Jena-Optronik GmbH uses DataCore™ Software defined Storage

Long-term archiving for space research

The Thuringia-based space company Jena-Optronik GmbH specialises in position control for use in space. The supplier must provide for archiving periods of more than 20 years for selected project data that is used for Earth and planet monitoring.

This is why Jena-Optronik relies on particularly cost-efficient archiving – SANsymphony BULK – in addition to a high-performance and high-availability archiving infrastructure with SANsymphony™ in the production area.

The company

The customers of the Jena company rely on high-precision, robust position control sensors, rendezvous and docking sensors and optical subsystems and components for space-based applications. For instance, Jena-Optronik today supplies key components for the Sentinel mission in Copernicus, the European programme for environmental and security policy.

The new SmallGEO satellite platform is also being fitted with components in collaboration with the European Space Agency (ESA) and the German Aerospace Centre (DLR). High-tech "Made in Germany" Jena-Optronik is therefore much in demand as a partner to many aerospace agencies, as well as to nearly all major aerospace systems companies in Asia, Europe and North America.

About Jena-Optronik

Jena-Optronik GmbH was established in 1991. The Thuringia-based space company located in Jena is a pioneer of multispectral space research and considers itself to be a global market leader in the area of position control sensors. Its origins go back to VEB Carl Zeiss Jena.

www.jena-optronik.de

The challenge

Jena-Optronik faces the task of archiving project data for the long term in addition to effective live operation. This includes production and design data as well as the data transmitted by sensors. At the same time, data of older projects need to be regularly processed and adjusted.

This resulted in the following requirements scenario:

- Minimum archiving period 20+ years
- Regular processing (minor adjustments) of old projects
- Online memory requested, no tape systems
- No need of a document management system
  (among other things due to the different file types and archiving structure)
- Business requirement: High availability (date redundancy)

Having examined traditional archive and storage solutions, various cloud solutions were considered and subjected to several weeks of tests. However, the former was ruled out due to the price and the remote solutions turned out to be too slow.

The solution

In live operation, two SANsymphony nodes on HPE servers (Proliant DL380) and MSA disk shelves are used in separate fire zones in a redundant infrastructure. At the server end, the applications run largely on Cisco UCS hardware. In addition to MS Cluster File servers, MS DSS and others, the applications are largely visualised.+

To this end, 12 VMware ESX hosts supply more than 100 virtual machines, on which applications such as Exchange, Sharepoint or SQ databases are operated. Critical systems are, in particular, SAP instances and the PTC Windchill product development system, with special requirements for performance and fail-safety.

This 8 Gb fibre channel infrastructure was expanded for archiving purposes in an analogous design by adding two SANsymphony BULK servers. They serve as an archive with less expensive high-volume memory hardware, in this case D2600 disk shelves with 6 TB HDDs each.

The BULK servers provide the required online access to the storage media with sufficient performance and a large number of storage services that are also used in a live environment, including synchronous mirroring for high availability. DataCore's licensing model is optimised for large-volume archives and allows a flexible expansion in steps of 100TB, but at a fraction of the cost of the high-end solution.

> “Other solutions seemed unsuitable for our needs. As DataCore's software-defined storage platform SANsymphony has been used successfully at Jena-Optronik since 2005 in our live environment, we opted to expand our infrastructure by adding SANsymphony BULK. We found the price/performance ratio and the possibility of seamless integration in the existing infrastructure convincing.”
>
> - Reiner Pohl, Head if IT
> Jena Optronik GmbH

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> SANsymphony BULK enabled us not only to fulfil the urgent requirements for an archive. The hardware independence of the DataCore solution is the key to a future-oriented flexible infrastructure and the expansion costs are calculable. We can integrate new storage technologies and are well-equipped for the next 20 years.
>
> - Reiner Pohl, Head if IT
> Jena Optronik GmbH

The advantages

DataCore: the result is a homogeneous, efficient and cost-effective infrastructure. The software-defined approach enables the use of cost-efficient standard components both in production and in the archive. Flexible on the basis of requirements, expansion can take place during ongoing operations independent from the manufacturer, using both on-premise hardware and cloud resources. One major benefit is the central management of the environment and easy operation.

The benefits at a glance

- Use of price-effective storage components
- Standardised and central management for the entire storage
- Hardware independence for the next 20 years
- Easy integration of new storage (hardware) technologies
- Calculable and low expansion costs

Company contacts

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