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Backing Up Your System With **rsnapshot**

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Dayton Linux Users Group InstallFest
Saturday, March 1, 2014

Overview

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- Restoring from `rsnapshot`

About the Presenter

- I am a software engineer and IT consultant
- I run my own one-man consulting firm
- I have been using Linux since 2002
- I have been a Debian Developer since 2007
- I am online here:
 - <http://people.connexer.com/~roberto>
 - <http://www.connexer.com>
 - <http://www.linkedin.com/in/robertocsanchez/>

About `rsnapshot`

- Makes use of `rsync`, `ssh`, and hard links
- Very space and bandwidth efficient
- Creates hourly, daily, weekly, etc., snapshots
- From the manual page:

“**rsnapshot** is a filesystem snapshot utility. It can take incremental snapshots of local and remote filesystems for any number of machines.”
- Can run via command line or via `cron` (command scheduler daemon)

Alternatives

- There are other valid approaches:
 - Cloud-based solutions
 - Manual backups
 - Other tools/utilities similar to `rsnapshot`
 - “Roll your own”
- Before switching to `rsnapshot`, I used a custom solution based on an old HOWTO: “Easy Automated Snapshot-Style Backups with Rsync” (last updated 10 years ago)

Installing rsnapshot

- On Debian (and derivatives):
 - `sudo apt-get install rsnapshot`
- On Red Hat (and derivatives):
 - Download RPM (<http://www.rsnapshot.org>)
 - `rpm -i rsnapshot-<version>.noarch.rpm`
 - May be available from third-party repositories
- Manually:
 - Download tarball (<http://www.rsnapshot.org>)
 - `./configure && make && make install`

Options in `rsnapshot`

- Read the documentation, there is lots of it and it is very helpful
- Backup intervals are set in `cron` file:
 - Debian sample defaults are hourly every 4 hours, daily at 3:30 AM, weekly on the first day of the week at 3:00 AM, monthly on the first day of the month at 2:30 AM
 - Other distributions may have different defaults
- Command line options for manual invocation (e.g., backup laptop or for removable media)

Configuring `rsnapshot`

- `snapshot_root`: where snapshots are kept
- `no_create_root`: used when you backup to removable media
- `retain`: how many snapshots of each interval (i.e., hourly, daily, etc.) to keep around
- `include`: specific files/directories to backup
- `exclude`: specific files/directories to ignore
- `backup`: directories/hosts to backup

Configuring `rsnapshot`

- Edit `cron` file to set desired intervals
- To backup local directories, that is sufficient
- To backup remote hosts, `ssh` keys are needed
 - Create with **`ssh-keygen`**
 - Keys should always have a strong passphrase
 - For unattended backup, passphrase is a problem
- Key must be setup to allow `rsnapshot` access as the correct user (e.g., `root`)

Other Operating Systems

- Mac OS X is easy to setup
 - Already comes with `ssh` and `rsync`
 - Treat like any other Linux or Unix
- Windows requires more work
 - Must install an `ssh` server and `rsync`
 - Can obtain necessary environment via installation of Cygwin

Restoring from `rsnapshot`

- `rsnapshot` is a backup solution, not a *backup and restore* solution
- “Bare metal” restore can be lots of work
- Single or multiple file restore is trivial
- To restore, navigate to the `snapshot_root` directory and grab the file(s) you want

Summary

- `rsnapshot` is a versatile backup system
- Many configuration options are available
- Alternatives exist, depending on your objective
- Focuses on the backup, not on the restore
- Presentation slides available online:
 - <http://people.connexer.com/~roberto>