CERN's current Backup and Archive Service hosts 11 PB of data in more than 2.1 billion files. We have over 500 clients which back up or restore an average of 80 TB of data each day. At the current growth rate, we expect to have about 13 PB by the end of 2018.

In this contribution we present CERN's Backup and Archive Service based on IBM Spectrum Protect (previously known as Tivoli Storage Manager). We show the architecture and design of the system, the user requirements, the operational issues, the growth challenges and the options for resolving them.

**WHAT WE BACKUP**

**CRITICAL DATA HOSTED IN CERN COMPUTER CENTER**

- 52TB OF EXCHANGE MAILBOXES
- 80 DATABASES
- > 1100 SERVERS

**WHAT WE DO NOT BACKUP**

- PHYSICS DATA
- DESKTOPS

**11 PETABYTES**

- 52TB OF EXCHANGE MAILBOXES
- 80 DATABASES
- > 1100 SERVERS

**2,300 MILLION FILES**

**INFRASTRUCTURE**

- 2 IBM TS3500 libraries (2 buildings)
- 55 IBM TS1140 drives
- ~13,000 IBM 3952 tapes
- 19 TSM servers
- 7 FC switches

**A SIMPLE COMPUTING ELEMENT THAT SCALES**

**SERVICE OVERVIEW**

**ERRORS BY SEVERITY**

**USAGE AND TRENDS**

**BACKUP VOLUME FOR LARGEST USERS**

AFS migration to CASTOR

- IT-CDA: 34%
- IT-DB: 56%

**DAILY TRAFFIC BACKUP/RESTORES**

- BACKUP: 70TB/DAY
- RESTORE: 12TB/DAY

**AMOUNT OF INCIDENT TICKETS PER QUARTER**

A RELIABLE PERFORMANT SERVICE CAPPED BY LICENSED VOLUME ...

... STILL GROWING (~20%/YEAR)

**OUTLOOK**

**ALTERNATIVES?**

AFS BACKUPS MOVED TO CASTOR

WHAT ABOUT OTHERS?

**MONITORING**

For more information
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