

More efficient cooperation within the ministry of interior of the Slovak republic thanks to new communication tools



Client

Ministry of Interior
of the Slovak Republic

Sector

State administration

Number of affected end users

20 000

Starting situation

- * Outdated hardware
- * Electronic mail solution with no support from the supplier
- * Electronic mail stored at users' stations
- * Limited or no tools for the administration of users and stations
- * Urgent need to update the data backup method
- * High security requirements
- * Increasing number of messages (up to 90,000 emails per day)

Solution

- * Virtual environment of new computing and storage capacities
- * New communication platform for emails and planning and organizing work
- * Architecture of common domain and centralized administration
- * Tools for remote and mass administration
- * Migration of users' workstations
- * Preparation and training of IT administrators

Results

- * Safe email communication for 20,000 users
- * Modern tools for time and meeting management
- * Standardized and documented system – for less complicated administration and support
- * Effective central administration of users, servers and workstations
- * Advanced antivirus and antispam protection
- * High availability and security of the whole solution
- * Mobility – safe access from locations outside the internal network

Starting situation

The modernization of the infrastructure and communication tools of the Ministry of Interior was an important and urgent project for the ministry for several reasons.

The hardware of the servers providing email routing and delivery was already outdated in 2009. Any further use of these systems in this condition created a significant risk that service would be interrupted and shut down without knowing how long it would take to restore operation. As email was one of the key communication tools used within the organization, this situation was unacceptable.

The email routing and delivery system had been built gradually in the past and thus consisted of several separate and mutually incompatible systems from different manufacturers. The central components were outdated and could not be upgraded to newer versions. One of the consequences of this whole situation was that it was not possible to store important emails centrally; instead, they ended up on users' workstations.

Given the increasing importance of email communication and the fact

that security at the Ministry of Interior is of the utmost importance in all cases, it was essential to provide the organization with the opportunity to monitor and administer all internal and external email communication. Today's trend of being online all the time and being able to work outside the office is popular not only in the business environment. It is also possible to increase efficiency in the state administration environment in this way. The old system used at the Ministry of Interior, however, did not give users access to their mailboxes from locations outside the internal network or through their mobile devices. Moreover, there was no central directory of contacts within the organization, as well as no mutual sharing of calendars or documents available to users. The fact that it was not possible, also for historical reasons, to administer the workstations effectively despite the adoption of Microsoft Windows operating systems has complicated the situation for IT administrators. For the client, it was crucially important to improve the capabilities and reliability of data backup.

Solution

A joint project of the Ministry of Interior of the Slovak Republic, Microsoft Slovakia and Soitron was the solution to the initial problems. The project was conducted from March 2010 through March 2011, and it has brought significant changes in several areas of the communication environment of the Ministry of Interior:

Hardware virtualization

Due to the existing, outdated hardware, a part of the project was to build a new infrastructure with high availability and maximum resistance to failures, distributed in two different data centres in Bratislava and Banská Bystrica.

For this purpose, we used HP products, namely the BladeSystem c7000 with BL460G6 servers. Thanks to this technology, it is possible to place up to 16 dual-processor servers into the server chassis at a height of 10U. Besides saving on physical space, the major benefit is the effective administration and reduced costs of powering and cooling servers. For data storage, we have also used a solution from HP: Enterprise Virtual Arrays (EVA) 6400. Besides its high reliability, its advantage is an easy, automated central management which greatly eliminates the risk of human error.

By using HP technology, namely the Blade servers and EVA disk arrays, it was possible to place the whole technology within two standard 42U racks. The space capacity of the Ministry of Interior data centres is limited, and thus a big advantage of this solution were its low storage requirements and problem-free placement in the existing computing halls.

Since both data centres of the ministry are subject to a special security regime, we pre-prepared the solution within the implementation phase outside these premises, and the physical installation was carried out on site within a specified time of one week.

The new hardware solution has served as a basis for virtualization. The combination of HP technologies and the VMware vSphere platform allowed this new solution to be brought into operation on six virtual host servers instead of having to use 20 physical servers at each location. Thanks to virtualization, the Ministry of Interior has significantly increased the utilization efficiency of new hardware resources and also achieved a reduction in operating costs due to lower electricity and cooling demands.

In the course of implementation, the fire fighting and rescue corps were incorporated into the scope of the authority of the Ministry of Interior. This change necessitated the unplanned integration of a further 2000 users. Thanks to the new environment, it was possible to carry out this request without additional demand for hardware.

Email service

Due to the number of users and the sensitive nature of the information being sent, the ministry has identified email communication as a critical tool for effective cooperation. When selecting a solution, the technology had to meet the following conditions: reliability, having been tried and tested in practice even for ten thousand users, and meeting high security requirements. Equally important was that the product had adequate technical support on the Slovak market.

Based on our analysis and recommendation, the client decided to implement a Microsoft Exchange solution with a high availability option across the whole organization. Deployment of this technology was a challenge not only in terms of the nature of the client, but also in terms



"Throughout the project's implementation, we have placed great emphasis on communication with the client, which was essential for the project to run smoothly."

Jozef Jankovič,
projektový manažér

of the number of connected users – almost 20,000. Migration from products from various manufacturers to Microsoft Exchange has never before been executed to such an extent in Slovakia.

In the original proposal, we proposed a mail system based on Microsoft Exchange Server 2007. Given the scale of the project and its long preparatory phase, a significant change occurred during the preparatory phase; that is, Microsoft released the new Exchange Server 2010. After conducting a feasibility analysis and risk assessment and by prior agreement with the client and Microsoft, we recommended that the Ministry of Interior implement the 2010 version within the project. The new version has brought expanded functions and increased email communication security to customers. Another benefit was that the product was at the start of its life cycle, which implies long-term support from the manufacturer.

Security and mobility

Because of the requirement for a high level of email communication security between the public and internal networks, the Cisco IronPort Email Security Appliance platform was selected. Pair of these devices serving as email gates have replaced several Linux servers. The solution provides adequate and very efficient protection against all types of known email-based attacks. It also poses effective protection against spam (SPAM) and virus infiltrations.

There are about 90,000 messages a day being sent to the network of the Ministry of Interior from the Internet. Less than 20% of them are valid emails, and only those are delivered to recipients. Everything else represents a potential danger that could threaten the internal environment of the Ministry of Interior, not to mention the unnecessary load it places on internal systems resources.

Part of the project was to introduce a solution enabling secure access for

List of technologies

- * MS Windows Server 2008
- * MS Exchange 2010
- * MS SharePoint Server 2010
- * MS System Center Configuration Manager 2007 R2
- * MS System Center Operations Manager 2007 R2
- * MS Forefront Threat Management Gateway 2010
- * MS System Center Data Protection Manager 2010
- * HP Blade c7000 a servery BL460
- * HP 6400 Enterprise Virtual Arrays
- * VMWARE vSphere 4 Enterprise Plus
- * Cisco IronPort Email Security Appliance

mobile users from outside the internal network and from mobile devices. Full access and more effective cooperation have been achieved thanks to the deployment of Microsoft Outlook Web Access and Microsoft Exchange ActiveSync.

Central administration of users, servers and workstations

If it is difficult to deploy new solutions for nearly 20,000 users, then it is even more difficult to administer such an extensive environment and maintain it in a serviceable and safe condition. Good system architecture and tools for effective administration are a must.

The basis of the new environment's complex administration was the building of the Microsoft Active Directory structure. With the migration of existing heterogeneous networks to a common domain, not only did the IT administrators gain a base for using group policies, but also the users themselves have uniform access to applications and new services. The monitoring and administration of servers and server operating systems in the new solution are provided by the Microsoft System Center Operations Manager. The benefits of deploying this system were already noticeable during the implementation when administrators and the implementation team were able to monitor the utilization of hardware resources and to plan the optimal migration of individual user groups. We used the Microsoft System Center Configuration Manager as a solution for the efficient central management of workstations. Thanks to it, we have developed, tested and documented in detail the process of migration of workstations to the new domain. Within the joint project, we also carried out a „Proof of concept“ – the migration of nearly 1500 end stations.

Certified trainings

For any project focused on deploying new solutions, it is extremely important that the administrators are well prepared for its operations. Therefore, we have trained twenty IT administrators of the Ministry at Soitron's training and certification centre; they completed trainings in administration and maintenance of Microsoft Windows Server 2008 and Microsoft Exchange Server 2010. The training sessions ended with certification exams. Each participant received not only a certificate of completion, but also, after passing the exam, a Microsoft certificate as proof of competency.

In addition to technology trainings, we organized two 2-day workshops for the IT administrators at which we presented the whole solution before its deployment, described the principles and architecture, and informed them in advance about what they could expect during the whole project. During the actual implementation, we personally visited all locations of the Ministry of Interior in regional towns, where we always consulted with the regional IT administrators in advance about the implementation process and its implications.

Benefits

Thanks to the implementation of the current versions of Microsoft Active Directory and Microsoft Exchange solutions, the Ministry of Interior has a platform for the effective cooperation of individuals and working groups.

In terms of IT administrators, the project has brought the central administration of the whole system. Thanks to the deployed management and monitoring, they are able to connect to devices remotely, guide and help users, and efficiently install and configure the necessary software. The new console tools provide administrators

Creating email accounts for new users

BEFORE

Mechanically created by one employee of the organization.

TODAY

Automatically generated on the basis of an established HR process.

Installation, software upgrade, antivirus protection

BEFORE

It was necessary to physically install these on each device.

TODAY

Central distribution of antivirus updates, installation packages available to all administrators at a regional level.

Shared calendar – company cars

BEFORE:

Did not exist

TODAY

Effective scheduling of the use of company cars through the shared calendar.



with a high level of automation of user accounts and mass modification administration. In addition, the advanced antivirus and antispam technology ensures the high security of the email solution virtually without maintenance.

Based on our experience migrating users at the Bratislava site, we created a best practices guide for the client and also handed over the necessary tools (e.g., the automatic script for integrating computers into a domain) so that the administrators would be able to effectively continue the migration on their own.

Thanks to the disaster recovery procedures, the IT specialists of the Ministry of Interior are prepared for unexpected events. They know how to deal with minor or serious system failures that are unlikely, but possible. Detailed and comprehensive technical and project documentation of the whole solution has been prepared to ensure complete technology recovery after disaster scenarios of complete failure.

In terms of users

Through modern technologies, the users obtained communication tools that will simplify and increase the efficiency of their work. The central common directory enables them to quickly look up information and

"The migration from the original system to a new one had to be run without endangering the organization's operation."

Client Quote

always find a way to contact colleagues within the ministry. Using and sharing calendars simplify the process of planning and organizing their own time and joint meetings.

In terms of electronic mail, the new solutions based on Microsoft Exchange 2010 along with the deployment of Microsoft Outlook 2010 and Microsoft Outlook Web Access have brought new opportunities and an uncomplicated way to use them. Email account capacity has increased significantly; they are stored centrally and data are backed up. Access to them is given to users even from outside the internal network of the Ministry of Interior. On top of that, all exacting security and confidentiality requirements are met.

In short, thanks to the deployment of the new communication solution, cooperation within the Ministry of Interior is easier, more efficient and safer.

Ministry of Interior

The Ministry of Interior of the Slovak Republic is a central body of state administration. It ensures key functions of state administration in the following areas: protecting the constitutional system, public order, security of persons and property, protection and administration of the state's borders, the safety and flow of road traffic, and issues related to weapons and ammunition. Furthermore, it is the authority in charge of internal administration including the territorial and administrative structuring of the Slovak Republic, the organizational assurance of elections and many other key competences for state administration. The organization also administers the police force, fire fighters, and rescuing corps.

Soitron

Our company has long been active in the European market as a systems integrator in the areas of IT Infrastructure, Unified Communications, Customer Interaction, Content Management and Security. For more than 20 years, we have been helping companies such as Tatra banka, Slovenská sporiteľňa, Orange, E-On, J&T, Hewlett Packard and many others to grow their business. Our philosophy is to continue moving forward; that makes us the leader in implementing unique technologies and innovative solutions.

This is reflected in awards like IT Company of the Year 2010 and Cisco Enterprise Partner of the Year 2010, and inclusion among the Big Five in the Deloitte Technology Fast 50 (2011). Currently we have more than 500 international experts working for us, including professional teams in the Czech Republic and Romania.

For more information, please visit www.soitron.sk.