BackupPC

Network Startup Resource Center
www.nsrc.org

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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

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.

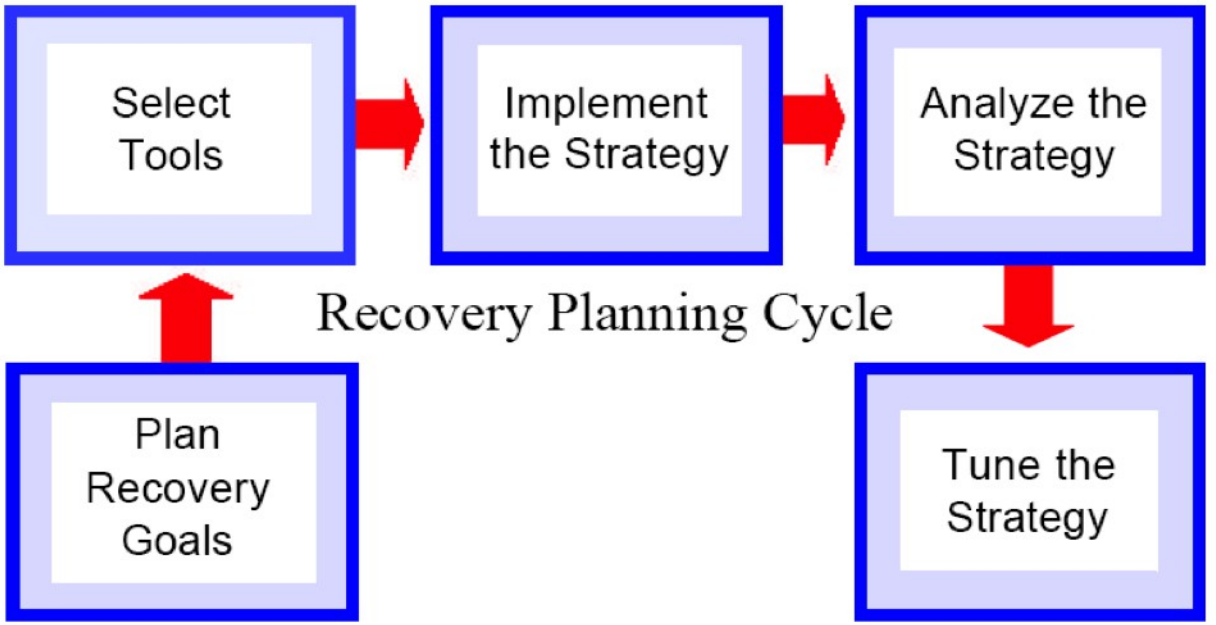
Data recovery (1)

- 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?

Data recovery (2)

- **Recovery strategies and scheduling backups:**
  - Recovery strategy requires planning 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 outline recovery goals based on the understanding of the business data.
  - Define what is a successful recovery for your system in terms of tolerance for data loss and acceptable time loss. Use key questions presented earlier.
  - Have a recovery checklist in place.

Data recovery (3)



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.

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.

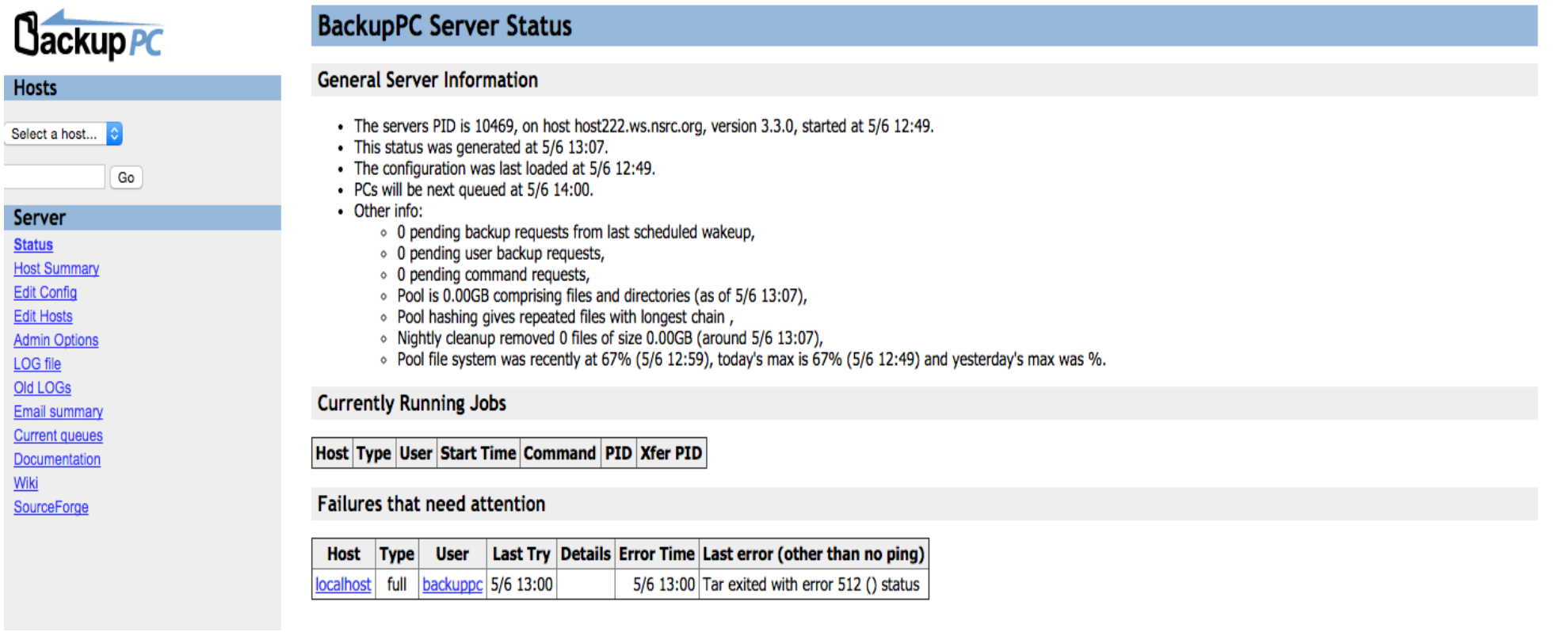
- If it looks at the date of the last incremental backup. If it is older than a day, it launches an incremental backup.

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

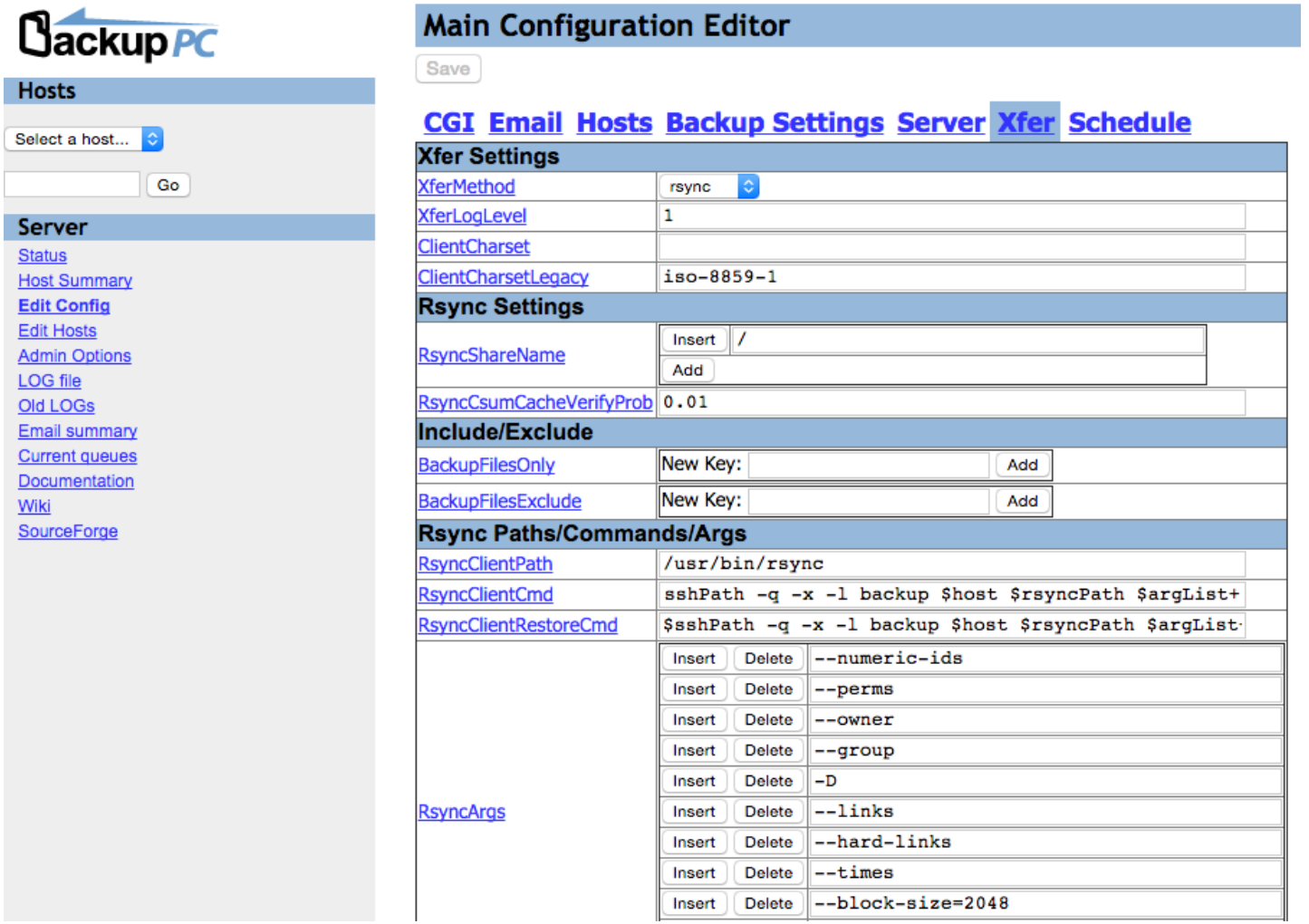
Backuppc tools

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

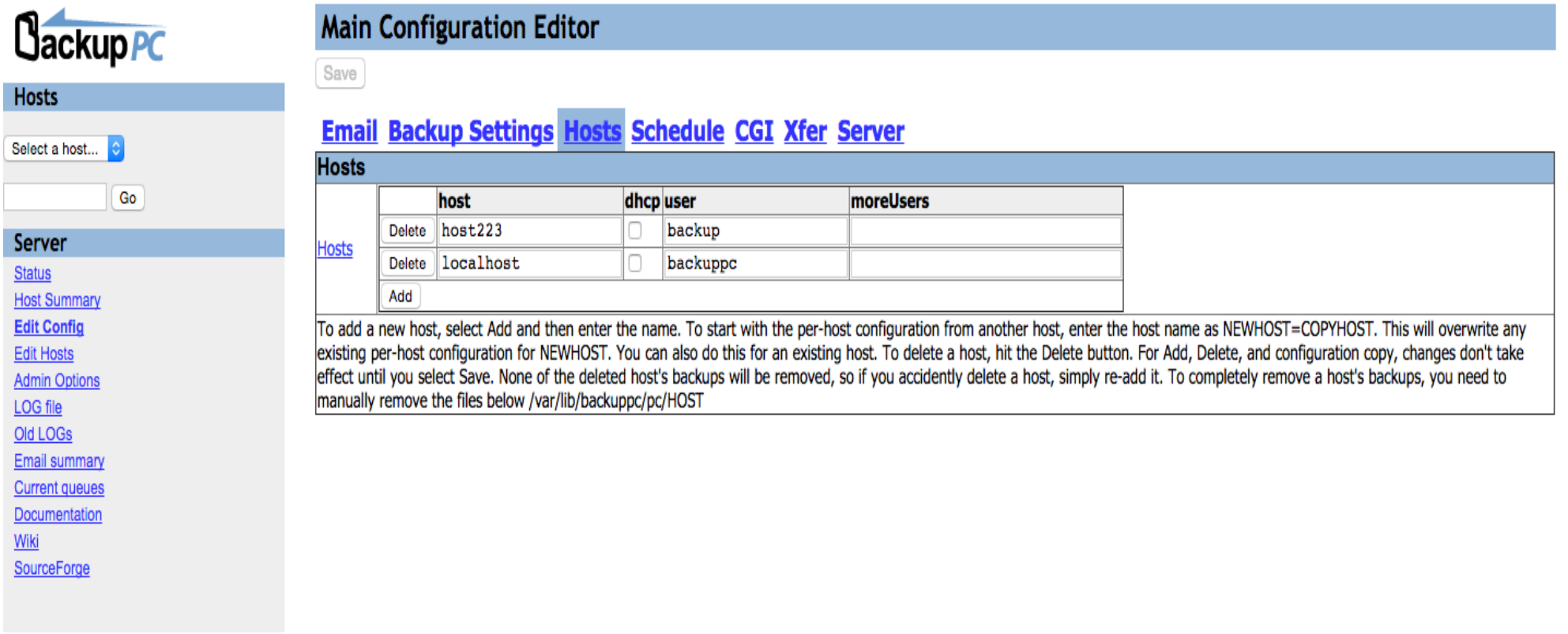
Screenshot – index page



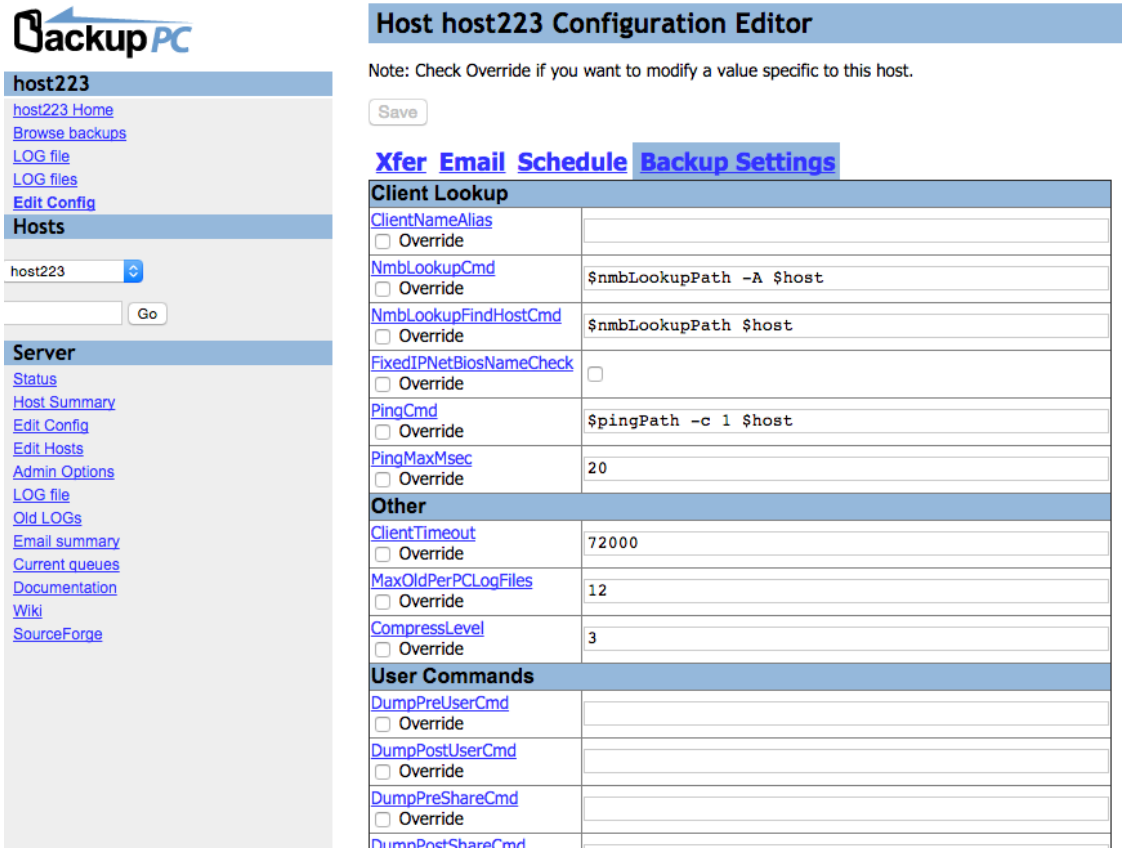
Screenshot – General configuration



Screenshot - Hosts list



Screenshot – host configuration



Screenshot – host dashboard

BackupPC

localhost

localhost Home
Browse backups
LOG file
LOG files
Edit Config

Hosts

localhost

Go

Server

Status
Host Summary
Edit Config
Edit Hosts
Admin Options
LOG file
Old LOGs
Email summary
Current queues
Documentation
Wiki
SourceForge

Host localhost Backup Summary

- This PC is used by backuppc.
- Last status is state "idle" (done) as of 5/6 14:38.
- Pings to localhost have succeeded 6 consecutive times.

User Actions

Start Incr Backup | Start Full Backup | Stop/Dequeue Backup

Backup Summary

Click on the backup number to browse and restore backup files.

Backup#	Type	Filled	Level	Start Date	Duration/mins	Age/days	Server Backup Path
0	full	yes	0	5/6 14:38	0.0	0.0	/var/lib/backuppc/pc/localhost/0

Xfer Error Summary

Backup#	Type	View	#Xfer errs	#bad files	#bad share	#tar errs
0	full	XferLOG, Errors	0	0	0	0

File Size/Count Reuse Summary

Existing files are those already in the pool; new files are those added to the pool. Empty files and SMB errors aren't counted in the reuse and new counts.

		Totals			Existing Files		New Files	
Backup#	Type	#Files	Size/MB	MB/sec	#Files	Size/MB	#Files	Size/MB
0	full	5	0.0	0.01	4	0.0	4	0.0

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
- http://backuppc.wiki.sourceforge.net/

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