

# BS2000/OSD V9.0 Development topics



Operating system and software configuration

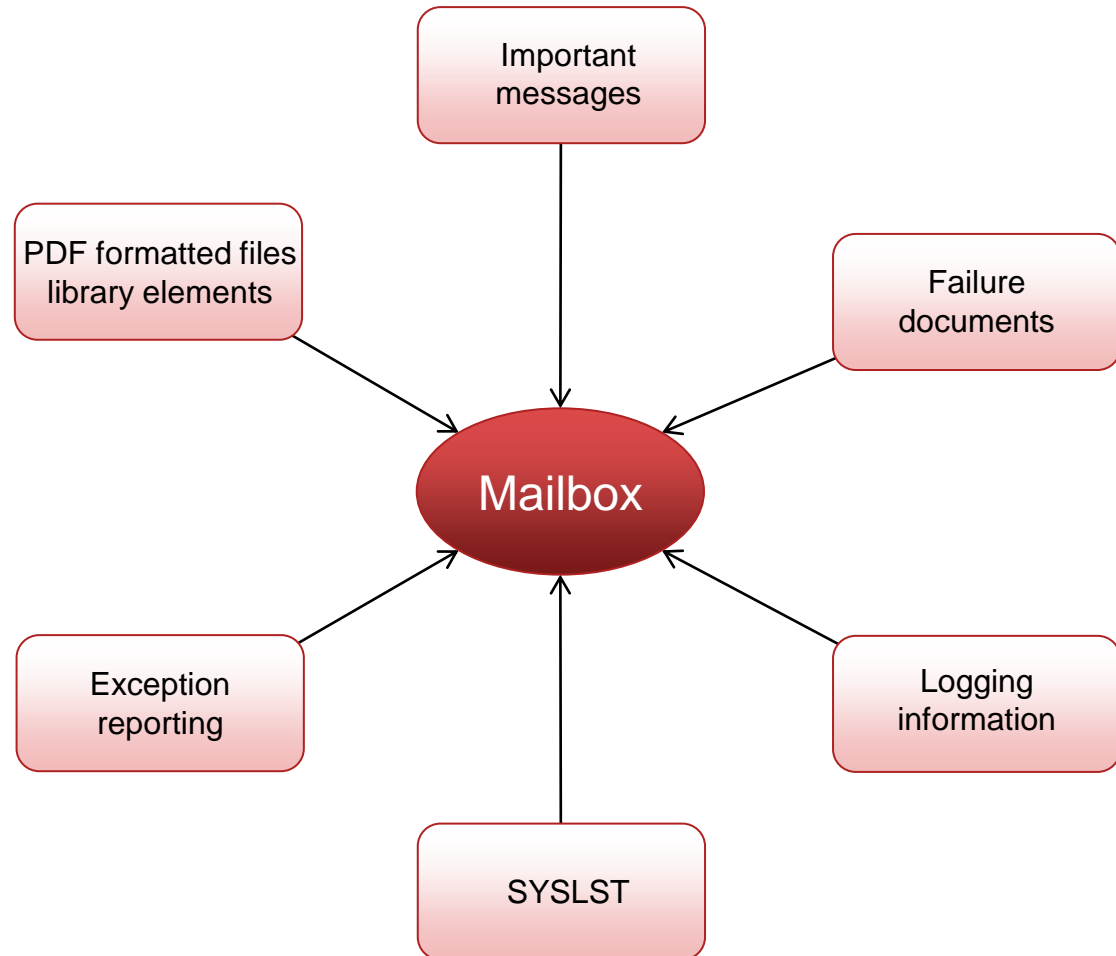
BS2000 Product Marketing

January 2012

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- Integration in heterogeneous data centers
  - Performance + 24 hr operation
  - Provide state-of-the-art IT technology on a compatible basis

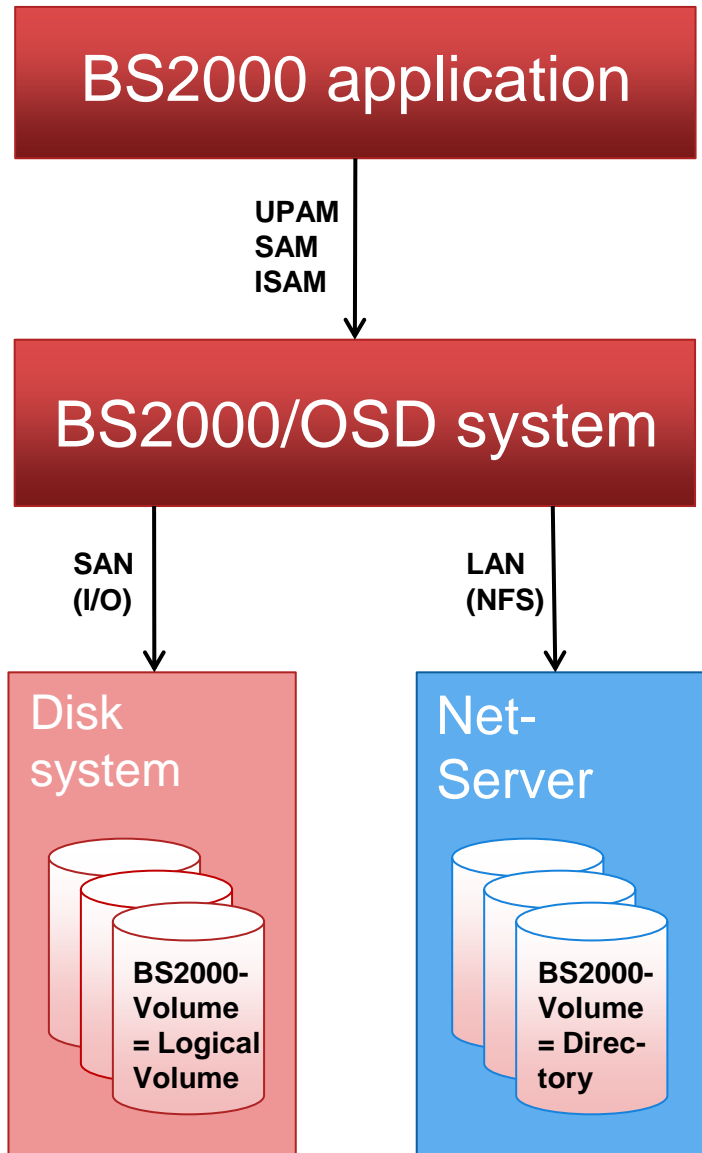
## ■ Easy administration

- Use email as central service for IT monitoring
  - MAIL-FILE command supports PDF formatted files and LMS library elements as mail attachments
  - Further BS2000 software products offers communication by email as an alternative to proprietary information services

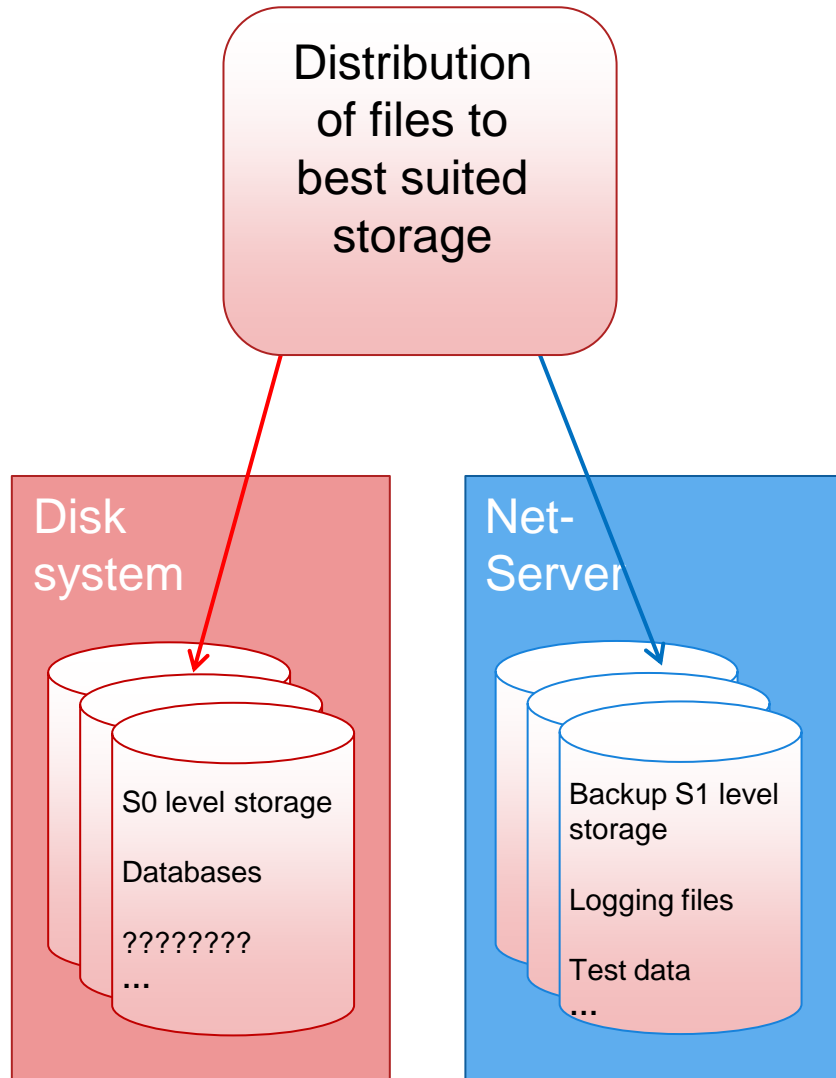


- Important enhancement of BS2000 storage media scenario with multiple usage options
  - Reasonably priced storage
  - Replaceable media
  - Access to BS2000 files in heterogeneous system landscapes
- Entry in OSD V9.0 with **ETERNUS CS High End V5.0**
- Technically possible (“get to know”):  
**All mountable storage media with NFS V4.0**

# Net-Storage connection in BS2000



- Online storage on NAS storage
- As Net Volume similar to a BS2000 private disk
  - With a file catalog TSOSCAT
  - With BS2000 record and block structures
  - With standard BS2000 character sets
  - transparent for BS2000 access methods and applications
- Uses storage media with new features
- Does not require any adjustment to new storage devices as NFS virtualizes the physical NAS storage media
- Enables access via LAN



- Net-Storage as medium for data backup
  - Enables movement of files to avoid pubspace saturation or user-specific pubspace limits
  - Offers S1 level storage for backup
- Net-Storage as medium for data with lower requirements regarding access performance, e.g. for
  - Logging files
  - Test data
  - Rarely required data

■ ■ ■

# Reducing integration overhead (by NAS and bs2fs)

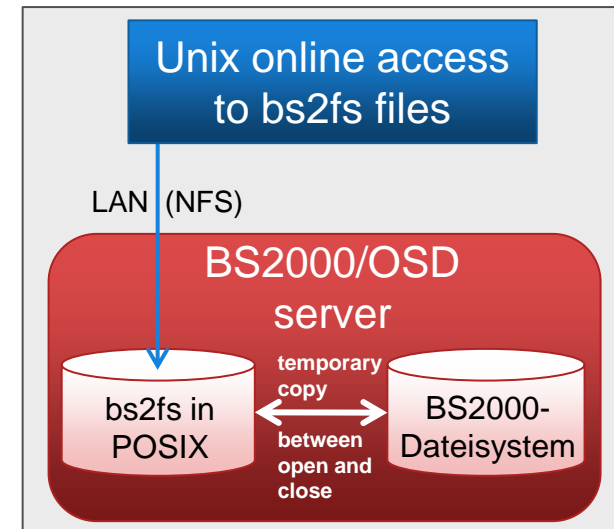
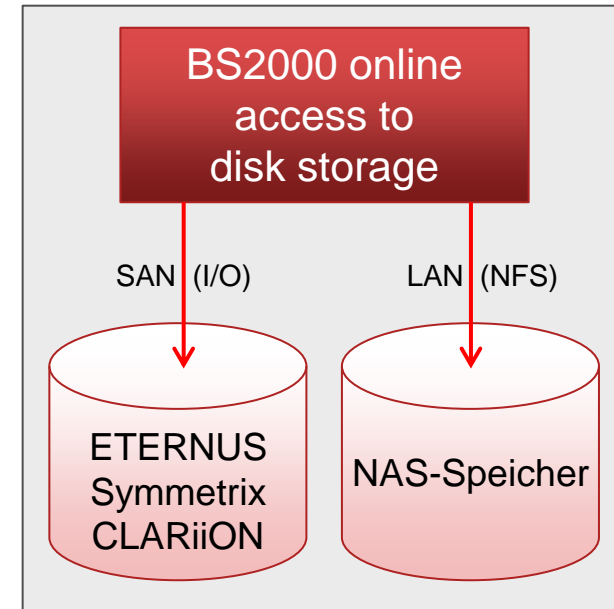
## ■ Enhanced features for an optimized access to BS2000 files

### ■ Access to NAS storage via NFS

- Supporting Both: LAN and SAN storage
- Access to storage media with very different attributes
- Alleviates cross platform file usage
- All BS2000 files stay located within firewall

### ■ Access to BS2000 files in POSIX bs2fs via NFS

- Enables working with BS2000 files for Unix/Linux applications
- Makes distributed development of individual applications easy



\* NFS = Network File System

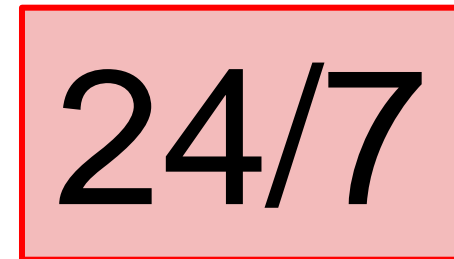
## ■ Performance improvements

- PAV (extended PAV and usage of PAV for paging)
- GET-TIME compiled in the machine code of the respective server hardware
- PTHREADS acceleration for Oracle Agent and SHC-OSD tools



## ■ 24hr operation

- Snap file creation at system runtime
- CHDATES – Change daylight-saving time at system runtime





<b>Hitherto MODIFY Commands</b>	<b>Hitherto SHOW Commands</b>	<b>New SHOW Commands</b>
MODIFY-PUBSET-CACHE-ATTRIBUTES		SHOW-PUBSET-CACHE-ATTRIBUTES
MODIFY-PUBSET-SPACE-DEFAULTS	SHOW-PUBSET-PARAMETERS	SHOW-PUBSET-SPACE-DEFAULTS
MODIFY-SPACE-SATURATION-LEVELS		SHOW-SPACE-SATURATION-LEVELS
MODIFY-PUBSET-PROCESSING		SHOW-PUBSET-PROCESSING
MODIFY-PUBSET-DEFINITION-FILE	SHOW-PUBSET-CONFIGURATION	SHOW-PUBSET-DEFINITION-FILE
MODIFY-PUBSET-RESTRICTIONS		SHOW-PUBSET-RESTRICTIONS
MODIFY-MSCF-CONNECTION		SHOW-MSCF-CONNECTION
MODIFY-MSCF-ENVIRONMENT	SHOW-MSCF-CONFIGURATION	SHOW-MSCF-ENVIRONMENT

## ■ SHOW-USER-ATTRIBUTES

- Ausgeben der aktuellen Einstellungen

## ■ MODIFY-USER-ATTRIBUTES

- Ändern der aktuellen Einstellungen

ACCESS	=	*UNCHANGED
USER-ACCESS	=	*UNCHANGED
BASIC-ACL	=	*UNCHANGED
GUARDS	=	*UNCHANGED
SAVE	=	*UNCHANGED
MIGRATE	=	*UNCHANGED
CODED-CHARACTER-SET	=	*UNCHANGED

## ■ EDIT-USER-ATTRIBUTES

- Ausgeben und Ändern der aktuellen Einstellungen

ACCESS	=	WR
USER-ACCESS	=	OWNER-ONLY
BASIC-ACL	=	*NONE
GUARDS	=	*NONE
SAVE	=	PARAMETERS (BACKUP-CLASS=A, SAVED-PAGES=COMPL-FILE)
MIGRATE	=	ALLOW
CODED-CHARACTER-SET	=	*NONE

## ■ New EDIT Commands

- EDIT-JOB
- EDIT-JOB-OPTIONS
- EDIT-JV (JV V15.1)
- EDIT-JV-ATTRIBUTES (JV V15.1)
- EDIT-MASTER-CATALOG-ENTRY
- EDIT-POSIX-USER-ATTRIBUTES
- EDIT-POSIX-USER-DEFAULTS
- EDIT-PUBSET-CACHE-ATTRIBUTES
- EDIT-PUBSET-DEFINITION-FILE
- EDIT-PUBSET-SPACE-DEFAULTS
- EDIT-SPACE-SATURATION-LEVELS
- EDIT-STORAGE-CLASS
- EDIT-USER-ATTRIBUTES
- EDIT-USER-PUBSET-ATTRIBUTES

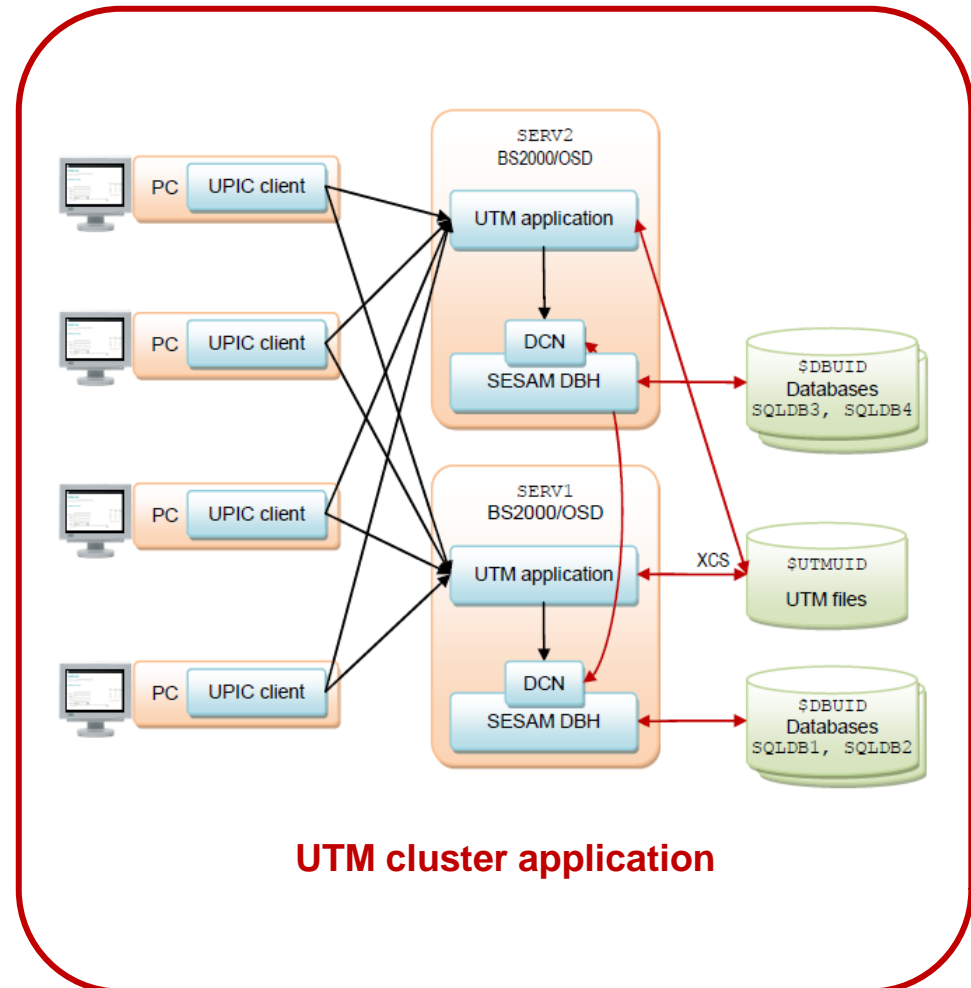


- First customer shipment (T50): E3.2012
- General release (B70): E6.2012

# Highlights of software configuration (1)

## ■ openUTM goes to cluster

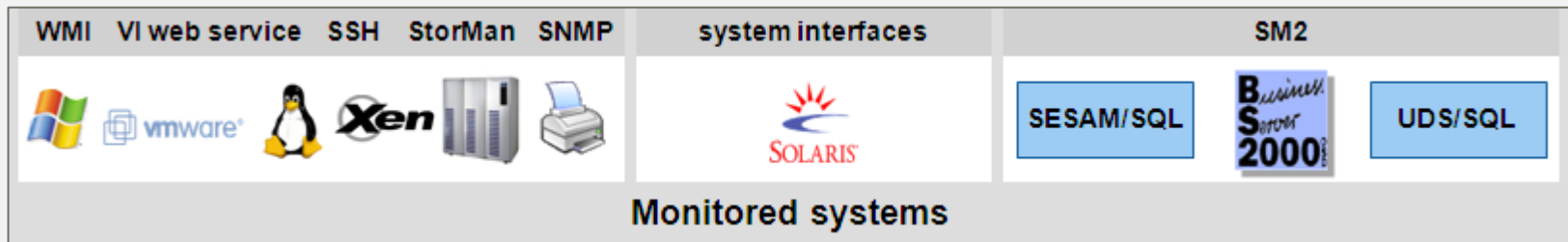
- Interrupt-free maintenance
  - Hardware maintenance
  - Software update/upgrade
- Service available despite application crash
- Easy to adapt IT performance according to the workload (very different workloads in day/night as well as workday/weekend operations; special functions that only run at specific times)
- Presales workshop



## ■ openSM2 V9.0

- Simplified installation and configuration of openSM2
- Remote monitoring of Linux servers
- Remote monitoring of Xen
- Monitoring openUTM applications
- Monitoring all devices which support the SNMP\*) standard
- Improvements in evaluating measurement files

\*) Simple Network Management Protocol



## ■ openSM2 V9.1 (support of ETERNUS DX, T50 in E7 2011)

## ■ **FDDRL V18.0** (April 2011) Online Home Pubset Backup



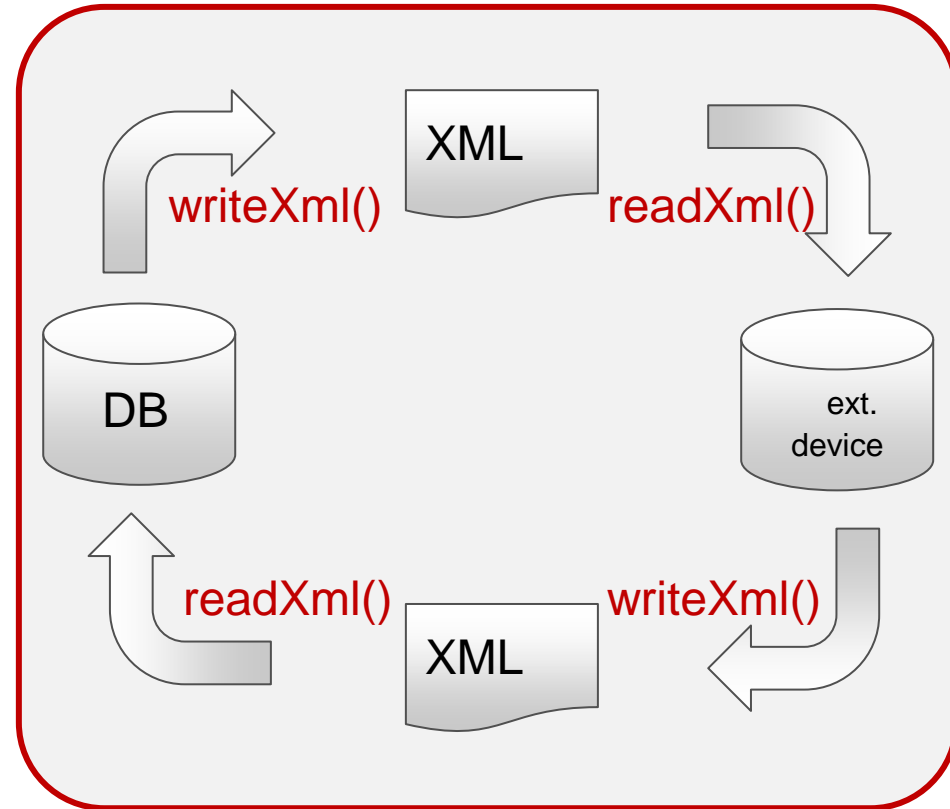
### Key benefits of a physical home pubset backup

- IPL ability
- Enduring Pubset attributes
- Enduring software configuration
- Enduring user attributes

## ■ SESAM/SQL V7.0

(September 2011)

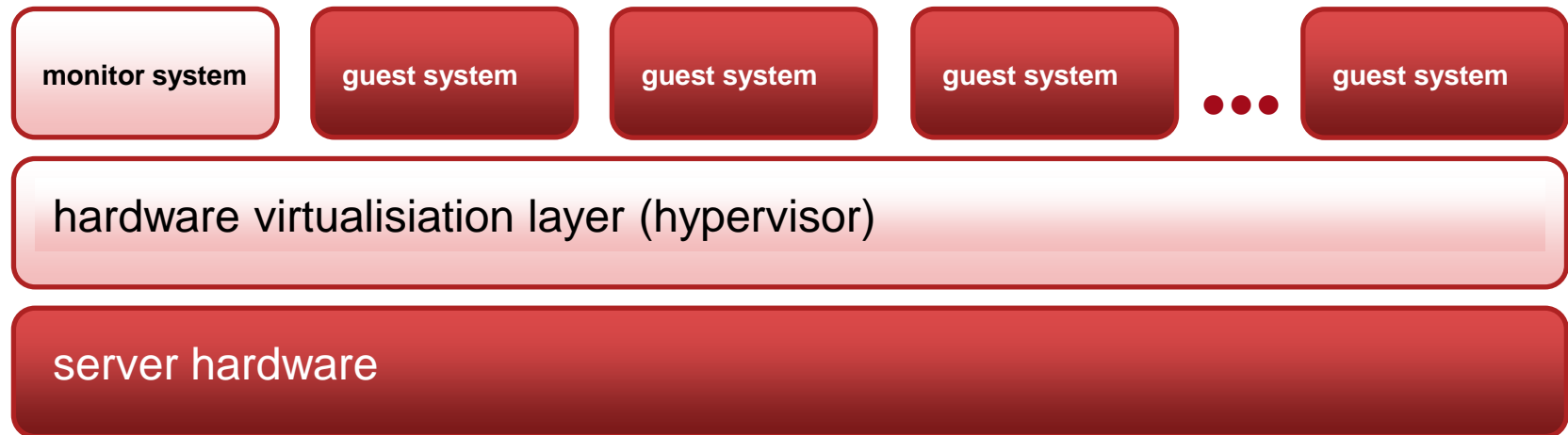
- Enhancement of SQL interface
- Extension of JDBC functionality
- Test data is anonymized
- Efficient support of Foreign Copy
- Sophisticated logging of lock situations
- Space files up to 4 TB
- Use of email





## ■ VM2000 V10.0

- Consolidated version for S and SQ series
- Backup/ restore of VM2000 configuration data
- Life migration for SQ business servers
- CPU pools for SQ business servers



## ■ openNet Server V3.5

### ■ **Support of Fully Qualified Domain Names (FQDN) phase 2:**

- Dynamic allocation of FQDNs to internal (eight-character long) computer names
- Persistent storage in an editable file

### ■ **Rebasing of LWRESO on the basis of bind9**

### ■ **TCP Congestion Control:**

- RFC 5681 defines algorithms for the reaction to congestion situations and their avoidance as well as acknowledgement in the TCP protocol

### ■ **Support of IPv4 Address Conflict Detection**

### ■ **Introduction of an /etc/services file to implement service names in port numbers and vice versa.**

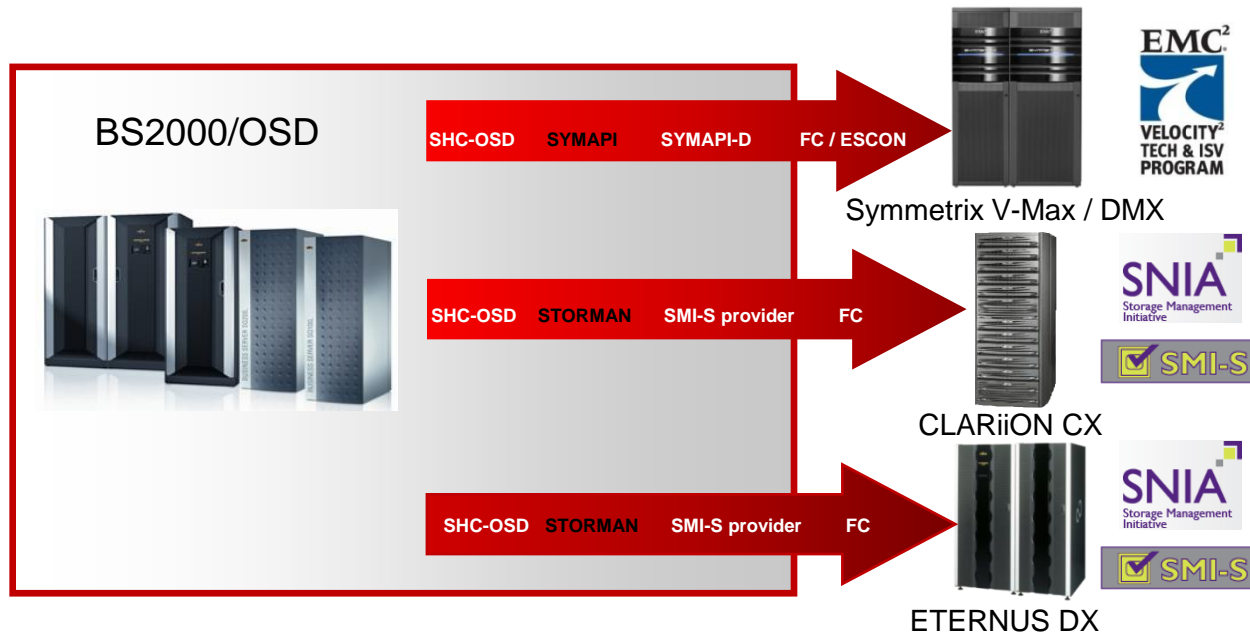
### ■ **Support of RAW Sockets for Oracle 11g**

# Highlights of software configuration (7)

## ■ SHC-OSD V9.0 (May 2011)

- Support of total BS2000 storage portfolio
- Uniform storage administration for ETERNUS, Symmetrix and CLARiiON


e.g. : /START-CLONE-SESSION PUB=MYDA, CLONE-UNIT=...



# New Oracle DB versions in 2011

- Oracle DB 10.2.05 (January 2011)
  - edition for SQ series
- Oracle DB 11gR2 (June 2012)





**FUJITSU**

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