

# Backups - The Most Important Topic of the Semester

Systems Administration

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# THE SYSADMIN'S LIFEBOAT

Good backups solve a range of problems.

- ▶ Somebody deletes important files: restore from backup.
- ▶ Your server's hard drive burns up: restore from backup.
- ▶ Bad guys break into your server: wipe it and restore from backup.
- ▶ Your office burns down: set up in a new location, restore from backup.
- ▶ You need to archive old data: store it on backup media

# START WITH A PLAN

- ▶ What to back up
- ▶ When to back up
- ▶ How to store and manage your backup media
- ▶ How to restore from backup

# BACKUP EVERYTHING!

- ▶ Whatever you may need, you'll have it.
- ▶ It's easy to restore after a major problem.  
However,
- ▶ You'll wind up storing a lot of data, much of it redundant.
- ▶ Larger backups are more time consuming to create and to restore.
- ▶ You may not want to retain some data.

## BACKUP SELECTIVELY

- ▶ Identify data that is valuable.
- ▶ Identify data that you can't get elsewhere.
- ▶ Identify data that you don't want to save.
- ▶ Consult applicable regulations and policies.

# WHEN TO BACK UP

- ▶ Should you back up hourly, daily, weekly?
- ▶ Do you want full or incremental backups?
- ▶ How much can you afford to lose?
- ▶ How long does it take to perform a backup?
- ▶ Do you need to take any services offline while backing up?

# MANAGING BACKUP MEDIA

- ▶ We may back up to tape, disk, or an offsite service.
- ▶ We need a rotation schedule for media.
- ▶ We must maintain a catalogue of backup media.

# RESTORING FROM BACKUP

- ▶ There's no point in backing up if we can't restore.
- ▶ Typically a complicated process.
  - ▶ Identify storage media
  - ▶ Mount and restore in the correct order
  - ▶ Execute restore commands
- ▶ The process needs to be well documented and tested regularly.



# A BACKUP SYSTEM IS NEEDED

- ▶ It identifies what is to be backed up.
- ▶ It performs the backups automatically according to a schedule.
- ▶ It manages storage media.
- ▶ It helps automate the restore process.

# MANY SYSTEMS ARE AVAILABLE

- ▶ ARCServe
- ▶ Arkeia
- ▶ Barracuda
- ▶ AMANDA
- ▶ Bacula

# BACULA

We will use Bacula, which is documented here:

<https://www.bacula.org/7.0.x-manuals/en/main/index.html>