

Network Monitoring, Management and Automation

Configuration Management with RANCID

npNOG 5

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What is RANCID?

Really Awesome New Cisco config Differ

A configuration management tool:



- Keeps track of changes in the configs of your network equipment (Cisco, HP, Juniper, Foundry, etc.)
- Works on routers and switches

What is RANCID? (Contd...)

- Automates retrieval of configs & archives them
- Functions as:
 - Backup tool - "woops, my router burned"
 - Audit tool - "how did this error get in?"
 - Blame allocation :) - "who did it?"
- The data is stored in a VCS, either of:
 - CVS (Concurrent Versions Systems)
 - SVN (SubVersioN)

What is Version Control?

Three basic principles:

- Keep a record and history of changes
- Give public access to the information
- Maintain different versions from the same data set

What types of data?

- Source code
- **Documentation**
- **Configuration files**
- Generally, any type of data...

How does RANCID work?

- Run (manually or automated)
- Lookup list of groups

For each device in each list of groups

- Connect to the equipment (telnet, ssh, ...)
- Run "show" commands – config, inventory, ...
- Collect, filter/format data
- Retrieve the resulting config files
- CVS/SVN check-in the changes
- Generate a diff from the previous version
- E-mail the diff to a mail address (individual or group)

Why Use RANCID?

- Track changes in the equipment configuration
- Track changes in the hardware (S/N, modules)
- Track version changes in the OS (IOS, CatOS versions)
- Find out what your colleagues have done without telling you!
- Recover from accidental configuration errors (anyone have stories?)

Post Processing

- Run traditional filtering commands on your configs (grep, sed, for information)
- Re-use the automated login tools to build your own batch tools or do interactive login
- On large configurations, you can parallelize operations

Other Operations

- Automated checks
(verify configs for strange / inconsistent setup)
- Generate DNS file from equipment list
- Use IP address adjacency to produce a graph of your network

References

- RANCID Project: <http://www.shrubbery.net/rancid/>
- Subversion (SVN): <http://subversion.apache.org/>

