Bavarian State Archives optimizing their data backups

Directorate General of the Bavarian State Archives counts on Bareos.

Initial Situation

The State archives in Germany are obliged by law to save documents of archival value of the authorities, the courts and other public sector entities, and make them accessible to research and to citizens for exercising their legitimate interests. For the protection of the sensitive originals and to ease the use of these unique cultural assets, certificates, files, maps, images and other archive material are digitized, which leads to a constantly growing volume of data. The Bavarian State Archives have successfully redesigned and re-optimized the backup-processes needed for the data backup using Bareos. While heretofore the material has been hosted on multiple servers and an employee has monitored the consistency of the backup data using his own scripts and Excel-sheets manually, now a fully automatic backup-concept is in use, which can flexibly be configured by the local employees.

Requirements

High-resolution scans of medieval manuscripts and documents, files, maps, illustrations, official books and publications of the State Archives – since the advent of literacy in early medieval times, the amount of digitized data has constantly increased. An automated and easy-to-configure open-source-solution should replace the so far manually maintained backups:

- Backup of 2 NAS-systems and 2 servers which host about 25 virtual Linux- and Windows-servers running numerous services, as well as the backup of an online-storage containing high-resolution scans
- Distribution over different backup-media, including 2 tape robots
- Centralization of the data with different, partly extremely long retention-cycles
- Reproducible and partly automated configuration of the backups through scripts
- Automated documentation of the current settings in a wiki-like syntax

Project Outline

Company

Generaldirektion der Staatlichen Archive Bayerns (Directorate General of the Bavarian State Archives)
Schönfeldstr. 5
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Industry

State Archives

Challenge

The growing amount of different data on servers and clients can only be secured insufficiently through a manual backup. The new concept based on Bareos automates the processes, and using the scripts provided, even less technically experienced employees can extend the setup.

Solution

The backup using Bareos, the implemented procedures and the different backup-media save time, personnel and costs. Everything is implemented transparently and realized with open-source-software.

···▶ **Follow-up**

Projekt flow

Marco Weiß of the Kessler GmbH located in the Munich area, first explored, analyzed and structured the data sources on-site at the Directorate General of the Bavarian State Archives. During this process it became apparent that a backup would have to not only save operating-system-data and server-settings, but the digitized documents from the online-storage as well. A flexible solution like Bareos, which allows for Linux- and Windows- and OS-X-Clients and distributes the data to the different storages of the backup-system, is perfect for this matter. During the course of the project previous backup-concepts, which had to be maintained manually, should be replaced by flexible and automated processes. An intelligent distribution of jobs makes it possible to back up the data amounts, which go well into the terabyte range, through different rotation schemes and retention periods.

Implementation

A combination of full and incremental backups in quite different intervals is employed. The backup copies are stored on a 4-terabyte- and, simultaneously, a 14-terabyte-storage (the last of which is also used as a spool for the jobs). Furthermore two tape robots with 24 and 90 tapes respectively, are in use.

Added value for the customer

The new backup-strategy relieves the Directorate General of the Bavarian State Archives in terms of personnel, time and financial resources. The Bareos-setup covers Linux- and Windows-servers with all data and settings equally. Local employees can adjust the configuration easily to changing demands, without the need to learn the ropes of the open-source-solution. Through the provided scripts, their changes are automatically added to the internal documentation.

> Using Bareos, we could implement an integrated and fully automatic backup-concept, which covers numerous sources with completely different requirements to retention times and backup-cycles. The regional Bareos partner provided us advice and support in this matter. With their help we could set up the system very flexibly, so that it is possible at any time to extend the configuration and document all settings automatically. Thanks to our Bareos subscription and support we feel up to future challenges.

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