BackupPC

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Data disasters (1)

- System or hard disk crash

- Human error

- Data corrupted or innacessible

- Unintended deletion

- Natural disaster

Data disasters (2)

- How much data loss, if any, is acceptable?

- How long can your business function without the data?

- How long can your production system be down during a restore?

- How much transaction time can be lost?

- How much budget is available for a recovery plan?

When a disaster strikes, you need a way to recover the data. The recovery process requires procedures and processes in place ahead of time that allow for data recovery when needed.

Backup/Restore

RESTORE

Data backup

- **Differential backup** copies those files that have been changed since the last full backup took place. The key advantage of differential backups comes when data needs to be restored. Because a full backup was taken and the differentials copied everything that subsequently changed, only the full backup and the latest differential need to be restored.

- **Incremental backup** copies all of the files that have changed since the last backup was made. They do this whether the last backup was a full one or an incremental copy.

- **Full backup** copies of all data. The primary advantage to performing a full backup during every operation is that a complete copy of all data is available with a single set of media.
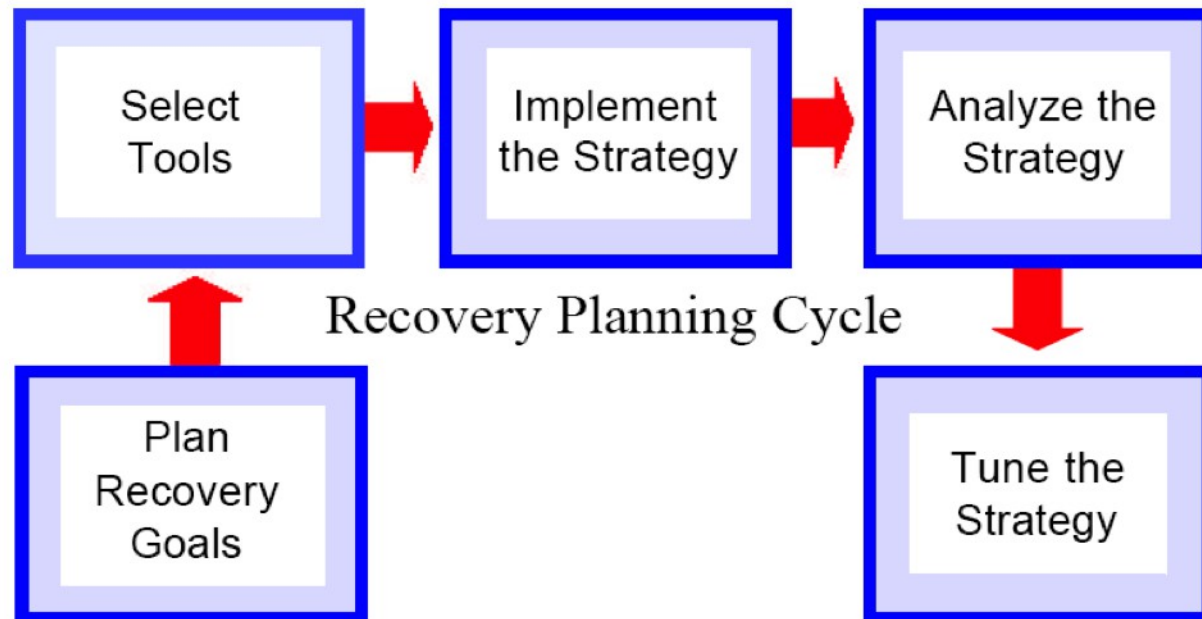
Data recovery (1)

- Type:

  - Knowing the type or usage of data can help you determine how quickly it needs to be recovered.

  - Why was this data backed up to begin with?

- Time:

  - How much transaction time can be lost?

  - Can we re-apply the transactions / load data via other means?

- Quantity

  - What quantity of data has been lost ?

- Distribution

  - What is the extent of the loss?

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Data recovery (2)

- **Recovery strategies and scheduling backups:**

  - Recovery strategy requires <u>planning</u> with an understanding of the business critical data, and comprehension of the backup tools available and their capabilities.

  - The first step in planning your recovery is to <u>outline recovery goals</u> based on the understanding of the business data.

  - <u>Define</u> what is <u>a successful recovery</u> for your system in terms of tolerance for data loss and acceptable time loss. Use key questions presented earlier.

  - Have a <u>recovery checklist</u> in place.

Data recovery (3)

Select Tools → Implement the Strategy → Analyze the Strategy

Recovery Planning Cycle

Plan Recovery Goals

Tune the Strategy

A solution : Backuppc

- BackupPC is an Open Source software written in PERL language that can manage backups of different positions, whether Linux, Windows or MacOS.

- This software is under the GNU General Public License (GPL)

- BackupPC can automatically (at intervals of regular time) or manually save directories on network machines.

- It has an interface Web to run backups or restore files.

- It is also possible to back up databases.

Backyuppc features

- Optional compression support further reducing disk storage

- No client-side software is needed.

- A powerful web (http/cgi) user interface allows administrators and users

- A full set of restore options is supported, including direct restore or downloading a zip or tar file.

- Supports mobile environments where laptops are only intermittently connected to the network and have dynamic IP addresses (DHCP).

- Flexible configuration parameters allow multiple backups to be performed in parallel, specification of which shares to backup, which directories to backup or not backup, various schedules for full and incremental backups, schedules for email reminders to users and so on.

- Users are sent periodic email reminders if their PC has not recently been backed up. Email content, timing and policies are configurable.

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Backyuppc functionning

1. The software wakes up every hour.

 - Querying the Blackout Period, if the host is in her period of blackout, the server moves to the next machine.

 - Otherwise, it studies the host machine.

2. For each machine, BackupPC examine the dates of the last backups:

 - If the last full backup date is more than thirty days ago, it makes a new full backup.

 - If it looks at the date of the last incremental backup. If it is older than a day, it launches an incremental backup.

 - If there are more than nineteen incremental backups, it deletes the oldest so there remains only nineteen (limitation of the disk space consumed).

Backuppc tools

- Tar
- Rsync/Rsyncd
- SSH
- FTP
- SMB

Screenshot – index page

BackupPC Server Status

General Server Information

- The servers PID is 10469, on host host222.ws.nsrc.org, version 3.3.0, started at 5/6 12:49.
- This status was generated at 5/6 13:07.
- The configuration was last loaded at 5/6 12:49.
- PCs will be next queued at 5/6 14:00.
- Other info:
    - 0 pending backup requests from last scheduled wakeup,
    - 0 pending user backup requests,
    - 0 pending command requests,
    - Pool is 0.00GB comprising files and directories (as of 5/6 13:07),
    - Pool hashing gives repeated files with longest chain ,
    - Nightly cleanup removed 0 files of size 0.00GB (around 5/6 13:07),
    - Pool file system was recently at 67% (5/6 12:59), today's max is 67% (5/6 12:49) and yesterday's max was %.

Currently Running Jobs

Host	Type	User	Start Time	Command	PID	Xfer PID

Failures that need attention

Host	Type	User	Last Try	Details	Error Time	Last error (other than no ping)
localhost	full	backuppc	5/6 13:00		5/6 13:00	Tar exited with error 512 () status

Hosts

Select a host...   Go

Server

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Screenshot – General configuration

Screenshot - Hosts list

Screenshot – host configuration

Screenshot – host dashboard

References

- http://www.generation-linux.fr/index.php?post/2008/08/09/119-backuppc-un-logiciel-de-sauvegarde-automatique
- http://backuppc.sourceforge.net/faq/BackupPC.html
- http://backuppc.sourceforge.net/info.html

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Questions?

- Choose your first host as backuppc server and a other one to tests backup

- Now do the exercise :

    - Install and configure backuppc

    - Add local backup

    - Add remote backup