



Case Study

Státní fond životního prostředí

Raydesk at The State Environmental Fund

The State Environmental Fund of the Czech Republic is a special-purpose institution serving as an important financial source for the support of measures aimed at the protection and improvement of the environment. The Fund is one of essential economic instruments used to fulfill obligations arising from international conventions on environmental protection and membership in the European Union. It is also an instrument used to implement the National Environmental Policy. The Fund employs approximately 150 persons.



Deployment at the SFŽP

Business requirement

- Control over user access to applications and data.
- Central control of entities (users, groups, printers, computers).
- Centralised administration of users and IT resources used.
- Implementation of chip card authentication.
- Environment for accessing MS Windows and Linux applications.
- Terminal workplaces for SFŽP visitors.

Proposed solution

- Migration to a TCP/IP infrastructure and structured cabling.
- Migration from classical MS Windows PC's to Sun Ray ultra-thin terminals.
- Server infrastructure built upon Sun Fire servers and Solaris and Linux operating systems.
- x86 server farm with MS Windows 2003 and the Citrix Presentation System.
- x86 server farm with Red Hat Enterprise Linux for the Raydesk environment.
- User profiles and access control rules based on analysis of company processes.

Solution benefits

- Lower operation costs thanks to the centralised administration.
- User access limited to selected applications at designated times.
- Elimination of viruses, malware, rootkits etc. thanks to migration to the Linux/Solaris platform.
- Chip card integration simplified user authentication mechanisms.

Starting Position

The organisation has used a very out of date infrastructure that had been based on IPX/SPX communication protocols. The IT infrastructure has generally been very unreliable; it has not been possible to define levels of data security and access mechanisms have not been transparent. There has been no centralised back-up system and the organisation has had many problems with unreliability of applications and the entire infrastructure. As a result, the administrators have been very busy.

The organisation has used classic MS Windows PC's for individual employee workstations. Novell Netware server, a part of a Windows NT domain that has provided user authentication and data and application access control, has been used for data sharing.

Solution

During the first phase of the proposed solution, a migration of the communication infrastructure to the TCP/IP protocol family took place. The Novell Netware server was taken away and a primary controller of the Windows NT domain has been replaced by a Linux server with Samba. Key applications (Lotus Domino) have been migrated to a Sun Fire server running the Solaris operating system.



During the second phase the infrastructure required for step by step replacement of PC's by Sun Ray thin clients has been created. The organisation uses a large number of applications that are only available for the MS Windows platform (some of them tailored for SFŽP use). MS Windows 2003 servers were prepared for this reason to function as terminal servers running these applications. It is possible to access these applications remotely through the Citrix Presentation Server.



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The Sun Ray thin clients were first controlled by a Sun Fire V800 server running Solaris and then by a Sun Fire X2100 server farm running Red Hat Enterprise Linux Server. Controlled user access to applications is provided by the Raydesk 2.0 desktop environment. Raydesk is built upon a centralised data warehouse that has multiple copies and back-ups within the infrastructure.

According to the client's requirements and the structure of company processes, the following application profiles have been created:

- *profile NORMAL*
- Basic profile for ordinary SFŽP employees allowing access to common applications like MS Office, OpenOffice.org, Lotus Notes etc.

- *profile ADMINISTRATOR*
- This profile is intended for IT administrators. On top of the NORMAL profile it includes applications required for administrator work.

- *profile EXTERN*
- Modified profile for security and reception workers. The profile includes only applications necessary for their work, e.g. for attendance control.

- *profile INTERNET*
- Internet workplace profile. It includes just one application – a web browser (either Firefox or MS Internet Explorer) which starts automatically upon user login.

Benefits

The project's main benefits are higher security and lower maintenance costs. The Sun Ray terminals have proven to be a perfect replacement for desktop PC's as they do not require any maintenance nor upgrades and their energy consumption is 10 times lower than that of the PC's. The Raydesk desktop environment allows users to access only selected applications according to their position. There is no longer the problem of users installing unapproved or illegal software. Administrators can add or remove applications for entire groups in one quick step without having to visit all users individually.

The solution has also proven to be flexible during many important negotiations with political brass present. It is very easy to get the terminals ready for individual participants. Instead of long preparations of PC's that needed to have the required applications installed, today the administrator only creates an application profile and hands out the chip cards to the participants. Upon login, the Raydesk desktop environment offers all that is needed to the users.



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Client's Evaluation

SFŽP's cooperation with Stickfish, s.r.o. has begun at a time when the SFŽP was starting its preparations for accepting applications for drawing on European funds. Even though our IT department had not been partial to the world of open source and Unix at the beginning, Stickfish succeeded in presenting itself as a flexible organisation that could meet our requirements in all aspects.

After one year of cooperation they are beginning to get us to believe that solutions such as terminals, clusters, and Sun server service had not been just phrases or marketing tricks. We believe that in a short period of time our ideas about an optimum state of our Unix infrastructure will have been realised.

Pavel Slípek, deputy

The State Environmental Fund of the Czech Republic

About Stickfish

Stickfish is an ICT company specializing in enterprise VDI (Virtual Desktop Infrastructure). Stickfish also provides solutions from leading vendors such as Sun, IBM, Red Hat, Oracle, or VMware, advanced networking products from Juniper and Cisco, and also its own highly secure and fast virtual enterprise desktop solution Raydesk. Stickfish operates popular electronic store 64bit.eu.

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