NetApp®

Success Story

Combis and T-Hrvatski Telekom Launch Desktop Virtualization Solution on NetApp, Citrix, and Cisco

COMBIS

Another NetApp
solution delivered by:

⋅T⋅⋅Hrvatski Telekom

KEY HIGHLIGHTS

Industry
Telecommunications

The Challenge
Assist T-Hrvatski Telekom (T-HT) expand its public cloud offerings with a virtual desktop-as-a-service solution.

The Solution
Deliver and manage desktop as a service with T-Hrvatski Telekom based on secure, flexible solutions from NetApp, Citrix, and Cisco.

Benefits
- Supports T-HT's effort to remain competitive in the crowded telecom market
- Helps alleviate typical cloud security fears with robust backup and recovery capabilities and a secure storage platform
- Enables anywhere, anytime access for users on a variety of mobile and stationary devices on a range of operating systems

Customer Profile

Combis, a member of the T-HT Group, is the leading systems integrator in Croatia. Founded in 1990 and staffed with approximately 300 employees, the company is headquartered in Zagreb with branch offices across Croatia. During the last several years, Combis has also been active throughout the region, with headquarters in Belgrade, Serbia, and Sarajevo, Bosnia and Herzegovina. Combis provides traditional IT and cloud services for large and midsized organizations in telecommunications, banking, the public sector, and other industries, with offerings that include desktop as a service, software as a service, and others. Combis also has significant experience consulting on, developing, implementing, integrating, and maintaining complete and complex information, application, and communications turnkey solutions.

The Challenge
Develop a rich virtual desktop solution with T-Hrvatski Telekom

As in other markets, the telecommunications industry in Croatia is highly competitive. Yet despite strong competition and a hard business environment,

T-Hrvatski Telekom has successfully maintained its leading position in the market. The company has experienced 10% to 15% services growth in recent years and its estimated market share is around 70%. Through its Cloud Computing strategy, T-HT delivers advanced ICT solutions and services to small and medium businesses that usually cannot afford advanced IT solutions due to their high price and complexity, enabling these businesses to increase their market competitiveness. By delivering cost-effective services and solutions, T-HT enables its customers to leverage advanced capabilities at an affordable price so they can tackle even their most complex operational challenges.

Furthering its effort to remain competitive and empower businesses with advanced IT solutions, T-HT made the decision to deliver virtual desktops to telecom customers via a public cloud. The company needed an integrated storage, networking, and computing platform for delivering the desktop-as-a-service solution. After careful consideration, T-HT selected Combis to develop the virtual desktop platform.

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Goran Car
Director of Professional Services, Combis

Requirements for the integrated solution included flexible, secure storage with advanced backup and recovery capabilities. Based on an end-user study, Combis established that the solution had to allow T-HT to deliver its virtual desktop service to a variety of devices, such as tablets and smart phones, and also support different operating systems. The solution had to be easy for T-HT business customers to provision and use, with a wide selection of software-as-a-service applications for customers and real-time billing capabilities for T-HT.

The Solution
Innovative desktop-as-a-service platform
Combis selected and integrated solutions from Citrix, Cisco, and NetApp. The storage platform was paramount to the success of the deployment, which is why Combis selected a proven virtual desktop platform—XenDesktop built on both Cisco® UCS™ and NetApp® storage—for its ultimate solution. "NetApp offers capabilities that other storage vendors cannot provide," says Goran Car, director of Professional Services at Combis. "In particular, NetApp provides integrated backup and restore functionality with file servers residing directly on the storage system, eliminating the need to introduce

another component to the solution, which minimizes operational expenses and improves the customer experience. In addition, the capabilities allow us to quickly and effectively restore end-user data in the event that files are accidentally deleted."

The ComCloud solution for business customers developed by Combis with T-HT features a NetApp FAS6000 series storage system for primary storage and a NetApp FAS3000 series storage system for secondary storage. Both systems run on Data ONTAP® 8.0 software operating in 7-Mode. The ComCloud solution also includes Citrix XenDesktop for virtualization, the Cisco Unified Computing System™ (UCS) converged data center platform, and NetApp multiprotocol connectivity tying together the CIFS, NFS, and Fibre Channel environment on a single storage platform.

Designed to support 7,000 users and scalable to a minimum of 17,000 users, the virtual desktop platform is managed by Combis and supports the T-HT cloud desktop as a service. The cloud service is bundled with the company's standard telecom services such as mobile phones, landlines, and Internet service. It includes a rich Web-based application store for easy customer access to desktop applications.

"The ComCloud solution on NetApp storage is truly a game-changer for T-Hrvatski Telekom," says Tomislav Kosanovic, director of ICT Products, T-Hrvatski Telekom. "NetApp's partnerships with Cisco and Citrix allow a tightly integrated, easy-to-manage virtual desktop solution, while robust backup and recovery capabilities support us in meeting stringent service-level agreements with our customers."

The ComCloud solution includes NetApp Snapshot™ and SnapRestore® technologies, with backups managed by a combined Combis and T-HT team. Snapshot copies of customer data are created every eight hours and retained for a week, while weekly Snapshot copies are stored for a month. The IT team leverages NetApp SnapMirror® technology to replicate customer data every eight hours from the FAS6000 series system to the FAS3000 series system. Either T-HT Customer Care or the end customer conducts restores, if needed, depending on the nature of the deleted files.

For performance gains, Combis installed NetApp Flash Cache on the FAS6000 series storage system. Flash Cache intelligent caching accelerates the boot-up process, increases the performance of the cloud applications, and enables quicker access to rich user content, greatly enhancing the overall user experience.
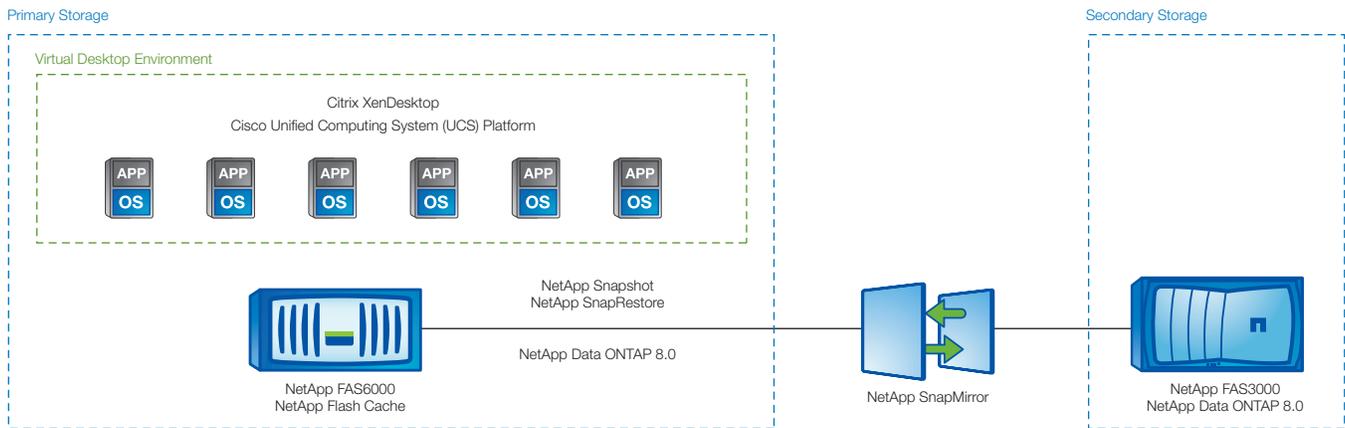
Virtual Desktop Environment

Citrix XenDesktop
Cisco Unified Computing System (UCS) Platform

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NetApp Snapshot
NetApp SnapRestore

NetApp Data ONTAP 8.0

NetApp FAS6000
NetApp Flash Cache

NetApp SnapMirror

NetApp FAS3000
NetApp Data ONTAP 8.0

Figure 1) Combis' ComCloud storage infrastructure.

Business Benefits
Protecting and securing the T-HT public cloud

NetApp storage supports Combis in meeting the diverse infrastructure requirements established by T-HT for its cloud service. NetApp backup and recovery capabilities enable Combis to meet rigorous customer data protection requirements for cloud virtualized desktops accessed through the cloud. Combis enhances the security of the T-HT public cloud with the ability to deploy file servers directly on the storage system in the ComCloud solution.

"The security and data protection offered by NetApp storage help us alleviate the cloud security fears that are common for companies investigating new opportunities for business agility and reduced costs," says Kosanovic. "By offering a highly secure virtual desktop service and ongoing data protection on the secure NetApp storage platform, we can attract more business customers to our cloud service and, most important, ensure that their valuable and confidential company data is safe 24 hours a day." The centralized ComCloud platform allows Combis consultants on the Cloud Customer Care team to provide efficient, cost-effective customer support through real-time visibility into the storage environment.

Moving beyond service provider to business enabler

The ComCloud solution on NetApp storage supports T-HT's mission of remaining competitive in the crowded telecom market by offering new and compelling services to business customers. T-HT is helping small and midsized companies reduce their IT overhead and leverage new competencies through desktop services such as Cloud Finance and Accounting, Cloud Human Resources, and Cloud Fleet Management.

"Smaller companies are having a tough time providing the IT infrastructure and systems that support their lines of business and customers, given the cost of maintaining data centers," says Kosanovic. "Our cloud desktop services, delivered from the ComCloud platform on NetApp, offer companies advanced capabilities and streamlined business processes at an affordable price."

T-HT customers choose cloud applications such as Microsoft® Office via the Cloud Store on their virtual desktops. Some applications are available at no cost and others are available for a monthly fee, generating ongoing revenue streams for T-HT. Customers can also deploy their own applications on their virtual desktops through T-HT virtualizing the applications and installing

them in the customer's private Cloud Store. The ComCloud solution featuring NetApp provides unmatched scalability for Citrix XenDesktop environments and UCS Service Profiles that offer integrated desktop provisioning, application delivery, and real-time, automated billing, which reduce costs for T-HT.

The flexibility built into the ComCloud solution and supported by NetApp, Cisco, and Citrix enables T-HT to deliver its cloud services to a variety of end-user devices, such as iPad®, Samsung Galaxy, and Android tablets; and iPhone® and Blackberry smart phones. ComCloud also provides T-HT with the flexibility to support different device operating systems, such as Linux®, UNIX®, Google Chrome OS, and Mac® OS.

Anywhere, anytime access to virtual desktops

End users such as accountants, restaurant managers, dentists, and attorneys can access the cloud services and applications anywhere, anytime from their mobile or stationary devices. With a single portal for desktop provisioning, sign-on, Cloud Store access, and billing and other support features, customers are empowered to open desktop accounts, customize the disk space for each machine, and manage their application environments with simple on-screen functions.

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Director of ICT Products, T-Hrvatski Telekom

"It's important that the cloud service is easy for T-HT's small and midsized customers to use, especially since they often have limited on-site IT resources available," says Car. "The seamless integration offered by NetApp, Cisco, and Citrix helped us develop a virtual desktop solution that supports a positive end-user experience for T-HT customers."

T-HT will continue to add business applications to its cloud service and plans to offer the service in a wholesale model for other countries. This would provide the opportunity for more and more companies to significantly reduce hardware and software costs while leveraging new business capabilities. Says Kosanovic, "The more customers are equipped with affordable access to enterprise applications, the more they can focus on their core businesses instead of IT, and the stronger our competitive stance is in the telecom market."

SOLUTION COMPONENTS

NetApp Products
FAS6000 series storage system
FAS3000 series storage system
Data ONTAP 8.0 operating in 7-Mode
SnapMirror
Snapshot technology
SnapRestore
Flash Cache

Protocols
Fibre Channel
NFS
CIFS

Third-Party Products
Cisco Unified Computing System
Citrix XenDesktop Platinum

Partner
T-Hrvatski Telekom
www.t.ht.hr

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Go further, faster®