# Configuration Management with RANCID

Network Startup Resource Center www.nsrc.org



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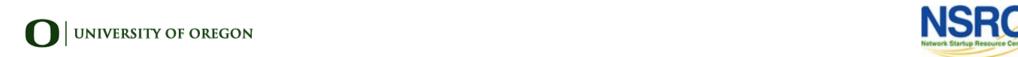
# What is RANCID?

#### The "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?

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:

- 1. Keep a record and history of changes
- 2. Give public access to the information
- 3. 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/
- Good, Short RANCID Presentation http://www.shrubbery.net/rancid/NANOG29/
- RANCID HowTos
  - http://www.linuxhomenetworking.com/wiki/index.php/Quick\_ HOWTO\_:\_Ch1\_:\_Network\_Backups\_With\_Rancid
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