Hewlett Packard Enterprise

**Eurobank
Srbija**

Objective
Implement a more reliable, efficient and
faster backup infrastructure, capable of
multi-site replication

Approach
Issued an RFP, saw demonstrations
and took part in reference visits

IT Matters
• Increases backup speeds by four times

• Delivers restore rates that are twice
as quick as before

• Writes just one twelfth of the
total data to disk thanks to
deduplication technology

Business Matters
• Enables daily backups to ensure high
availability and security of critical
business and client data

• Save money by reducing the number
of storage disks required

• Provides a state-of-the art, localised
service with one single point of contact

Eurobank Serbia streamlines data backup and archiving

HPE StoreOnce and HPE Data Protector increase
backup speeds and reduce restore times

Eurobank Serbia needed a
more reliable, efficient and
faster backup and archiving
infrastructure to ensure the
safety of critical business
information and data on its
900,000 clients. Multi-site
replication was a major
requirement and the answer
was provided by HPE
StoreOnce Backup systems
with HPE Data Protector 8.1
backup software.

Challenge

Need for better storage performance
The ability to safely store, backup and
retrieve data is vital for all businesses but is
particularly critical in the financial services
sector where the protection of sensitive
customer information, security and legal
compliance are serious issues. Recognising
this, Eurobank Serbia reviewed its storage
infrastructure and realised that it needed a
more reliable, faster and efficient solution.

With total assets of €75.5 billion, 17,400
employees and a retail network of more than
1,000 branches in many countries, Eurobank
Group entered the Serbian market in 2003.
After successfully acquiring Postbank &
National Savings Bank, Eurobank now holds
a leading position in Serbia where it has
1,500 employees who meet the needs of
over 500,000 clients through a network of
85 branches and business centres.

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> "Backing up our 3.5TB Oracle database used to take between nine and 12 hours. Now it takes three hours. Restore rates are also twice as fast as they were before."
>
> — Branko Nikolic, system engineer, Eurobank Serbia

Eurobank Serbia's headquarters is in Belgrade where all data is centrally stored at its main data centre and disaster recovery (DR) sites, serving a widely distributed environment of some 100 locations. These include three main back offices in Belgrade, each with between 100 and 300 employees and many branches throughout the country. Locations are connected by links which vary from 10MB to 40MB.

The bank runs approximately 200 physical and virtual servers using Microsoft® Hyper-V and VMware hypervisors. It has five HPE BladeSystem c7000 enclosures at its primary site and two at its DR site, with FlexFabric interconnections and its server farm includes HPE rack servers.

"We have to store about 20TB of data and a primary challenge was that we wanted the ability to create a second copy of data from the back offices, which we were unable to do with our previous solution," says Branko Nikolic, system engineer with Eurobank Serbia. "Backup was not really reliable because we were using only tape libraries. We had HPE Data Protector software but we did not have disk-to-disk storage devices. Also we didn't have deduplication technology. Because we were only using tape for backup, if, for example, we had to back up a 3TB Oracle database we were unable to simultaneously perform regular restores to test the backups we had created. We wanted to achieve better reliability, improved performance and better data security."

Eurobank Serbia issued a Request for Proposal (RFP) for a backup solution to cover data from Oracle and MS SQL Server databases, MS Exchange 2003, MS SharePoint 2010, Windows® operating systems and physical/virtual servers. It considered submissions from HPE, IBM, EMC and Siemens/TechTastic. Its staff had previously seen demonstrations of HPE Data Protector at HPE Discover events and also took part in reference visits and consultations. After listening to various recommendations they decided that the HPE equipment was the best fit for business needs. Another deciding factor was the HPE ability to provide a total solution with local support. With only a small IT team, the bank did not want to manage many different types of hardware and train staff in the technologies of different vendors.

Solution

Multi-site support
Eurobank Serbia has installed an enterprise backup and archiving solution designed to meet its current business and technical requirements and scalable enough for future growth. It's based on four HPE StoreOnce disk backup systems and HPE Data Protector 8.1 backup software.

The infrastructure includes an HPE EVA P6550 Storage Array at the bank's production site and an HPE EVA P6500 at its disaster recovery site. It also features two HPE MSL4048 Tape Libraries which are used for long-term data archiving.

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Two 10GB HPE 5920 Switch Series have been purchased and will be commissioned when the bank completes an eagerly anticipated conversion from 1GB to 10GB network connectivity between its c7000 chassis and StoreOnce devices.

One HPE StoreOnce 4700 system with 20TB of usable space (after RAID) backs up data to disk at the primary data centre and a similar 40TB system is used at the DR site. The two other StoreOnce devices support backups from three main remote locations. Tape libraries are situated at the primary and DR locations. One HPE ProLiant DL380 backup server is used at the production site and a second is located at the DR site. Backup is optimised with HPE Data Protector automated backup and recovery software.

When the bank's 10GB links are operational, Catalyst interfaces will be used for backups and data replication. They will offer significant technical advantages over legacy VTL and NAS interfaces including source-side deduplication and fine-grained replication control. Backup data flow will go directly from server hosts to 10GB interfaces on the backup to disk devices without going through the backup server.

HPE Data Protector cell manager is installed on a backup server in the primary site and all backups with a retention requirement of more than one month are off loaded to tapes. All hardware is covered by a three-year warranty that includes 24x7 support with six hour call to repair services.

Benefit

Quicker backup and restore

"We are now able to perform daily backups. Some databases like our Oracle and Microsoft SQL have full backup every day and for others, it's a mix of full and incremental backups. It depends on the criticality of data. The data is backed up to the StoreOnce devices in our back offices and then it's replicated through links onto the primary site," says Nikolic. "We try to back up the data after working hours, from 5pm until 8am the next day, and the plan is to replicate the backups from the primary site to the disaster recovery site as soon as we implement the 10GB links."

Since implementing the HPE solution, Eurobank Serbia's IT team have seen a dramatic improvement in backup speeds.

"A good comparison is the backup of our main Oracle database which is around 3.5TB," adds Nikolic. "Before, it was backed up only on tape which took between nine and 12 hours. Now it takes about three hours – four times better. We are also able to do restores whenever we are requested and they are twice as quick. Previously, we had four drives in the tape library which were always busy with backups and we had to cancel some of those backups in order to perform a restore. Now we don't have to do that so backups and restores can run at the same time. We no longer have limitations because daily backups are performed on StoreOnce devices and tapes are only used for archiving."

Customer at a glance

Hardware
- HPE StoreOnce 4700 Backup
- HPE StoreOnce 4220 Backup
- HPE StoreOnce 2700 Backup
- HPE MSL 4048 Tape Libraries
- HPE ProLiant DL380 Gen8 severs
- HPE BladeSystem c7000 enclosures
- HPE FlexFabric
- HPE EVA P6550 Storage Array
- HPE EVA P6500 Storage Array
- HPE 5920 Switch Series

Software
- HPE Data Protector 8.1

HPE services
- 24x7 support with six hour call to repair

"We have seen great benefits from the HPE deduplication technology. The total data written to our device is nearly 200TB but the actual disk space consumed is just 16.5TB."

— Branko Nikolic, system engineer, Eurobank Serbia

"Before the HPE solution we had backups of our biggest databases that lasted for 12 hours during which time we could not do restores. Now we are able to perform restores for 12 hours and that is really acceptable for our business. It's a really big benefit."

The bank has also seen great advantages from the HPE deduplication technology. Deduplication identifies and eliminates redundancy by writing only unique data to storage. When duplicate files, blocks, or byte sequences are detected, only a pointer linked to the unique piece of data is stored. This pointer consumes significantly less capacity than storing the whole item multiple times, saving cost by reducing the number of disks needed and optimising network bandwidth to enable replication with lower bandwidth requirements.

"With deduplication, we are achieving ratios that range from 3.8:1 up to 13.1:1 depending on the type of data that is being backed up. The space saving on disks is quite large and although we do not have actual figures, I am sure it saves us a lot of money."

"The data written on our device is nearly 200TB but the total capacity of the device is 40 TB. The real actual space that is consumed on the device is 16.5TB so with deduplication, 12 times less data is actually written on the device. The best part is that the deduplication works on all types of data whether its file system types, the content of virtual machines or databases.

"The security of data is also important. All data is automatically encrypted so I don't have to worry about it. No-one can steal my device and perform restore from it. Other benefits are multi-user support and ease of management. The systems are very reliable and it's important to our business to have a fully integrated solution form a single vendor like HPE," says Nikolic.

IT infrastructure manager at Eurobank, Nenad Manasijevic concludes: "By implementing the HPE backup and archiving solution we have created a converged IT infrastructure model that is capable of meeting the demands of the business for the next five years."

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