PROACT

CASE STUDY

Fortnox

FORTNOX
Småföretagens bästa vän

Object storage makes room for all customer documents as Fortnox continues to expand its private cloud platform

Summary

Challenge
For Fortnox and its cloud-based accounting and administration platform, object storage combined with containerised applications provides the foundation for growth and innovation. The company was growing out of its existing object storage systems and went looking for a future-proof solution, supported by a reliable partner.

Solution
a new object storage solution based on NetApp StorageGrid which Proact designed. It is managed on-premises by Fortnox and is supported by Proact.

Sweden-based Fortnox has been hugely successful with its cloud-based accounting platform and today has more than 300,000 clients. In-line with technology trends, Fortnox is actively exploring and using automation and digital workflows. Furthermore, in order to live up to its slogan, "Small businesses' best friend", Fortnox has added services such as insurance and financing to its offering, in addition to its administration platform which is designed to assist small businesses, accounting firms, associations and schools.

Founded in 2001 as a pioneer in online accounting, Fortnox continuously develops its platform using state-of-the art software development tools and methodologies. Over the past few years, microservices, also known as container technology, have been implemented. This development enables the rapid development and deployment of new services for the Fortnox platform. The development team uses Kubernetes, a system that automates deployment, scaling, and the management of containerised applications. It was first developed for internal use by Google and has now gained widespread adoption following its release as open source code.

Fortnox has transformed its software development by using microservices for all new applications. To date, more than 100 new features have been added in this fashion, for instance the sign-in procedure. This new methodology enables Fortnox to add new functionality to its platform at frequent intervals, with shorter lead times and lower deployment risk (compared with conventional software releases).

Given our requirements, Proact's proposed StorageGrid solution was the offer which we were most comfortable with. It was also a convenient and cost-effective option. We wanted to get started on a limited scale, with the option to grow. And scaling is very easy to do with StorageGrid."

Peter Hall,
Head of IT operations at Fortnox

Benefits

Object storage was first recognised as an effective solution for managing large volumes of unstructured data. It is also an excellent fit for cloud-enabled applications, including hybrid cloud environments. Fortnox' new object storage solution provides high availability on par with the existing SAN, which is also relieved from a heavy workload. S3 compatibility facilitates development using microservices and the Kubernetes framework. The solution is also highly scalable.

Staying in control with own, dedicated infrastructure

Fortnox views technology as a business tool and the firm's approach is clearly summarised by their motto, "simple, innovative and reliable". These infuse development work as well as operations. Fortnox has an internal IT operations team, responsible for infrastructure and the service platform, which essentially forms a private cloud. The platform is based on a virtualised environment which includes two data centres connected by a storage network for mirroring, and a third site for storage backup.

"We see it as a strength to have our own, dedicated hardware for visibility on where data resides and who can access it. If we used the public cloud, we would not achieve the same sense of control," says Peter Hall, Head of IT Operations at Fortnox.

While modernising its development environment, Fortnox has introduced object storage alongside conventional databases. Initially, the open source product MinIO was used, which is compatible with S3, the object storage service offered by Amazon Web Services. This features a software interface (API) which has emerged as a de facto industry standard.

Fortnox has a range of tasks and applications that are well-suited to object storage, including temporary file storage. The company's largest volume consists of archives for customer-related documents, such as invoices, confirmations and other business records. Everything is saved and linked to each client's bookkeeping. Many containerised services that have been added for this purpose also leverage object storage, while the SAN continues to serve existing applications.

Unstructured data growth

With a steadily growing customer base and expanding volumes of unstructured data to manage, Fortnox was growing out of its first object storage solution, which was running on the same SAN (storage area network) as its legacy storage systems. This placed a heavy load on the network.

"We had the option to either upgrade our internal storage and the SAN, or to move the [object storage] workload to another place," says Peter Hall.

MinIO a had a weakness since it originated as an Open Source product so regular vendor tech support was not available. Fortnox had deployed the system to manage data volumes, that were critical to provision services, and indirectly for clients' businesses as well.

Another complication involved the containerised applications and the Kubernetes framework, which enables server resources (nodes) to be deployed on demand under software control. While this feature is objectively a strength, it comes with a catch: Fortnox found it difficult to find a matching storage solution which supports the corresponding level of automation.

Solution

When Fortnox began to examine commercial object storage systems, it became obvious that the company is an early adopter of this technology. There were very few user references available nearby, while getting a secure and reliable solution was a fundamental requirement for the purchase. From these specifications, Proact worked out a proposal based on NetApp StorageGrid. Fortnox became one of the first deployments in Sweden to have an object storage system of this kind within a production environment.

"Given our requirements, Proact's proposed StorageGrid solution was the offer which we were most comfortable with. It was also a convenient and cost-effective option. We wanted to get started on a limited scale, with the option to grow. And scaling is very easy to do with StorageGrid," says Peter Hall.

Proact designed the solutions and managed the project. The installation was made using three nodes, the minimum StorageGrid configuration. This setup is duplicated at Fortnox' two data centres to enable mirroring which provides fault tolerance and disaster recovery

That was really a pleasant surprise. Once we had it installed – with some help - the solution has been running without a glitch. We have made a few minor software upgrades and one large, which is an easy task with the administration interface – you just upload the file and klick the update button"

Peter Hall,
Head of IT operations at Fortnox

About Proact

Proact is Europe's leading specialist in data and information management with focus on cloud services and data centre solutions. We help our customers to store, connect, protect, secure and drive value through their data whilst increasing agility, productivity and efficiency.

We've completed thousands of successful projects around the world, have more than 4,000 customers and currently manage hundreds of petabytes of information in the cloud. We employ over 1,000 people in 15 countries across Europe and North America.

Founded in 1994, our parent company, Proact IT Group AB (publ), was listed on Nasdaq Stockholm in 1999 (under the symbol PACT).

PROACT

info@proact.eu
www.proact.eu

capabilities on par with the SAN. For backing up data to a third site, the existing object storage solution proved useful. Backup is enabled using StorageGrid's Cloud Sync feature. Fortnox also utilises the versioning option, enabling recovery of older versions of files. This provides extra security in case of accidental deletion of data.
Object storage is now separated from the SAN, giving the latter a welcome relief. The solution also facilitates containerised software development using Kubernetes.

"Now we have a simple way of managing storage in stateful applications. This is accessed using a standard URL, which is supported by any conceivable development tool or programming language," says Peter Hall.

Fortnox appreciates that they now have a flexible object storage solution which is also very easy to manage in their daily operations. StorageGrid supports Grafana and Prometheus, the systems management tools already used by the company. Therefore, it was easy to include the new object storage with Fortnox existing systems management framework.

"That was really a pleasant surprise. Once we had it installed – with some help - the solution has been running without a glitch. We have made a few minor software upgrades and one large, which is an easy task with the administration interface – you just upload the file and click the update button," says Peter Hall.

Benefits

Scalable
Object storage may be expanded incrementally without adding loads to the existing SAN.

Manageable
It's simple to perform daily monitoring and system maintenance of the StorageGrid environment.

Future-proof
Cloud-enabled storage solution which supports microservices and containerised software development.

Secure
Certified tech support available at all times from Proact.

About StorageGrid

StorageGrid is a software-defined, object-based storage platform from NetApp. It is software compatible with Amazon S3 and OpenStack Swift. StorageGrid is complemented by the Cloud Sync-service, providing quick and secure synchronisation of data. Using Cloud Sync, it is easy to transfer files between various platforms and file systems, on-premise data centres and cloud services. It also offers features for automatic, policy-based storage in hybrid environments with multiple storage tiers.

About Fortnox

Fortnox provides a cloud-based service platform enabling small businesses and accounting agencies to efficiently manage finance and administration. A market leader in Sweden, Fortnox also offers financial services and business insurance to clients. Founded in 2001, Fortnox is headquartered in Växjö, Sweden and the company share is listed on NGM Nordic MTF. For further information, please visit www.fortnox.se