CASE STUDY
Intel® Xeon® processor 5600 series
Automation & Cost Savings in the Cloud

České Radiokomunikace takes to the clouds

Czech broadcaster turns to Intel® Xeon® processor 5600 series to launch cloud-based IT services

České Radiokomunikace is a modern broadcasting and telecommunications company with nationwide operations across the Czech Republic. It was the first company in the country to offer digital TV broadcasts. Alongside its TV and radio broadcasting services it also provides a full range of voice, data and Internet services. The company's aim is to develop and strengthen its market segment position by continual improvement of services. As such it recognized the value in offering cloud-based services to Czech companies and built a data center from which to launch these services. To ensure top server performance, security and energy-efficiency it implemented the Cisco Unified Computing System™ solution powered by Intel® Xeon® processor 5600 series.

ČESKÉ RADIOKOMUNIKACE

"Entry into the information communications technologies services market segment was a big challenge for us. We carefully chose partners who could deliver cloud computing solutions. Intel together with Cisco offered not only an optimal technical solution in the form of the Cisco Unified Computing System* equipped with Intel processors, but also wider business cooperation and IT knowledge to help us succeed in a highly competitive market segment."

Marcel Procházka,
Head of Business Development and Strategy,
České Radiokomunikace

CHALLENGES

- **New services:** České Radiokomunikace wanted to broaden its product and service portfolio by launching hosted information communication technology (ICT) services to organizations in the Czech Republic
- **Cloud delivery:** It aimed to deliver cloud-based virtualized services such as computing power, storage, backup and recovery, security and networking
- **New build:** To achieve its objectives, the company needed to build a data center and populate it with servers that delivered virtualization, security and cost-efficiencies

SOLUTIONS

- **Cisco and Intel:** The company deployed the Cisco Unified Computing System, consisting of 30 servers powered by the Intel Xeon processor 5600 series
- **Integrated security:** The Intel Xeon processor 5600 series provides advanced security technologies that help deliver cloud computing security, virtualization and cost efficiencies

IMPACT

- **Powerful pair:** Combination of high performance processor and optimized Cisco Unified Computing System architecture provides excellent performance across the whole platform, differentiating it from competitors systems
- **Lower costs:** Low power consumption contributes to reducing data center operating costs, which is strongly reflected in retail prices of České Radiokomunikace products and services
- **Comfortably secure:** High cloud computing security, due to advanced security technologies built into the Intel Xeon processor 5600 series, helps to convince the customer of the safety of the solution

Branching out

České Radiokomunikace operates as a broadcasting and telecommunications company in the Czech Republic. Its broadcasting services include television broadcasting both analog and digital DVB-T, digital distribution of TV signals, analog radio AM and FM broadcasting, and digital radio in the T-DAB system. The company also provides telecommunications services to wholesalers such as mobile operators and corporate and public sectors via its own nationwide optical and radio networks.

To widen its service and fill a need in the marketplace for cost-effective IT services, České Radiokomunikace decided to move into ICT, launching and providing cloud-based services such as software-as-a-service and virtual data centers.

Marcel Procházka, head of business development and strategy for České Radiokomunikace, said: "There is growing need within the Czech Republic for cloud-based services. Many companies want to concentrate on their core business. IT services available from the cloud can help them achieve this by removing or scaling back their on-premise IT operations."

Cisco Unified Computing System equipped with Intel® Xeon® processor 5600 series delivers high-performing and reliable virtual computing services at low total cost of ownership

Data center build

To develop a cloud-based infrastructure, České Radiokomunikace needed to build a data center that could provide a full range of virtualized services such as computing power, storage, backup and recovery, security and networking.

Following a review of server technologies, the company opted for the Cisco Unified Computing System, powered by the Intel Xeon processor 5600 series. The Cisco platform is designed with open, industry-standard technologies. It includes enterprise-class x86 architecture services and components suitable for a virtualized environment. It is also a simplification of traditional blade server deployments providing stateless blades and a blade server chassis that is centrally provisioned, configured and managed.

Advanced security technologies

Besides providing considerable processing muscle for the 30 servers the organization deployed in the data center, the Intel Xeon processor 5600 series also includes hardware-based features that make it particularly suitable for cloud-based services.

Customers need to know that their data is secure. Cloud models depend upon virtualization and, because data is not confined by physical boundaries, encryption is essential.

Intel Xeon processor 5600 series enables cloud computing security due to advanced security technologies built into the processor. Intel® Advanced Encryption Standard-New Instruction[1] (Intel® AES-NI), Intel® Virtualization Technology[2] FlexMigration (Intel® VT FlexMigration) and Intel® Trusted Execution Technology[3] (Intel® TXT) make it easier to adopt cloud computing through enhanced security capabilities.

As a result, Intel Xeon processor 5600 series features deliver the foundation for safe and secure cloud computing and provides IT with the confidence to realize that the promises of cloud are available through broad ecosystems that are built upon Intel technologies. Virtual environments can be more efficient and isolated, pervasive encryption enables the full protection of data, and defenses against new launch-time attacks are strengthened.

The processor technology also automatically regulates power consumption to combine industry-leading energy efficiency with intelligent performance that adapts to the workload. A smaller server footprint also means significantly lower energy consumption, which also boosts total cost of ownership (TCO) and delivers a smaller carbon footprint.

TCO savings and business agility

By deploying the Cisco Unified Computing System, České Radiokomunikace can save on overall TCO compared to other solutions. The Cisco solution unites network, computing, and virtualization resources into a seamless system. The system integrates a low-latency unified network fabric with enterprise-class, x86-architecture servers.

Procházka, says: "The Cisco Unified Computing System allows us to simplify the data center infrastructure, reducing cabling and the number of networking components, which in turn leads to reduced capital and operational expenses."

Spotlight on České Radiokomunikace

České Radiokomunikace offers a wide range of broadcasting and professional telecommunication services. Supported by a unique infrastructure of over 900 towers and masts, as well as a 2,600 kilometre fibre-optic backbone network, the company ensures transmission of analog and digital terrestrial TV and radio signals for public and commercial broadcasters in the Czech Republic. As a nationwide telecommunication operator, České Radiokomunikace also provides a comprehensive portfolio of voice, data and Internet service with guaranteed quality levels to wholesale partners, and the corporate and public sectors.

Thanks to the Cisco Unified Computing System Manager, České Radiokomunikace can scale its infrastructure within minutes. "We benefit from the integrated Cisco Unified Computing System Manager and its service profiles, which allow us to provision new servers within minutes. This provides us with a competitive edge and we can quickly respond to our customers' needs," adds Procházka.

HP Tronic was one of the first retailers to use the cloud system. The electronic and home appliance retailer has 33 stores in the Czech Republic. Its IT business systems are critical for continued success and growth, with good performance and high availability central to its needs. Within minutes of a system failure or outage, HP Tronic could lose hundreds of thousands of Czech crowns. The benefits of moving into the cloud include zero costs for a new highly-available data center, a four-time increase in performance, better application response times, good performance for critical business applications, and a dynamic IT environment that can grow in line with business needs.

Find a solution that is right for your organization. Contact your Intel representative or visit the Reference Room at **www.intel.com/references**.

[1] Intel® AES-NI requires a computer system with an AES-NI enabled processor, as well as non-Intel software to execute the instructions in the correct sequence.AES-NI is available on select Intel® Xeon® processors.For availability, consult your reseller or system manufacturer.
For more information, see http://software.intel.com/en-us/articles/intel-advanced-encryption-standard-instructions-aew-ni/

[2] Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, virtual machine monitor (VMM).Functionality, performance or other benefits will vary depending on hardware and software configurations.Software applications may not be compatible with all operating systems.Consult your PC manufacturer.
For more information, visit http://www.intel.com/go/virtualization

[3] No computer system can provide absolute security under all conditions. Intel® Trusted Execution Technology(Intel® TXT) requires a computer system with Intel® Virtualization Technology, an Intel TXT-enabled processor, chipset, BIOS, Authenticated Code Modules and an Intel TXT-compatible measured launched environment (MLE).Intel TXT also requires the system to contain a TPM v1.s. For more information, visit http://www.intel.com/technology/security

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