ICZ

VIRTUALIZATION AND PRIVATE CLOUD

DESIGN, DEPLOYMENT, UPGRADE, SECURITY AND ENTRUSTED ADMINISTRATION

VIRTUALIZATION ENABLES EFFICIENT ICT INFRASTRUCTURE RESOURCE UTILIZATION AND IS A KEY CONDITION FOR FLEXIBILITY AND ELASTICITY WHEN PROVIDING VIRTUALIZED SERVICES WITHIN THE ICT INFRASTRUCTURE AND PRIVATE CLOUDS.

ICT services virtualization is a key concept for the utilization of ICT infrastructure HW components, breaking the fixed link between HW and the SW running on it. Virtualization of servers, workstations, disk storage and networks allows you to create environments for building private clouds.

[VIRTUALIZATION]

Generally speaking, the primary goal of virtualization is increasing hardware management efficiency, enabling more flexible reaction to the requirements placed on IT departments, achieving greater hardware utilization and lower operational costs.

Building private clouds based on previously established virtualization is the next step towards decreasing operational costs and making ICT resource usage more transparent. Private clouds make it possible to charge IT services to the individual departments that actually consume the services based on consumed resources, and to provide self-service management that can further lower IT costs.

Nowadays, the question is not whether one should virtualize but rather how to virtualize properly.

[VIRTUALIZATION AREAS]

There are several virtualization areas that can be implemented separately, gradually expanded and, when deployed together, can establish a base for cloud services provision. These virtualization areas are:

▶ Virtualization of servers
▶ Virtualization of workstations
▶ Virtualization of disk storage
▶ Virtualization of networks

FEATURES AND BENEFITS

▶ Better utilization of investments into HW and its consolidation
▶ Increased ICT agility
▶ Increased availability and operational reliability
▶ Increased productivity of both IT users and administrators
▶ Support for centralized IT services
▶ Better support for automation of recurring operations
▶ Flexible / dynamic IT resources utilization
▶ Self-service features
▶ Monitoring and charging of performance and capacity usage

Virtualization of servers

Virtualization of servers makes it possible to virtualize HW for server operating systems resulting in:

▶ Increased utilization of the purchased HW
▶ Optimized allocation of virtualized servers on physical servers
▶ Availability of virtualized servers even during physical HW outages by means of migration
▶ New approaches to server and data backup and recovery
▶ Streamlined and faster deployment of new virtualized servers using pre-set templates

Virtualization of workstations

Virtualization of workstations makes it possible to virtualize HW for client operating systems and to:

▶ Separate the client operating system from the client device, resulting in support for the BYOD concept
▶ Centralize application installations on virtualized terminals
▶ Centralize workstation management
▶ Separate user data and user environment configurations from the client operating systems of virtualized workstations
▶ Provide unified configuration and security settings for the operating system and applications

[VIRTUALIZATION]

Virtualization of disk storage

Virtualization of disk storage makes it possible to virtualize HW for data storage and to:

▸ Allow multiple storage devices to behave like a single one
▸ Allow a single disk storage to behave like multiple disk storage
▸ Enable dynamic configuration
▸ More simply enable data replication and redundancy

Virtualization of networks

Virtualization of networks makes it possible to virtualize HW of active network components and to:

▸ Build a network with dynamic, variable features and boundaries
▸ Introduce an automatic model for network infrastructure configuration
▸ Isolate individual cloud communications without purchasing additional HW

[VIRTUALIZATION PROJECT]

During the implementation of a virtualization project, attention is paid to the maximum utilization of the invested funds, to the use of all suitable characteristics of the virtualization technologies while complying with the different requirements for these services, and also to seamless integration into the portfolio of services provided by the IT department. To comply with all the virtualization requirements and fulfil expectations, we usually prepare a project that includes the following stages:

▸ Analysis
▸ Architecture design
▸ System project
▸ Implementation
▸ Entrusted administration or operational support

[VIRTUALIZATION TECHNOLOGIES]

Tried-and-tested technologies from leading worldwide manufacturers are used for the virtualization projects, and these technologies are deployed by certified experts.

VMware virtualization

Server virtualization is primarily provided by the VMware vSphere virtualization platform with the ESXi hypervisor, including the VMware vCenter Server and VMware vCenter Site Recovery Manager system for monitoring and management.
VMware Horizon View is used for workstation virtualization. VMware NSX and VMware vCloud Network and Security are used for network virtualization, and VMware Virtual SAN is used for disk storage virtualization.
VMware vCloud Suite is available for building a private cloud and a software-defined data centre over VMware vSphere; VMware vCloud Suite includes vRealize Operations for performance, capacity and configuration management, and vRealize Automation for automation and self-service.

Microsoft virtualization

Microsoft virtualization technologies (Hyper-V hypervisor, Hyper-V network gateway) together with technologies directly built into Windows Server 2012 R2 enable server, workstation, network and disk storage virtualization.
System Center family of technologies (Virtual machine manager, Service manager, Orchestrator, Operations manager, App controller) are used for building private clouds.
These technologies can be integrated with VMware and Citrix technologies to build heterogeneous clouds.

■ Private cloud model
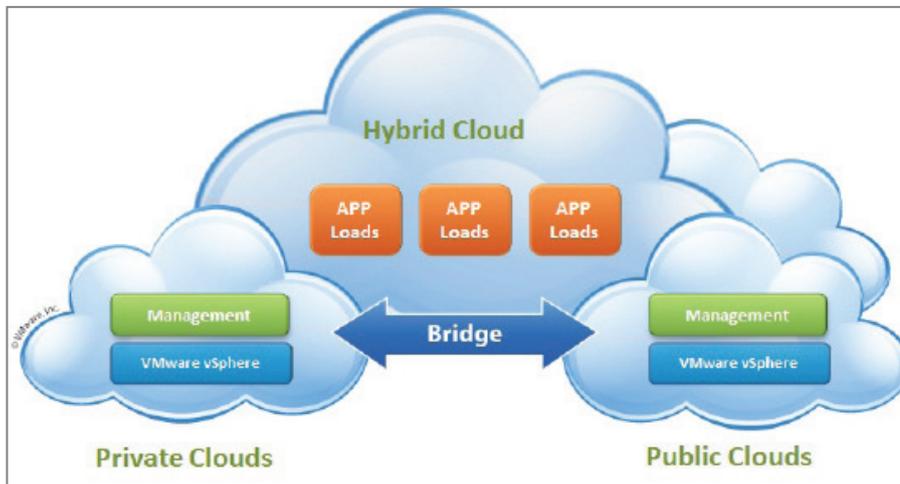
COMMERCIAL CONTACT

ICZ a.s.	Na hrebenech II 1718/10
	140 00 Prague 4
TEL.:	+420 222 271 111
FAX:	+420 222 271 112
E-MAIL:	marketing@i.cz