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

```
$ for device in bdr1 core1 dist1-b1 dist1-b2; do /usr/lib/rancid/bin/clogin
-x <commands> $device.campus.ws.nsrc.org; done
```

On large configurations, you can parallelize operations

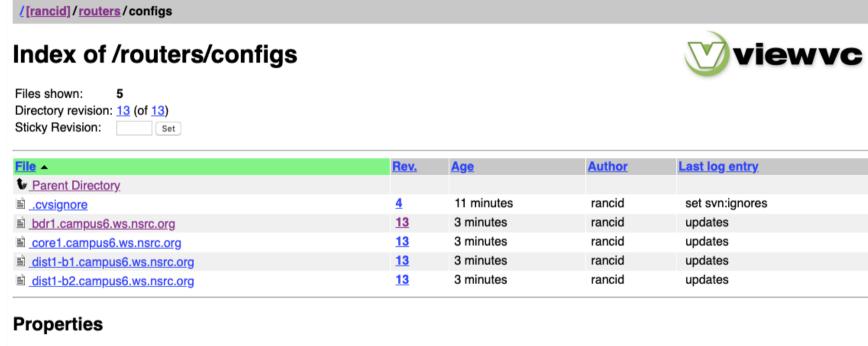






- Browser interface for CVS and Subversion version control repositories
- Start at https://github.com/viewvc/viewvc/
- Allows us to view router config differences side-by-side
- Will install as part of our RANCID lab.
- Visible at

http://localhost/cgi-bin/viewvc.cgi/rancid/



Value

*.new *.raw

svn:ianore .old

Alternate to RANCID: Oxidized

- Oxidized is a network device configuration backup tool.
- RANCID Replacement
- From https://github.com/ytti/oxidized

"Light and extensible, Oxidized supports more than 120 operating system types."

Installation:

https://github.com/ytti/oxidized/blob/master/README.md#debian-and-ubuntu





Questions

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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_:_N etwork_Backups_With_Rancid
- 2. http://gentoo-wiki.com/HOWTO_Rancid
- 3. http://homepage.mac.com/duling/halfdozen/RANCID-Howto.html



