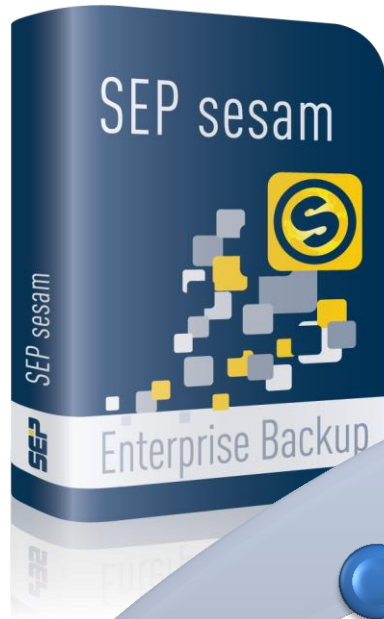


SEP sesam Backup & Disaster Recovery Overview





1992:
First Backup Solution
for VMS, UNIX

1996:
Patented Backup
Processes

1999:
sesam2000 for
Linux, Unix & Win NT

2004:
EMEA Sales Exclusively
Through Distribution
Partners

2008:
SEP Software
USA

2012:
Satisfied
Customers in 50
Countries

- **SEP sesam Server – Microsoft - Linux - Unix**
 - Main memory 1 GB
 - Java 1.6 (Sun, IBM or openJDK)
 - PostgreSQL on 64-bit Linux (Proprietary on 32-bit)
 - SEP sesam VAR area size between 30 and 50 GB or more
 - Depends on the backup and media strategy
- **Storage Hardware**
 - On Linux: all SCSI/SAS- and FC-HW direct connected will work
 - On Windows: Manufacturer drivers have to be installed
 - If the hardware is visible to the operating system, SEP sesam can use it



One Solution for the Entire Enterprise

SEP sesam이 여러 제품군을 지원하므로, 기업체는 모든 backup 수요를 하나의 솔루션에 통합하여 하나의 중앙관리 콘솔만을 갖고 있으면 됨.

Performance

SEP sesam's architecture는 접속 속도와 hardware configuration 외에는 제한을 받지 않음. Tape에는 64 data streams까지, disk 또는 cloud에는 무제한!

Reliability

Set it and Forget it reliability. backup이 성공적으로 이루어지고 나면, data는 꼭 거기 있으니 염려 마시길!

Cost

업계 최고 TCO, ROI, 성능.



Operating System / Filesystem



Application Level



Online Database Modules



Hypervisor



Bare Metal Recovery

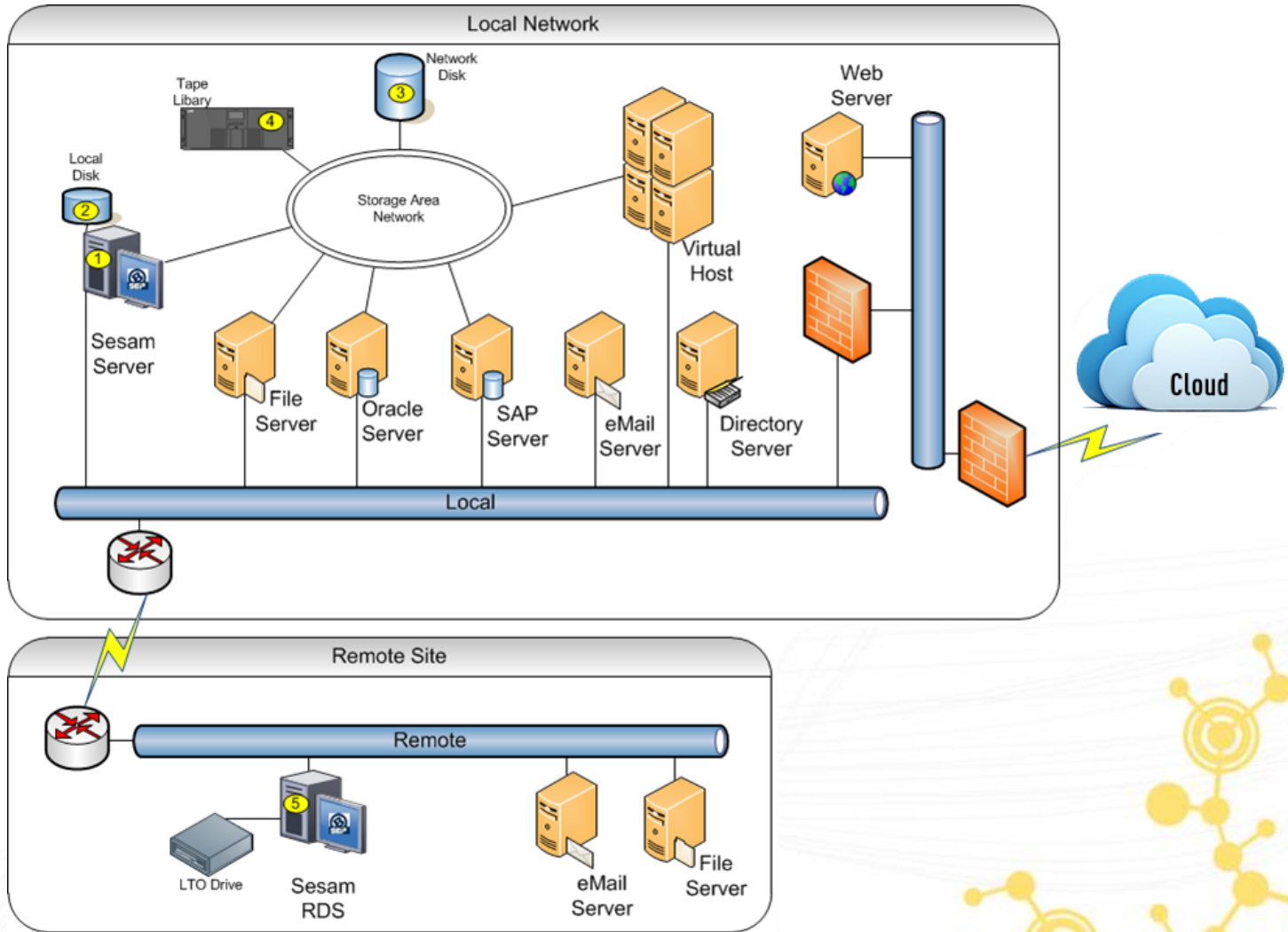


Single Console to Manage all Sites

- multiple GUI를 계층화할 수 있는 막강한 Master GUI로 인해 System Administrator가 수많은 원격지를 관리할 수 있게 해 줌.
- main backup server 또는 권한이 부여된 어떠한 desktop, laptop, workstation에서도 backup 자료에 접근할 수 있음.
- WAN 구간이나, Cloud 상에서도 원격지에 연결된 storage로부터 backup 또는 data 복구를 할 수 있음.
- 고객사에 맞는 다양한 GUI layout과 화면 설정으로 빠르고 효율적인 사용을 할 수 있음.



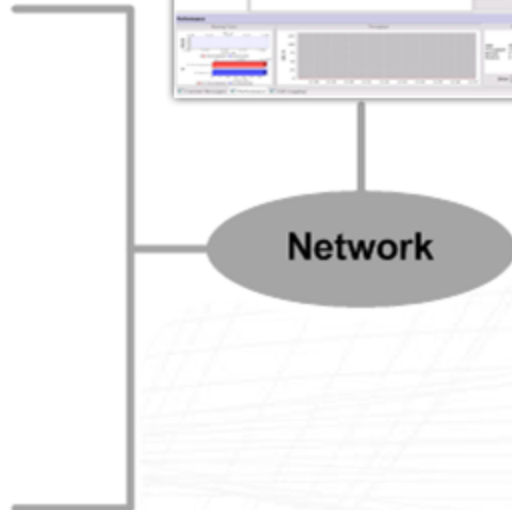
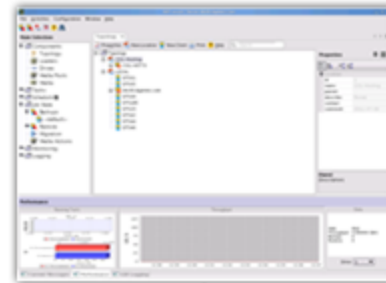
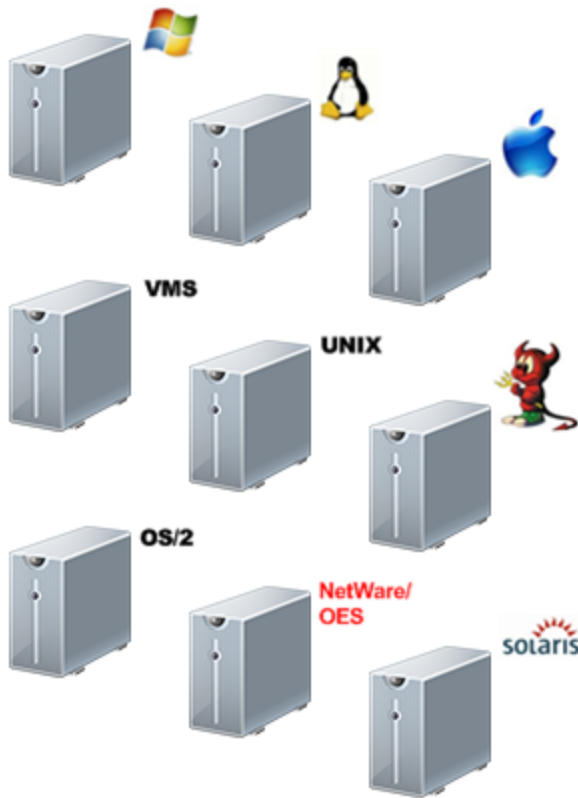
One Solution for the Enterprise



Multi-Streaming Technology

SEP sesam Backup Clients

SEP sesam Master GUI



Unlimited Parallel Data Streams



SEP sesam
Backup Server



vodafone

Vodafone Europe: 원격 사이트 동시 1500 개.



GUARDIA CIVIL

Guardia Civil: 전국적으로 450 개 사이트.



US National Archiving and Records Administration (NARA): 기업 이메일 시스템 백업 시간이 6일 이상에서 11 시간으로 줄어듦.



Port of San Diego: 100 시간 이상 걸리며 주기적으로 실패하던 백업이 에러 없이 4 시간 미만으로 줄어듦.
Oracle backups은 4 시간 이상에서 42 분으로 줄어듦.

- **SEP Easy Archive** - SEP Easy Archive 의도되지 않은 데이터 삭제나 분실 또는 데이터의 비인가 수정, 변경, 삭제를 막기 위해 WORM (*Write Once Read Many*) 기술을 사용함.
- **Deduplication** - 상대적으로 비싼 스토리지와 복제 필요를 줄여주면서도 당신의 데이터는 필요할 때, 언제라도 가능하다는 확신을 줄 수 있음.
- **Generic Drivers** - OS가 인식하는 모든 hardware/media 지원.



- **Bare Metal for Linux Servers**
수 분 안에 복원
- **Bare Metal for Microsoft Servers**
데이터 복원과 함께 모든 시스템 환경을 수 분 안에 복원함
- **Bare Metal for Microsoft Computers**
모든 시스템을 동일 시스템으로 수 분 안에 복구
- **Disaster Recovery for Virtual Machines**
VM에 SEP BSR을 설치하기만 하면 완벽하게 보호됨

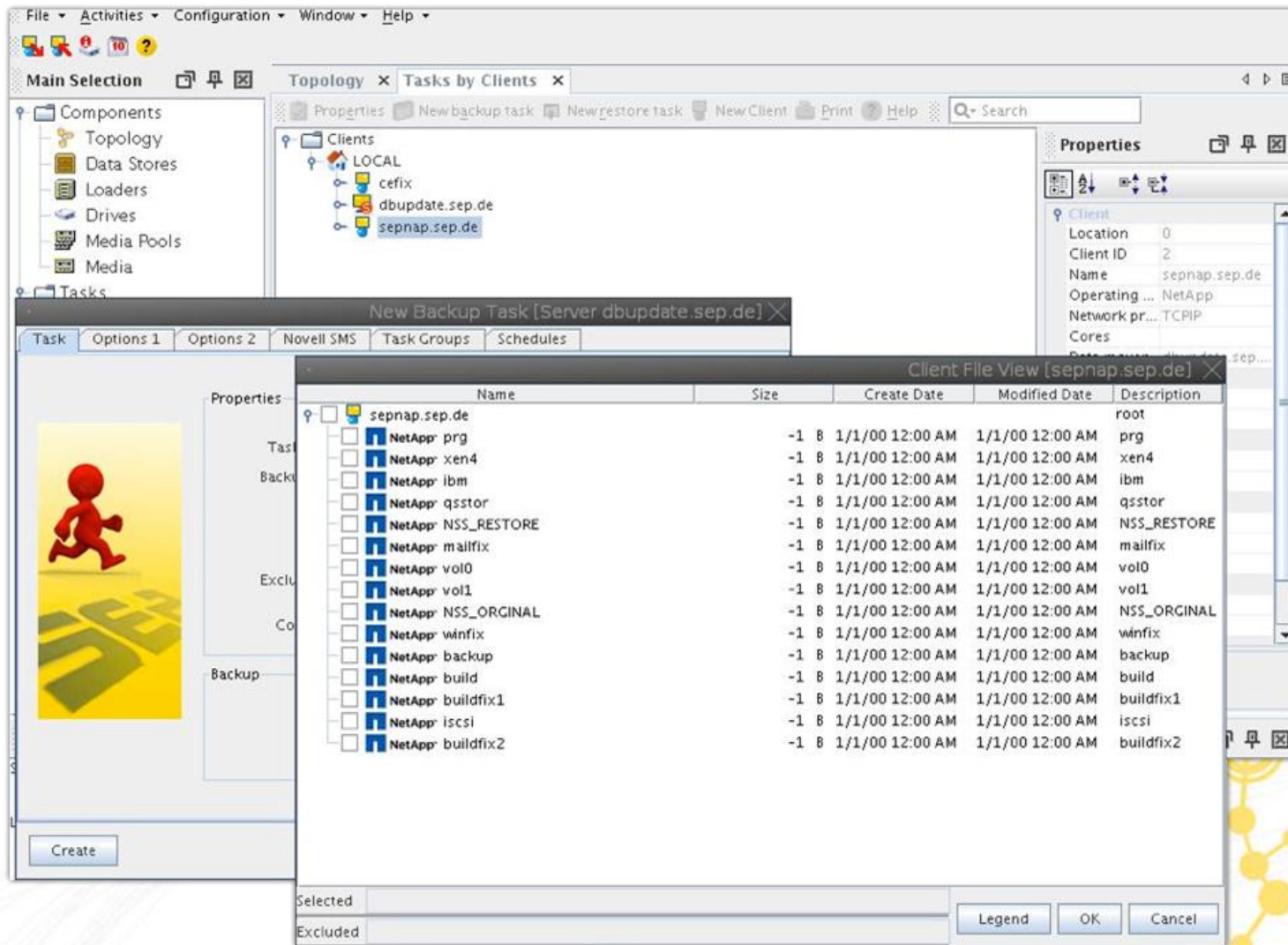


Oracle

- Database, Tablespace and Data File level Backup and Restores
- XML Archiving – Capable of archiving Oracle in XML format
- Wizard-based configuration
- **One banking customer is backing up 1 Oracle Database with 2 PB!**



Backup in NetApp Environments



The screenshot displays the SEP software interface with several windows open. The main window shows a 'Tasks by Clients' view with a tree structure under 'LOCAL' containing 'cefix', 'dbupdate.sep.de', and 'sepnap.sep.de'. The 'Properties' window for 'sepnap.sep.de' shows details like Location (0), Client ID (2), Name (sepnap.sep.de), Operating System (NetApp), and Network protocol (TCP/IP). A 'New Backup Task [Server dbupdate.sep.de]' dialog is open, showing a 'Client File View [sepnap.sep.de]' window. This window displays a file tree with columns for Name, Size, Create Date, Modified Date, and Description. The file tree includes folders like 'NetApp: prg', 'NetApp: xen4', 'NetApp: ibm', 'NetApp: qsstor', 'NetApp: NSS_RESTORE', 'NetApp: mailfix', 'NetApp: vol0', 'NetApp: vol1', 'NetApp: NSS_ORIGINAL', 'NetApp: winfix', 'NetApp: backup', 'NetApp: build', 'NetApp: buildfix1', 'NetApp: iscsi', and 'NetApp: buildfix2'. A 'Create' button is visible at the bottom of the dialog.

Name	Size	Create Date	Modified Date	Description
sepnap.sep.de				root
NetApp: prg	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	prg
NetApp: xen4	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	xen4
NetApp: ibm	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	ibm
NetApp: qsstor	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	qsstor
NetApp: NSS_RESTORE	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	NSS_RESTORE
NetApp: mailfix	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	mailfix
NetApp: vol0	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	vol0
NetApp: vol1	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	vol1
NetApp: NSS_ORIGINAL	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	NSS_ORIGINAL
NetApp: winfix	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	winfix
NetApp: backup	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	backup
NetApp: build	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	build
NetApp: buildfix1	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	buildfix1
NetApp: iscsi	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	iscsi
NetApp: buildfix2	-1 B	1/1/00 12:00 AM	1/1/00 12:00 AM	buildfix2

Microsoft Exchange

- Server Roles: Edge Transport, Hub Transport, Client Access Server, Mailbox Server
- VSS

Microsoft Exchange 2007

- Single Mailbox
- LCR, CCR, SCR

Microsoft Exchange 2010

- DAG

Restore

- RDB, DB instance, Mailbox Instance, Message Instance



Microsoft SQL

- Uses standard Windows Agent to support Full Copy, Differential and Incremental backups
- VSS aware
- Point in Time Restore
- Cross Restore of Databases into one another or another instance
- Log backups can be done with or without truncate options



SAP

- Close partner
- Working together for over 15 years
- Highest level of certification of any third-party vendor
- Off Host Backup
- Supports other SAP R/3 Applications: Oracle DB on SUN, Oracle DB on Reliant Unix, Oracle DB on Tru64, MaxDB on AIX, MaxDB on Windows 2003 & 2008



Full support for all Novell products

- Novell eDirectory – Single file restore and Trustee Rights
- Novell Storage Services (NSS)
- Novell Target Service Agent (TSA)
- Novell GroupWise – Single email restore capability
- Migration from Novell NetWare to OES (OES2 or OES11)
- Novell Open Enterprise Server (OES) Cluster Ready



SEP sesam's powerful backup engine now fully supports Mac O/S

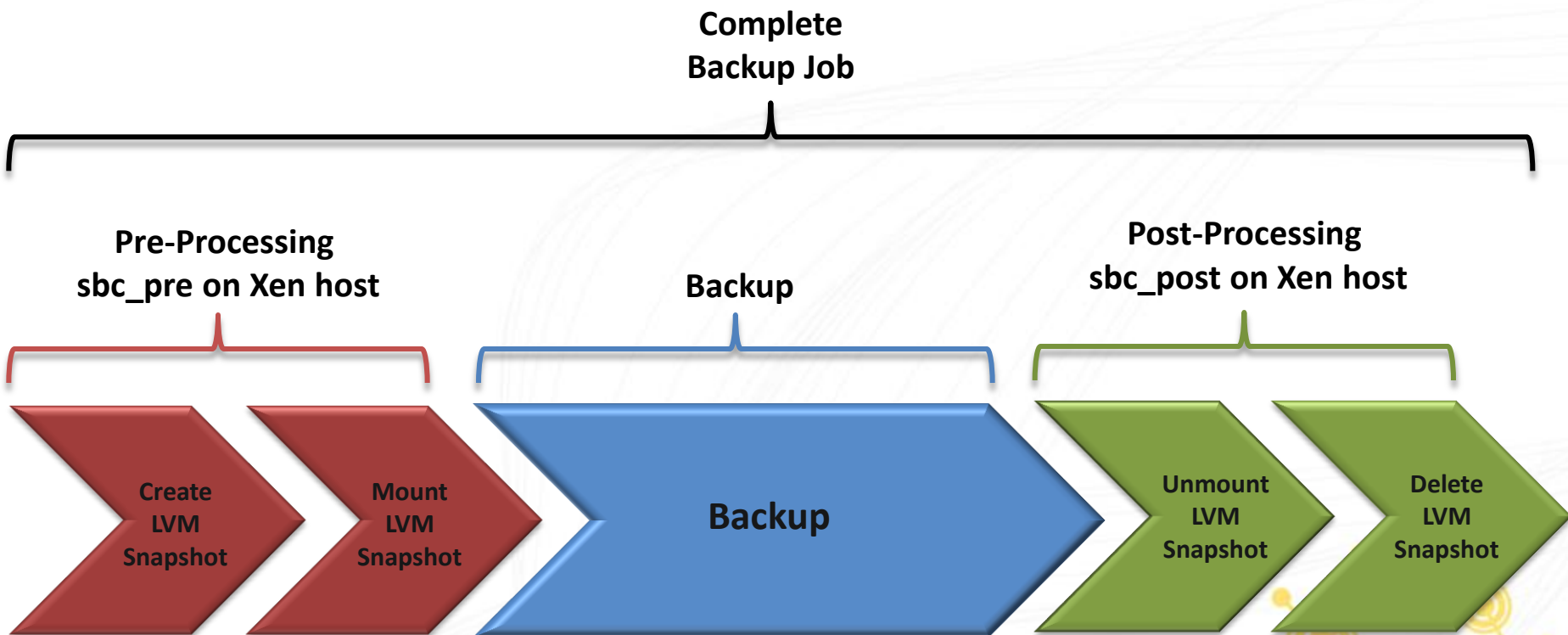
- Mac servers, desktops 또는 laptops 100 개를 동시에 백업함
- 백업하는 것을 잊어버려 데이터가 손실되는 일이 없음



- **Citrix XenServer**
 - Online hot and warm module using the XenServer API
 - Agentless Technology
- **VMware vSphere/ESX**
 - Directly via ESX host
 - VCB-Proxy
 - vStorage APIs for Data Protection (VADP)
- **MS Hyper-V**
 - File consistency with VSS
- **Open Source Xen**
 - Backup using LVM snapshots

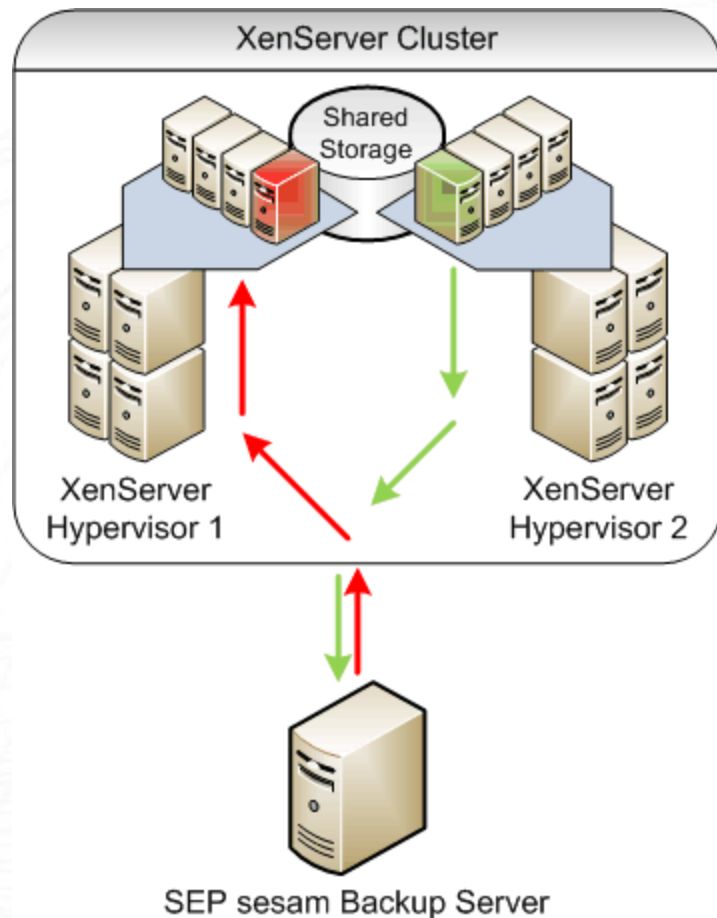


Virtual Guest Online Backup



Multinode Aware

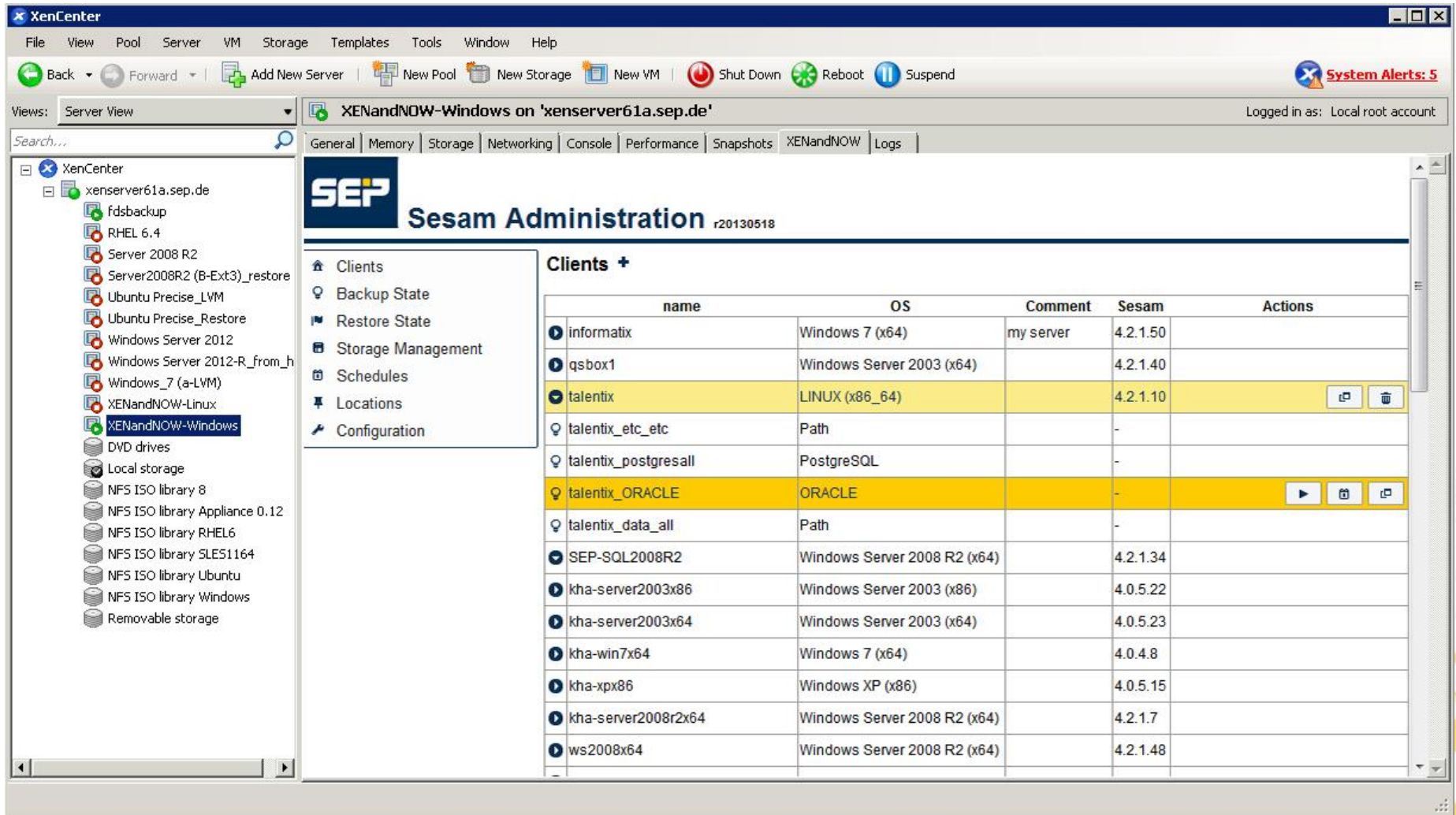
- SEP sesam은 호스트들 또는 가상 클러스터 내에서 가상 고객을 동기화할 수 있음
- 이런 동기화는 서버와 로케이션을 동기화하는데 리모트 디바이스와 함께 사용할 수 있음



With a newly redesigned XenCenter integration:

- XenCenter admin은 가상 고객 상에 마우스 버튼 오른쪽을 누르면 나타나는 창을 사용해서 백업/복원 옵션을 사용할 수 있음
- XenCenter admin은 log 탭에서 백업/복원 성공 확인을 할 수 있음
- XenCenter를 통해 접근이 가능한 브라우저에서 단순화 VM 백업 접속이 가능함
- XenCenter admin은 XenCenter 콘솔에서 DataStore를 만들 수 있음





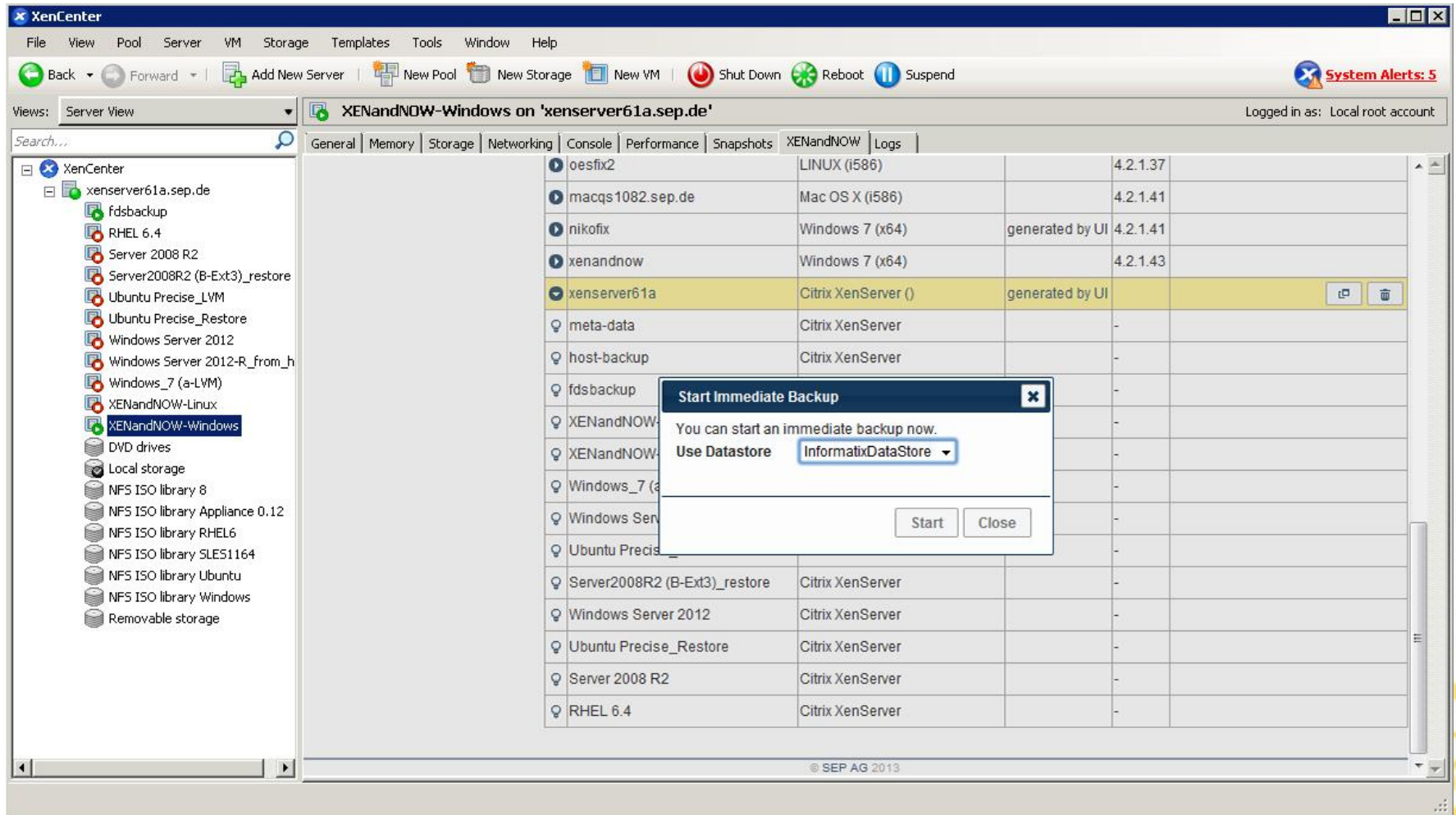
The screenshot shows the XenCenter interface with the 'Sesam Administration' window open. The interface includes a menu bar (File, View, Pool, Server, VM, Storage, Templates, Tools, Window, Help), a toolbar with actions like Back, Forward, Add New Server, New Pool, New Storage, New VM, Shut Down, Reboot, and Suspend, and a system alert indicator for 5 alerts.

The main content area displays the 'Sesam Administration' window with the following components:

- Left Panel:** A tree view showing the server hierarchy for 'xenserver61a.sep.de', including folders for 'XENandNOW-Linux' and 'XENandNOW-Windows'.
- Navigation Menu:** A list of management tasks such as Clients, Backup State, Restore State, Storage Management, Schedules, Locations, and Configuration.
- Clients Table:** A table listing various clients with columns for name, OS, Comment, Sesam version, and Actions.

name	OS	Comment	Sesam	Actions
informatix	Windows 7 (x64)	my server	4.2.1.50	
qsbox1	Windows Server 2003 (x64)		4.2.1.40	
talentix	LINUX (x86_64)		4.2.1.10	[Refresh] [Delete]
talentix_etc_etc	Path		-	
talentix_postgresall	PostgreSQL		-	
talentix_ORACLE	ORACLE		-	[Play] [Refresh] [Copy]
talentix_data_all	Path		-	
SEP-SQL2008R2	Windows Server 2008 R2 (x64)		4.2.1.34	
kha-server2003x86	Windows Server 2003 (x86)		4.0.5.22	
kha-server2003x64	Windows Server 2003 (x64)		4.0.5.23	
kha-win7x64	Windows 7 (x64)		4.0.4.8	
kha-xp86	Windows XP (x86)		4.0.5.15	
kha-server2008r2x64	Windows Server 2008 R2 (x64)		4.2.1.7	
ws2008x64	Windows Server 2008 R2 (x64)		4.2.1.48	

XenCenter Integration – Immediate Backup

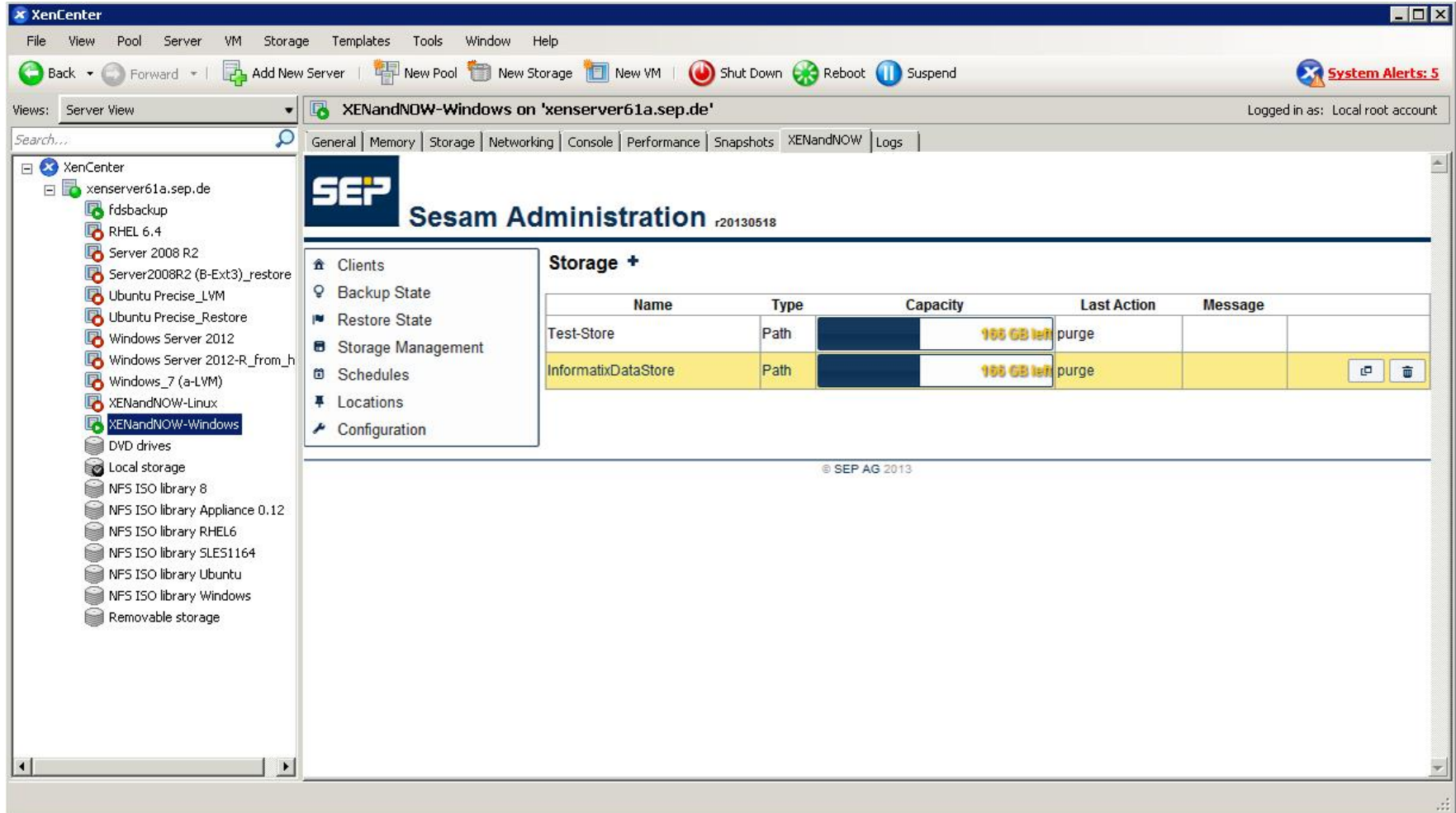


The screenshot shows the XenCenter management console. The main window displays a list of VMs under the host 'xenserver61a.sep.de'. A dialog box titled 'Start Immediate Backup' is overlaid on the VM list, indicating that an immediate backup can be started and that the 'InformatrixDataStore' is selected as the datastore.

VM Name	OS	Version	Created By
oesfix2	LINUX (i586)	4.2.1.37	
macqs1082.sep.de	Mac OS X (i586)	4.2.1.41	
nikofix	Windows 7 (x64)	4.2.1.41	generated by UI
xenandnow	Windows 7 (x64)	4.2.1.43	
xenserver61a	Citrix XenServer ()	generated by UI	
meta-data	Citrix XenServer	-	
host-backup	Citrix XenServer	-	
fdsbackup		-	
XENandNOW		-	
XENandNOW		-	
Windows_7 (4		-	
Windows Ser		-	
Ubuntu Preci		-	
Server2008R2 (B-Ext3)_restore	Citrix XenServer	-	
Windows Server 2012	Citrix XenServer	-	
Ubuntu Precise_Restore	Citrix XenServer	-	
Server 2008 R2	Citrix XenServer	-	
RHEL 6.4	Citrix XenServer	-	

Start Immediate Backup
 You can start an immediate backup now.
 Use Datastore: InformatrixDataStore
 Start Close

XenCenter Integration - Storage



The screenshot shows the XenCenter management console. The main window displays the configuration for a virtual machine named 'XENandNOW-Windows on 'xenserver61a.sep.de''. The 'Storage' tab is selected, showing a table of storage configurations.

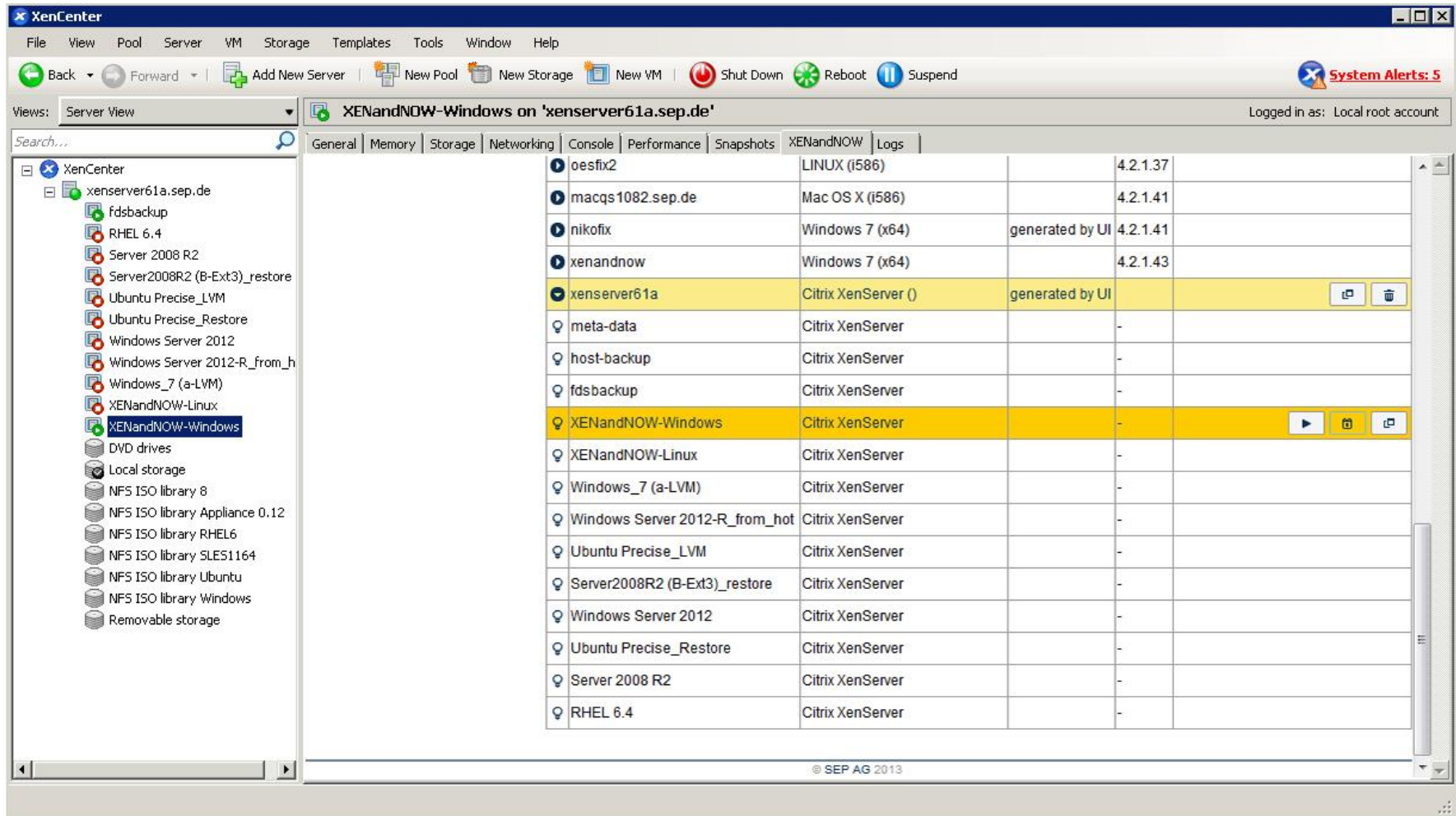
Sesam Administration r20130518

Storage +

Name	Type	Capacity	Last Action	Message
Test-Store	Path	100 GB left	purge	
InformatixDataStore	Path	100 GB left	purge	

© SEP AG 2013

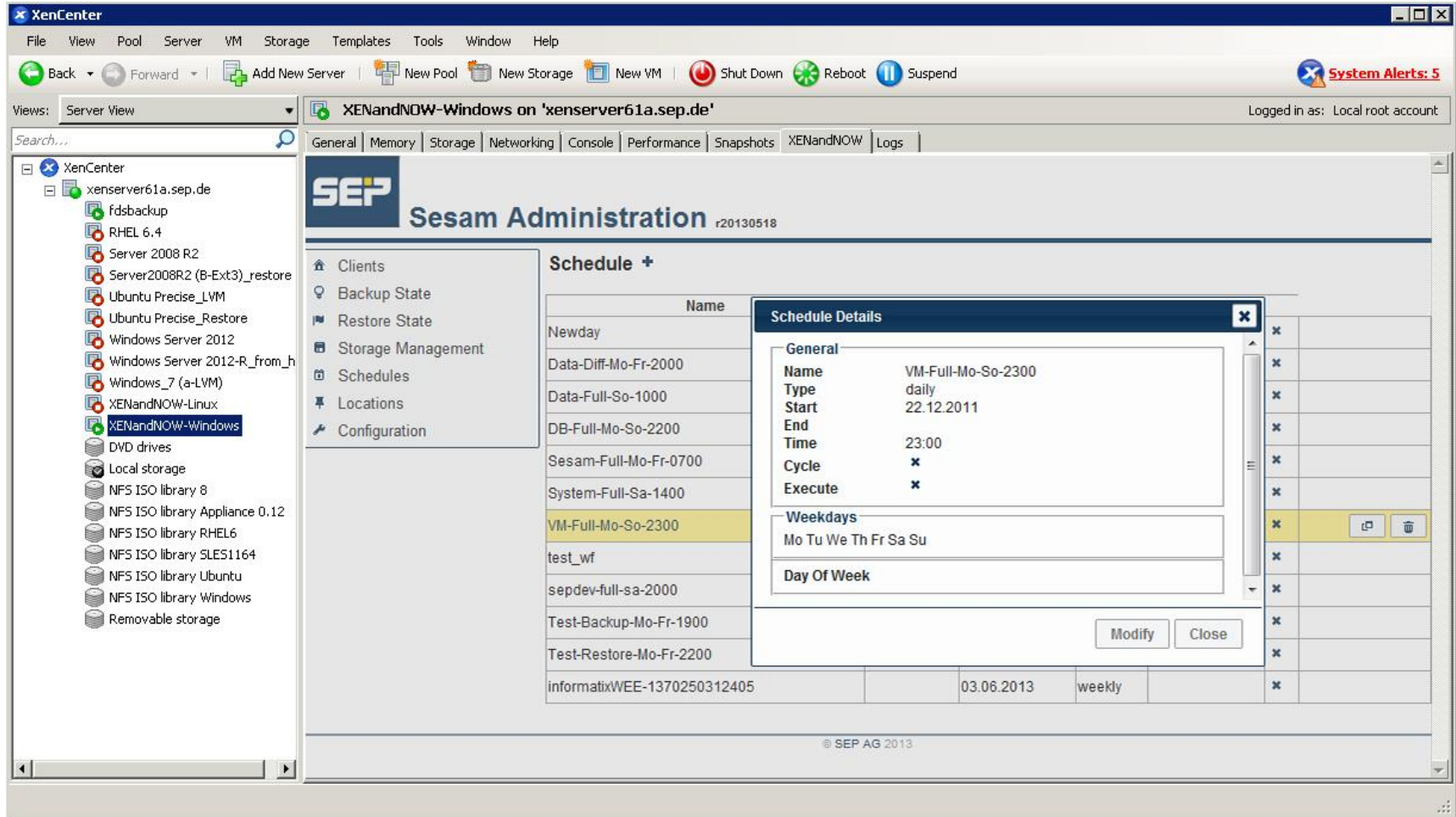
XenCenter Integration – VM Backup



The screenshot shows the XenCenter management console. The main window displays the configuration for a VM named 'XENandNOW-Windows' on the host 'xenserver61a.sep.de'. The 'XENandNOW' tab is active, showing a table of VM components and their backup status.

Name	OS	Backup Status	Version
oesfix2	LINUX (i586)		4.2.1.37
macqs1082.sep.de	Mac OS X (i586)		4.2.1.41
nikofix	Windows 7 (x64)	generated by UI	4.2.1.41
xenandnow	Windows 7 (x64)		4.2.1.43
xenserver61a	Citrix XenServer ()	generated by UI	
meta-data	Citrix XenServer		-
host-backup	Citrix XenServer		-
fdsbackup	Citrix XenServer		-
XENandNOW-Windows	Citrix XenServer		-
XENandNOW-Linux	Citrix XenServer		-
Windows_7 (a-LVM)	Citrix XenServer		-
Windows Server 2012-R_from_hot	Citrix XenServer		-
Ubuntu Precise_LVM	Citrix XenServer		-
Server2008R2 (B-Ext3)_restore	Citrix XenServer		-
Windows Server 2012	Citrix XenServer		-
Ubuntu Precise_Restore	Citrix XenServer		-
Server 2008 R2	Citrix XenServer		-
RHEL 6.4	Citrix XenServer		-

The interface also shows a left-hand navigation tree with 'XENandNOW-Windows' selected. The top menu includes File, View, Pool, Server, VM, Storage, Templates, Tools, Window, and Help. The bottom status bar indicates '© SEP AG 2013'.



The screenshot shows the XenCenter interface with the Sesam Administration console open. The 'Schedule +' window is active, displaying a list of schedules and a detailed view for 'VM-Full-Mo-So-2300'.

Schedule List:

Name	Start	Frequency	Execute
Newday			
Data-Diff-Mo-Fr-2000			
Data-Full-So-1000			
DB-Full-Mo-So-2200			
Sesam-Full-Mo-Fr-0700			
System-Full-Sa-1400			
VM-Full-Mo-So-2300			
test_wf			
sepdev-full-sa-2000			
Test-Backup-Mo-Fr-1900			
Test-Restore-Mo-Fr-2200			
informatixWEE-1370250312405	03.06.2013	weekly	

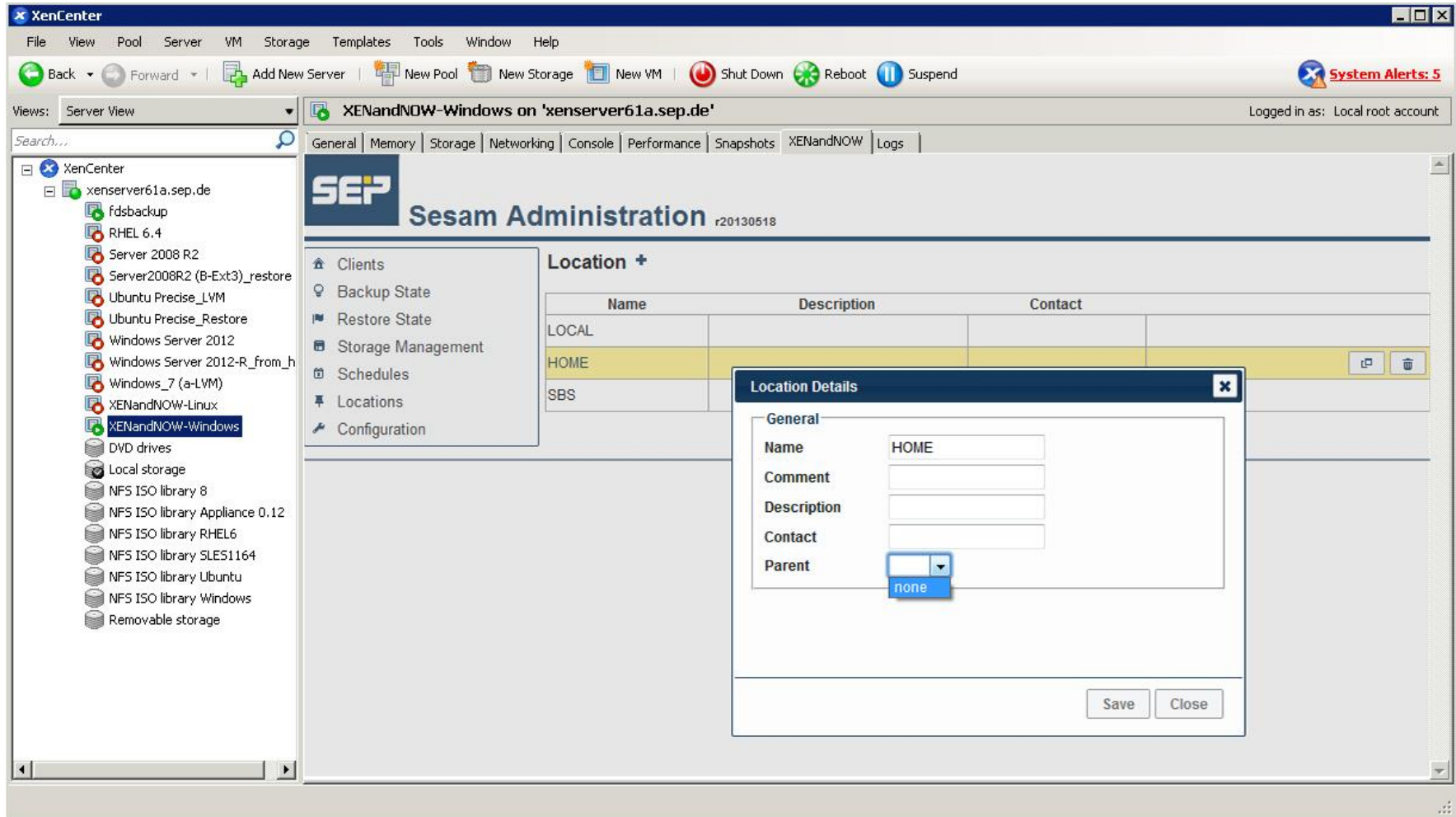
Schedule Details for VM-Full-Mo-So-2300:

- General:**
 - Name: VM-Full-Mo-So-2300
 - Type: daily
 - Start: 22.12.2011
 - End: 23:00
 - Cycle: x
 - Execute: x
- Weekdays:** Mo Tu We Th Fr Sa Su
- Day Of Week:**

Buttons: Modify, Close

© SEP AG 2013

XenCenter Integration - Location



The screenshot shows the XenCenter management console. The main window displays the 'XENandNOW-Windows on 'xenserver61a.sep.de'' configuration page. A 'Location Details' dialog box is open, showing the configuration for a location named 'HOME'. The dialog includes fields for Name, Comment, Description, Contact, and Parent (set to 'none').

Location Details Dialog:

Field	Value
Name	HOME
Comment	
Description	
Contact	
Parent	none

Background Location Table:

Name	Description	Contact
LOCAL		
HOME		
SBS		

Microsoft[®]

CITRIX[®]

EMC²[®]

FUJITSU

GWAVA

NetApp[™]

Novell[®]

ORACLE[®]

IBM[®]

vmware[®]

redhat.

SAP[®]

suse[®]

TANDBERG DATA
Securing your Information

FalconStor
Software

Questions & Answers

