

virtualization

Automium

We have incorporated the main aspects of virtualisation in the world of information technology in a diagram modelled on the Atomium in Brussels, the famous landmark erected in the 1950s for the Expo of 1956. This body-centred cubic model of an ice crystal, which consists of nine atoms, was ground-breaking in its reference to the heydays of iron and steel production.

Today, in the information age at the beginning of the second decade of the 21st century, the changes brought about by new IT technologies are far-reaching and in many areas require a fresh view of the way in which they are connected. This situation requires a new order of IT knowledge and company processes regarding information infrastructure.

The challenge:

When reviewing IT with regard to its productivity, as with all other company investments, it often emerges that when using conventional systems and concepts, many of the components employed show a very low utilisation rate. According to studies conducted by IBM, Windows-based servers have 'nothing to do' and are practically running on idle with a 5 to 15% load.

As opposed to technical utilization, investments and operating costs are always 100%. This imbalance presents a challenge to any business person. Even the technical department is increasingly faced with the problem of having to provide service and maintenance for a growing number of systems, without being able to adequately use their purchased resources.

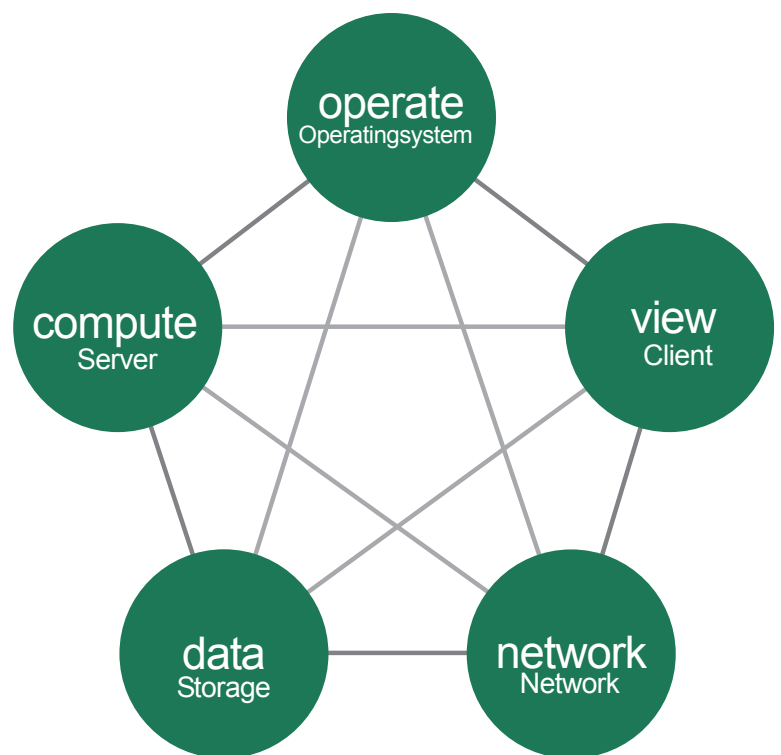
The supposed performance in GigaHerz (Ghz) or the number of CPUs are misleading when considering the actual available performance of an IT environment. Planning simultaneous usage of applications on the same system often fails because of system requirements from software manufacturers, which often leads to a request for a new server for every new programme to be installed.

The solution:

The strategy is to change the systems - away from

the all-round system to a specialist system. This enables resources to be managed from one dedicated unit, while also making them available to other units.

Typical IT resources can be divided into permanent storage (data), CPU computing performance with a volatile memory (compute), platform I/O software (operate), display systems, clients (view) and connecting systems for communication (network). Each of these systems can be used as a virtualisation component.



AUTOMIUM® Virtualisation process

Pooling:

These components provide a pool of benefits and services that can also be used by the other components. Which of the components is actually used depends on the current requirements demanded by the service or application. There are several ways of limiting or distributing the use of pools, depending on the pool itself. Our core competence is the efficient utilisation of IT resources. Take advantage of our expertise by employing next generation Virtualisation.

The following illustrates the 5 components of IT automation through virtualisation according to the "Automium".

Storage - The Basis

data

Integrity

The high flexibility of the various virtualisation components can only be fully exploited using a central storage pool. The storage unit therefore represents the focal point of the IT infrastructure. Data integrity is critical for virtually every company.

Autowork offers experienced staff and proven solutions to help companies determine the dimensions of and the security concept for virtualisation and meet the challenge of 'appropriate' data storage.

Operating System - The Organisation

operate

Flexibility

When running on a system, software applications often require services, the employment of which is often contradictory. This is why we virtualise operating systems so that each can use the service and version required by the software manufacturer. All hardware resources can then be distributed across the virtual servers according to load and user behaviour. Each individual operating system (Windows, Linux or Unix) is encapsulated and runs on the same hardware according to its requirements.

It is easy to introduce flexible changes to the IT system. Virtual machines change between hardware servers in realtime during operation as required and allow dynamic load distribution.

Servers - The Performance

compute

Concentration

CPUs are a matter for servers. It is always possible to speed up computing. However, the price of power for operation and ventilation often presents a challenge. Modern concepts, providing maximum output at minimum consumption or heat loss, enable cost-oriented consolidation of existing hardware to a few optimum systems. Virtualisation allows downsizing systems at a ratio of 1:10. Increased availability contributes to reliability. The redundancy of standard blade systems enables automatic recovery of entire servers.

Client - The Window

view

Simplicity

Today we use clients with central data and applications in networks and think nothing of it. Through virtualisation, FatClients (PCs and notebooks), which still represent the most individual form of the client workstation, are now being challenged by a worthy competitor from the world of virtualisation: the 'virtual desktop'. This technology provides the user with his own complete client operating system (e.g. Windows XP or W7) that runs on the central server. The operating systems of PC workstations of nearly all employees can be virtualised on the servers. This reduces maintenance and operating costs by up to 90 percent.

Network - The Way

network

Homogeneity

Modern networks accomplish more than just data connections. Today's networks are 'intelligent' and are able to prioritise incoming data from the various systems or communication partners as required. For fast and secure operation, it is important that decisions concerning whether or not certain data represent an attack on the company, are taken automatically. Due to the availability of extensive IP networks, branches and production locations can be connected and run securely at high speed. According to the statement "The network is the computer"*, the network represents the main system in which IT usage and value creation takes place, and it will continue to do so. Everything we require for communication, be it data, voice (VoIP) or video, will be transported through networks.

