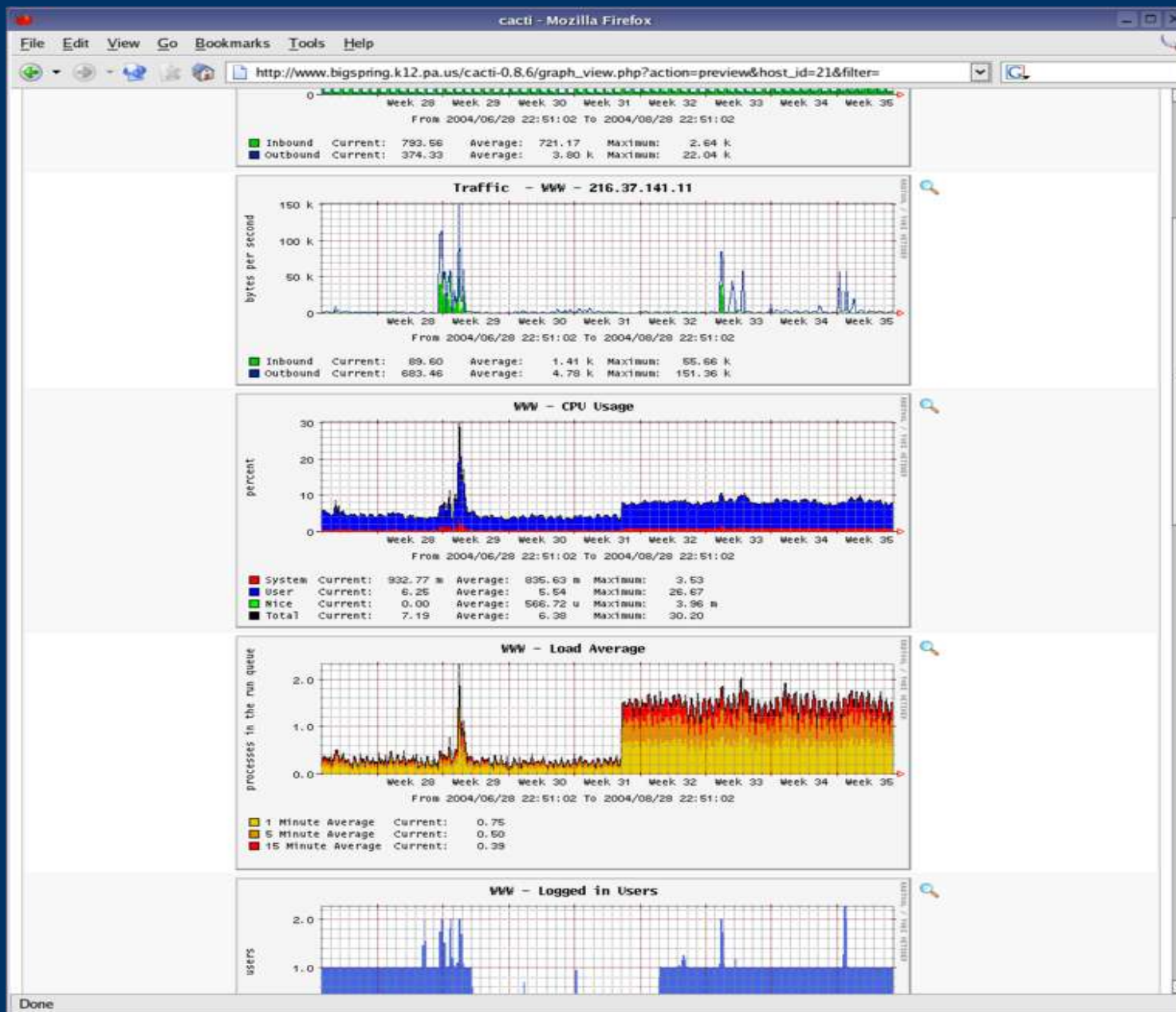
The screenshot shows the Cacti web interface in a Mozilla Firefox browser window. The page title is "cacti - Mozilla Firefox" and the URL is "http://www.bigspring.k12.pa.us/cacti-0.8.6/host.php". The interface includes a navigation menu on the left with options like "Create", "Management", "Graph Management", "Data Sources", "Devices", "Collection Methods", "Data Queries", "Data Input Methods", "Templates", "Graph Templates", "Host Templates", "Data Templates", "Import/Export", "Import Templates", "Export Templates", "Configuration", "Settings", "Utilities", "System Utilities", "User Management", and "Logout User". The main content area displays a table of devices with the following columns: Description, Status, Hostname, Current (ms), Average (ms), and Availability. The search filter is set to "SW3500" and the table shows 55 rows of data. The status of each device is indicated by a color-coded dot: green for "Up", red for "Down", and blue for "Unknown".

Description	Status	Hostname	Current (ms)	Average (ms)	Availability
ADMIN01	Up	172.16.0.9	171.5	87.38	100%
ANNEX-RTR2600-COMCAST	Up	192.168.0.1	66.69	42.11	100%
ANNEX-SW3548-MDF-SW2	Up	172.16.100.3	265.92	324.09	100%
ANNEX-SW6509-MDF-SW1	Up	172.16.100.1	13.63	11.5	100%
BACKUP01	Up	172.16.0.15	2.53	2.52	100%
BORDER01	Up	172.16.0.16	95.17	49.25	100%
CITRIX01	Down	172.16.0.12	0	0	0%
FRANKFORD01	Up	192.168.6.2	8.59	11.01	100%
GHOST01	Up	172.16.0.17	1000	1000	100%
GRPWISE	Up	172.16.0.3	3.39	2.93	100%
HS-HPLJ4000-ADMIN	Down	172.16.2.28	0	0	0%
HS-HPLJ4000-LIB	Up	172.16.2.39	12.22	12.71	100%
HS-HPLJ4000-OFF	Up	172.16.2.25	15.22	14.22	100%
HS-HPLJ4000-RM110-1	Up	172.16.2.24	841.32	783.3	100%
HS-HPLJ4000-RM112-1	Down	172.16.2.21	0	0	0%
HS-HPLJ4000-RM112-2	Down	172.16.2.34	0	0	0%
HS-HPLJ4000-RM114-1	Up	172.16.2.22	13.37	13.33	100%
HS-HPLJ4000-RM114-2	Up	172.16.2.23	10.45	10.45	100%
HS-HPLJ4000-RM116-1	Down	172.16.2.33	0	0	0%
HS-HPLJ4000-RM116-2	Down	172.16.2.32	0	0	0%
HS-HPLJ4000-RM204-1	Up	172.16.2.31	10.73	10.63	100%
HS-HPLJ4000-RM204-2	Up	172.16.2.35	11.79	11.54	100%
HS-SW3550-IDF1-1-SW1	Up	172.16.100.10	8.89	9.15	100%
HS-SW3550-IDF1-2-SW1	Up	172.16.100.20	9.53	9.46	100%
HS-SW3550-IDF2-1-SW1	Up	172.16.100.30	10.27	9.84	100%
HS-SW3550-IDF2-2-SW1	Up	172.16.100.40	159.25	161.01	100%
HS-SW3550-IDF2-3-SW1	Up	172.16.100.50	151.3	81.67	100%
HS-SW3550-IDF3-1-SW1	Up	172.16.100.60	246.69	176.89	100%
HS-SW3550-IDF3-2-SW1	Up	172.16.100.70	18.48	117.63	100%
HS-SW3550-IDF3-3-SW1	Up	172.16.100.80	213.27	213.98	100%
Karlnet Bridge #1	Up	198.17.74.230	73.81	242.26	100%
Karlnet Bridge #2	Up	198.17.74.240	137.77	368.31	100%
MIFFLIN01	Down	192.168.5.2	0	0	0%
MS-HPLJ4000-LIB	Unknown	172.16.2.40	0	0	100%
MS-HPLJ4000-OFF	Up	172.16.2.26	19.73	15.14	100%
MS-HPLJ4000-RM309-1	Up	172.16.2.36	9.47	10.37	100%
MS-HPLJ4000-RM309-2	Up	172.16.2.37	13.09	13.1	100%

The device management page changed quite a bit between 0.8.5a and 0.8.6. New in 0.8.6 are host availability statistics and filter capabilities.



# Examples: Preview Mode



The timespan selector gives the user precise control over a graph's timespan. Cacti ships with about 15 different timespan presets and allows you to build custom preset using a featureful DHTML-based calendar control.

# Why?

- Simple way to graph different devices on your network
  - SNMP enabled devices are the most common
- Visual representation of traffic patterns
- Additional tool to assist the System/Network Administrator



# How?

- Software Requirements
    - RRDTool 1.0.48 or greater
    - MySQL 3.23 or greater, 4.0.20d or greater highly recommended for advanced features
    - PHP 4.1 or greater, 4.3.6 or greater highly recommended for advanced features
    - Apache HTTP Server
    - SNMP Suite of tools
  - Hardware Requirements
    - relative to the number of data sources monitored
    - reports of well over 5000 data sources on modest hardware
  - Step-by-Step Overview
    - install software requirements
    - extract latest release to DocumentRoot of HTTP server
    - create & define MySQL database
    - modify include/config.php
    - change ownership of rra/ and log/ directories
    - modify /etc/crontab
    - point web browser to <http://your-server/cacti/>
    - begin adding devices to poll
- 
-

# References

- Cacti Home
    - <http://www.cacti.net/>
  - RRDTool Home
    - <http://people.ee.ethz.ch/~oetiker/webtools/rrdtool/>
  - Cacti Documentation
    - <http://www.cacti.net/documentation.php>
  - Cacti Users Forums
    - <http://forums.cacti.net/>
  - Cacti Mailing Lists
    - [http://www.cacti.net/mailing\\_lists.php](http://www.cacti.net/mailing_lists.php)
  - SourceForge Project
    - <http://sourceforge.net/projects/cacti/>
- 
-