



▶ PRAGUE CITY
ARCHIVES SERVER
AND STORAGE
CONSOLIDATION

DEPLOYED SOLUTION:
DELL

PRAGUE CITY ARCHIVES SERVER AND STORAGE CONSOLIDATION

CUSTOMER PROFILE

Distributor Profile

DNS a.s.
www.dns.cz

Focus: ICT

During its more than fifteen years on the Czech market, DNS has evolved to become a highly successful, confident and financially stable value added distributor.

At DNS we focus on superior customer services and individual approach to every project. Our services cover the entire lifecycle of IT projects from planning to execution. We will help you take your project from design through pre-sales support to its final deployment. You can also count on our expertise in after-sales support, financing, marketing and education services.

Prague City Archives
www.ahmp.cz

Focus: Public Administration

The Prague City Archives is one of the oldest archiving institutions in the Czech Republic. For more than 150 years it's been taking care of paper documents that testify of the City's from its medieval beginnings until the verge of the present day. As an organization, it is a part of the Prague City Hall and supervises document discard processes of Prague City bodies, agencies of City districts and organizations established by these. Current resources and collections of the Prague City Archives include over 430,000 filing units with a total scope of approximately 18,000 current meters.



PARTNER PROFILE

HCV group a.s.
www.hcvit.cz

Focus: ICT

HCV group a.s. is a Czech privately held company that has been delivering information technology products, services and solutions since 1992. Through systematic long-term expertise development and careful observation of customer needs it has built stable customer and supplier partnerships with a number of major companies. With its four branch offices, HCV group a.s. covers the territory of the Czech Republic and Slovak Republic. Its creed is to fulfill the expectations of its clients with highly professional services.



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INITIAL SITUATION

Mission of the Prague City Archives is to archive documents and publish its archives for the general public. The archive held a tender to solve the unsatisfactory state of infrastructure consisting of legacy servers with insufficient capacity and performance and outdated Microsoft Windows Server 2000/2003 operating systems.

Many systems were virtualized, including SQL Server whose failure would cripple operations of the entire institution.

Many systems were virtualized, including SQL Server whose failure would cripple operations of the entire institution. The original systems depended on their host hardware and in case of failure the customer could only rely on agreed service levels – either within six hours or next business day. The client's loss due to downtime had not been quantified.

In the request for proposal, the customer specified target solutions and requested that these were met in technical and cost proposal using hardware from single or multiple vendors.

The new solution was supposed to provide extended guarantees and support for hardware and software as well as provide additional disk storage. At the same time, the client required redundancy, downtime minimization and energy savings.

ORIGINAL INFRASTRUCTURE

- 2x HP Storageworks MSA20 storage array
- 1x HP Storageworks MSA60 storage array
- 2x HP DL380 G5 server
- 1x HP DL320 G5p server
- 1x HP DL180 G5p server
- 1x HP DL160 G5p server
- 1x HP DL360 G5 server

MAIN DRAWBACKS OF THE ORIGINAL SOLUTION

- Expiring hardware guarantee
- High failure rate of one of the servers
- Expiring operating system support
- High cost of operation sustainability (high cost of extended guarantees for numerous hardware units)
- Difficult, time-consuming and inefficient management of many systems

Main drawbacks of the original solution included high maintenance costs.

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The customer expected the changes to ensure better server load distribution in the virtual environment.

- Direct SCSI-cable connects between data storage units and autoloaders, non-transferable hardware
- Insufficient data storage capacity
- High energy consumption

EXPECTED BENEFITS

- Warranty for another at least three-year period, supported operating systems
- Sufficient disk storage capacity with a view to the future
- Better server load distribution in the virtual environment
- Service and communications redundancy (higher availability)
- iSCSI connectivity
- Simpler and more efficient management
- More energy efficient operations and cooling

PROPOSED SOLUTION

HCV group a.s. proposed infrastructure consolidation solution consisting of Dell PowerEdge VRTX All-In-One, expansion of data storage using the Dell PowerVault storage and integration with other data and backup systems via Dell PowerConnect iSCSI active element. This way, total disk capacity grew by about 48 TB native (Dell PowerVault MD1200 + Dell PowerEdge VTRX internal array).

As main benefit of the solution, virtualized shared storage enables to start the system automatically or manually using different server hardware.

As main benefit of the solution, virtualized shared storage enables to start the system automatically or manually using different server hardware. Downtime is reduced from days to hours, potentially minutes if the customer upgrades its VMware license. Migration of systems between servers was significantly streamlined too.

TECHNICAL SPECIFICATIONS OF THE SOLUTION

PowerEdge VRTX rack

- 2x PowerEdge M520 Server: Intel Xeon processor E5-2440 2.40 GHz, 32 GB RAM
- 6x 600GB, SAS 6 Gbps, 3,5", 15K RPM hard drive (hot-plug)
- 6x 4TB, near-line SAS 6 Gbps, 3,5", 7 200 RPM hard drive (hot-plug)
- 1x PowerEdge VRTX 1Gb switch
- 4x PowerEdge VRTX redundant power supply, 1100 W

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PowerVault MD1200

- 12x 3TB near-line SAS 6 Gbps 3,5", 7 200 RPM hard drive
- 2x power supply, AC 600W

PowerConnect 6224 24-Port Managed Layer 3 Switch

- Dell UPS, rack/tower, 2700W, 3U
- 1x Dell UPS network management card

SCHEDULE

The process from submission of the proposal to its selection took about a month.

After receiving the order, the following month was spent carrying out analysis, preparatory works and procedure checks with the actual installation and migration being executed in 72 hours over weekend.

The solution was deployed straight into full operation.

The customer's administrators offered their cooperation during the preparatory phase when extensive full backups were carried out. For the migration, the vendor provided disk array as a temporary storage for the transferred data files. The total volume of migrated data was about 40TB.

The actual installation and migration took 72 hours and was carried out over weekend. The solution was deployed straight into full operation.

THE MIGRATION PROCESS

1. Removal of old and installation of new hardware
2. Installation of virtualization hypervisor and environment configuration
3. Configuration of iSCSI and vLAN network elements
4. Installation and configuration of new operating systems
5. Virtualization of some systems and applications and their transfer to the new environment
6. Migration of some applications to the new operating systems
7. Data migration
8. Setting up backups
9. Functionality checking

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The integration happened in short time frame and without complications.

The customer achieved considerable cost savings due to increased power efficiency, less time-consuming administration and higher system availability.

PROJECT EVALUATION

HCV Group a.s. as the supplying partner proposed an innovative concept leveraging unique All-In-One appliance that integrates servers, networking, storage and management in a single hardware appliance.

The integration happened in short time frame and without complications. The solution remains open for further performance and capacity expansion in line with future needs of the client.

MAIN SOLUTION BENEFITS

- Easy scalability
- Failover solution
- Hardware independence
- Efficient and easier administration
- Simplified network topology
- Reduced energy consumption – cost savings

RETURN ON INVESTMENT

- Original hardware service package cost: CZK 100 000 /year
- Energy savings after the migration:
40 000 kWh per year ~ CZK 200 000/year
- New solution cost: CZK 600 000

The client achieved additional cost savings due to less time-consuming administration and higher system availability. Thus the projected return on investments is around two years.

CONTRIBUTION OF DNS

Since 2012, DNS has been Dell's value added distributor for the Czech market.

DNS was involved in the implementation of this project not only as Dell distributor. To simulate the proposed environment based on the requirements of the tender documentation, DNS loaned out Dell PowerEdge VRTX solution as well as Dell EqualLogic storage array from its demo center. This was used for data migration from the customer's existing systems to the new systems. Company consultants performed compatibility checks as well as final check of the proposed solution. And last but not least, DNS in collaboration with the partner and customer developed this case study.

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CUSTOMER STATEMENT

„We feel very good about the new solution. We didn't need to install new rack for the more robust solution, all that was done was a replacement of hardware in existing chassis. Hence there was no need to install stronger power system.

Overall, the consolidation helped to reduce the amount of installed hardware, significantly decrease cooling needs and also reduce overall energy consumption.

Redundant solutions significantly eliminate downtime and application unavailability. The new hardware also provides extended ability to install additional systems without the need to purchase extra equipment, and thus significantly reduces further expenses. Systems management in a single environment provides major time savings.

“We couldn't be happier with the proposed solution and its implementation by our partner.”

This innovative solution is suitable for any organization planning to consolidate its servers and increase the availability of its systems and applications with required additional expandability for the future.

We couldn't be happier with the proposed solution and its implementation by our partner. Everything went as scheduled, the partner proved outstanding consolidation expertise and professionally deployed the servers in our environment. At the same time, the deployment didn't interfere with operations of the institution.”

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