

„Laufzeitsystem“ für ein SAP Rechenzentrum

Vortrag im Rahmen der GI/ITG
Fachgruppentagung Betriebssysteme in
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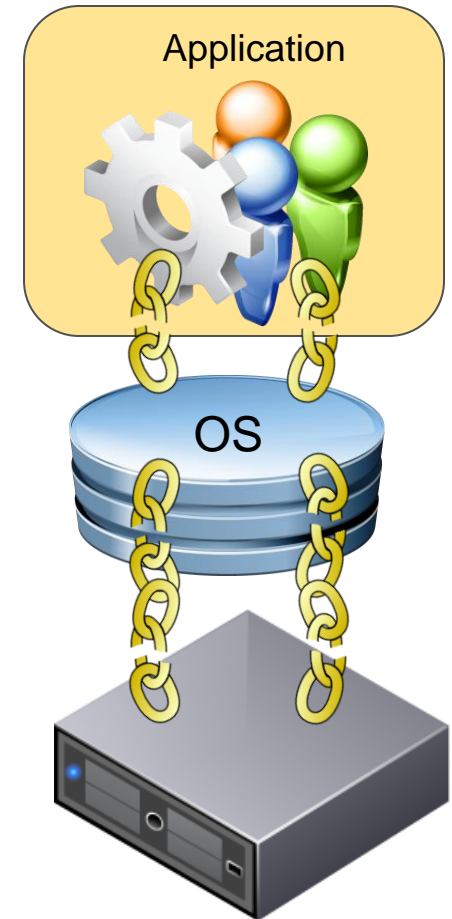
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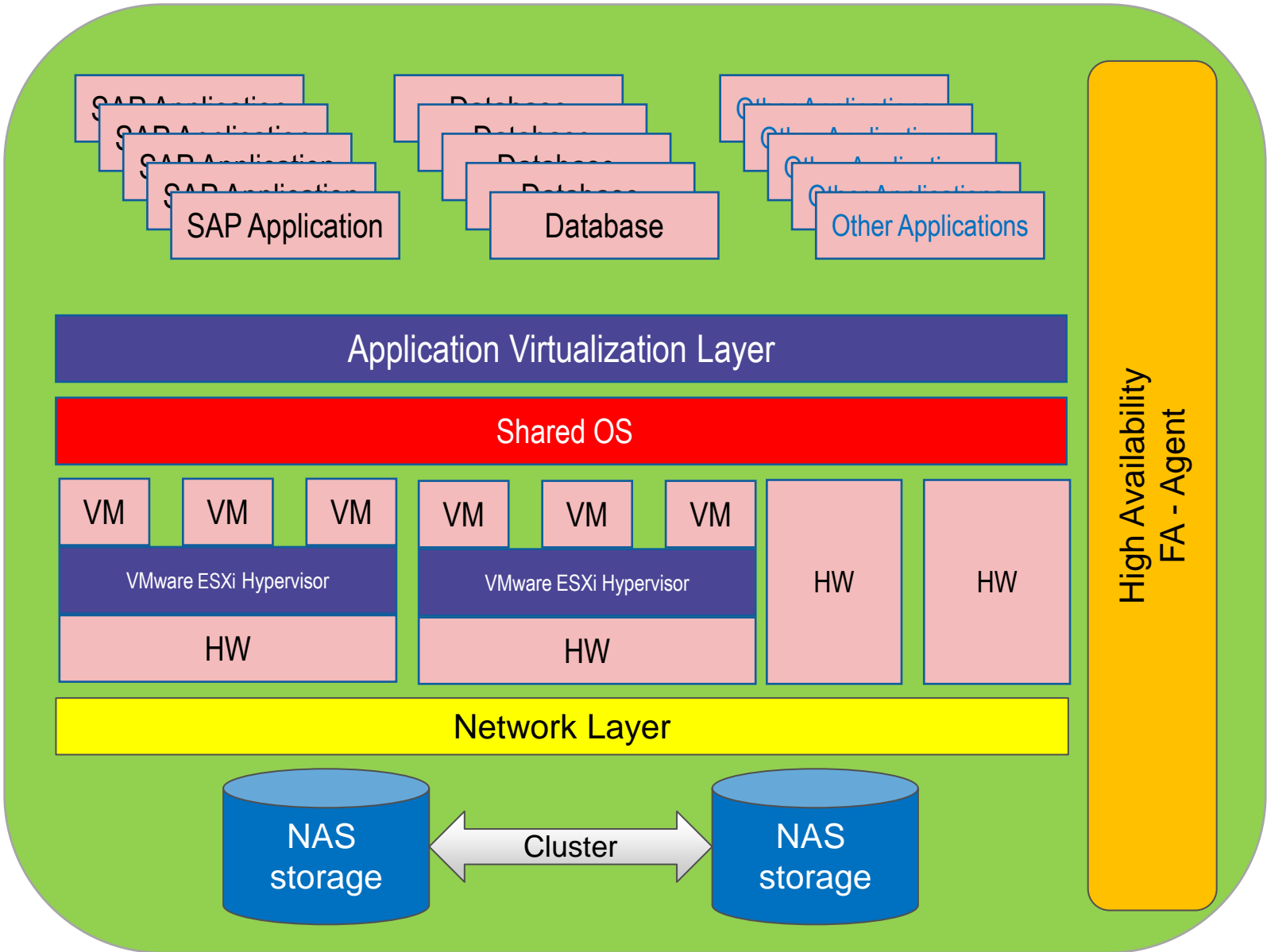
Basic concept of FF4S

- Static environment: Every layer is tightly connected to the layer underneath
 - Applications cannot be moved from one server to another server
- Low flexibility: Hardware / Software changes usually impact:
 - The layer on top (operating system / application)
 - Application provisioning takes usually very much time
- Low utilization of the server resources
 - One application per server
 - The server is sized for the peak performance
- High administration effort for installation, operation and maintenance :
- High energy consumption, rejected heat, floor space, Support
- High Total Cost of Ownership (TCO)



➔ Target: build a virtualized infrastructure

FlexFrame for SAP Architecture



Concept of FlexFrame for SAP (FF4S):

- Consolidation and dynamic use of system resources
- Integrated and pre-tested solution that manages a complete SAP infrastructure – from applications down to the hardware
- Shared NAS Storage for operating system and SAP
- Shared Operating System (Single System Image) for ease of maintenance → less admin efforts and no provisioning issues
- Virtual LAN technology for multi tenant capability
→ less complexity in cabling, simple & easy to manage
- SAP application virtualization for flexibility and high availability
→ leads to higher utilization and easy server changes
- Integrated server and SAP installation and orchestration
- LDAP repository for all system- and operating information
- Monitoring of SAP operating incl. high availability management
- Management features to reduce complexity of dynamic virtual infrastructure

Single image concept
Server initialization
Lifecycle management

■ LINUX image

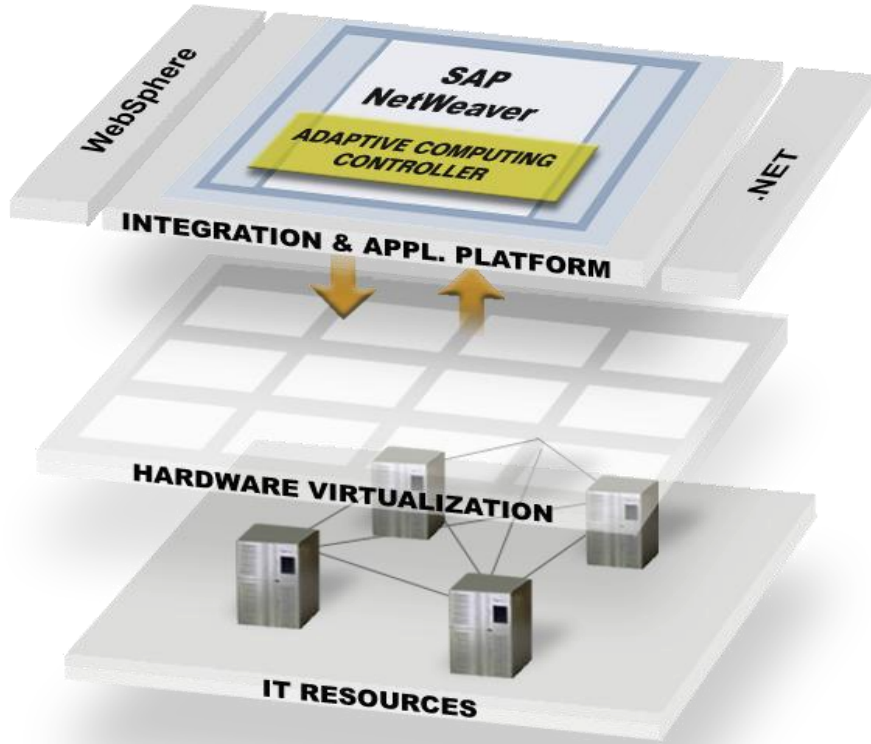
- based on a standard Linux derivate
- is prepared to be used by every server in the FlexFrame configuration
- is used to initialize every server of the infrastructure

■ image concept

- allows to apply Linux (Security) Fixes in Maintenance Mode by admin
- allows administrator to apply additional software in Maintenance Mode
- keeps one-time done changes (next generation inherits changes)

For more details contact Mr. W. Messing / H.-D. Conrads

**SAP application virtualization,
flexibility, high availability**



any SAP service

at any time

at any (v) server

SAP
Database
OS
VMs
Network
Server
Storage

■ Each SAP service

- is independent from the hostname and IP address of the real server it is running on
- has located its software stack and data on a central NAS storage

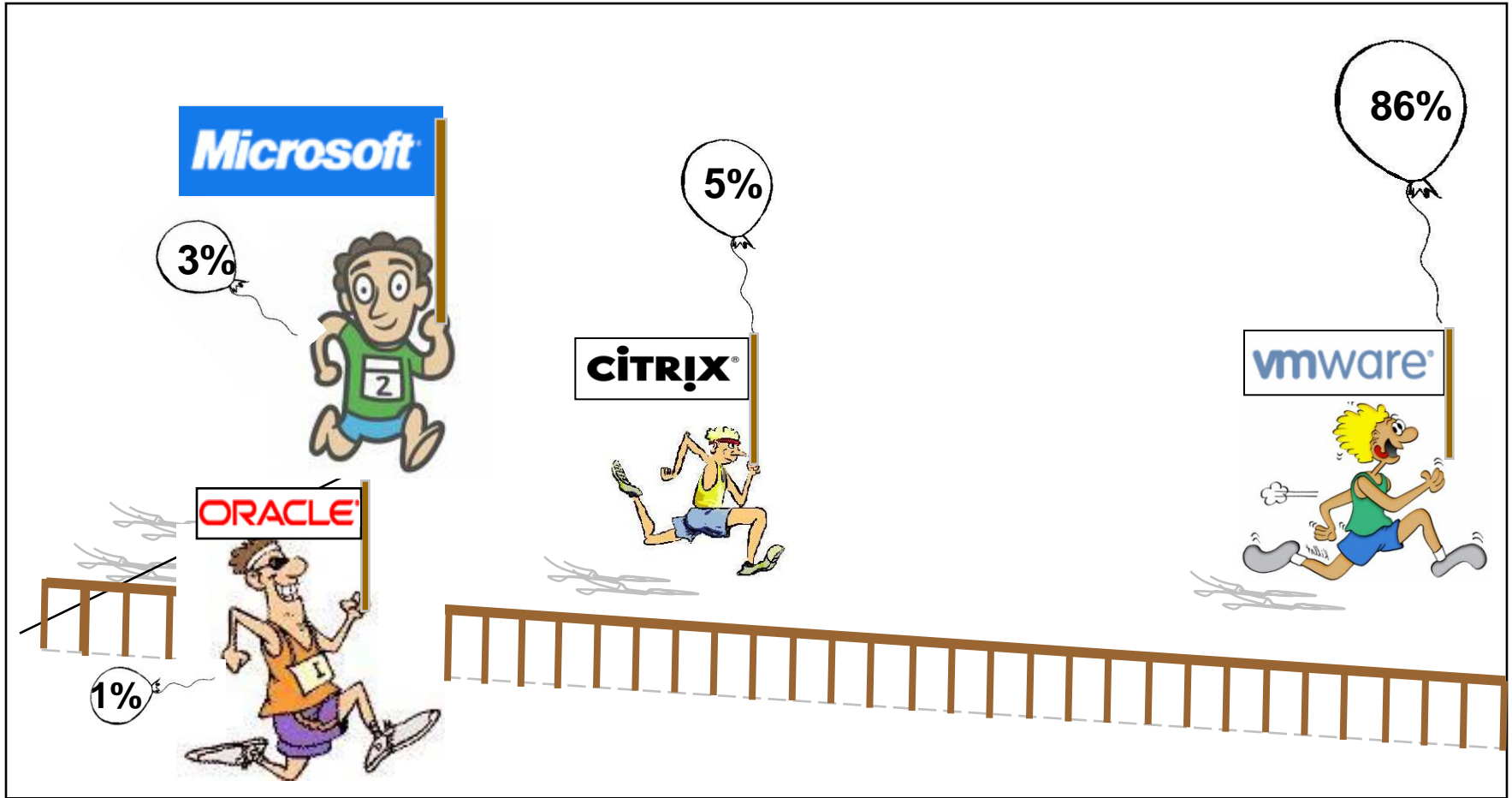
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Virtualized and high available SAP services – Customer Benefits

- Flexible usage of servers for all SAP services without increasing the administration costs
- Increased utilization of servers is possible
 - basis for intelligent workload balancing
 - reduced HW investment
- High Availability (HA) for all SAP Services
 - per design, without complex administration challenges
 - adding new server without maintenance efforts for HA

VMware Virtual Server integration

The race of the Hypervisor providers (Market share)



■ Integrated Server Virtualization

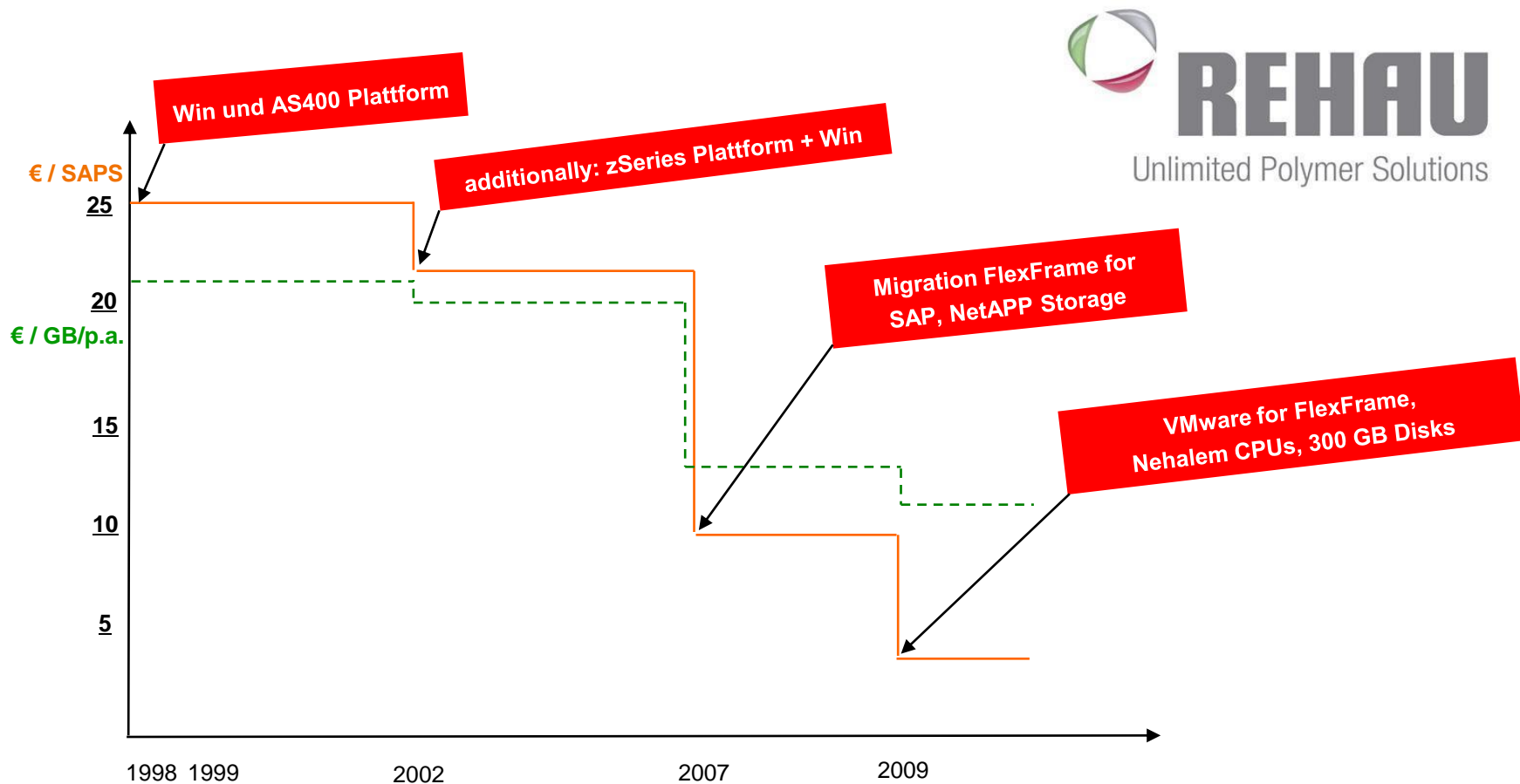
- ESX server as a additional FF4S server node type
- ESX/VM server administration and configuration fully integrated in FF4S
- Usage of virtual servers as additional resource based on VMware ESXi
- Support of mixed environments with physical and virtual servers bases **on one image**
- Switching of SAP services from virtual to physical servers and vice versa
- Allows to run VMs belonging to different FF4S pools on the same ESX Server


Conclusion

Concept of FlexFrame for SAP (FF4S):

- Consolidation and dynamic use of system resources
- Integrated and pre-tested solution that manages a complete SAP infrastructure – from applications down to the hardware
- **Shared NAS Storage for operating system and SAP**
- **Shared Operating System (Single System Image) for ease of maintenance** → less admin efforts and no provisioning issues
- Virtual LAN technology for multi tenant capability
→ less complexity in cabling, simple & easy to manage
- **SAP application virtualization for flexibility and high availability** → leads to higher utilization and easy server changes
- Integrated server and SAP installation and orchestration
- LDAP repository for all system- and operating information
- **Monitoring of SAP operating including high availability management**

- FlexFrame for SAP – Reduces substantiated the TCO!
 - SAPS and Storage progression of costs





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