SAP R/3 4.6C SR2 SAPDB®/UNIX®:
Integrating with a NetApp® Filer

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TECHNICAL REPORT

Network Appliance, a pioneer and industry leader in data storage technology, helps organizations understand and meet complex technical challenges with advanced storage solutions and global data management strategies.

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1. Purpose and Scope

This document describes the steps necessary to install a SAP R/3 4.6C SR2 with SAPDB database on UNIX. The SAP installation tool R3Setup doesn't support installation on NFS at the moment. For that reason there are some steps that must be done manually during the installation process. The described configuration is validated with SAP R/3 4.6C SR2 running on SuSE Linux® 7.2 with SAPDB 7.2.5.6.

2. Filer Configuration

2.1. Network Connection

For productive SAP systems you should use a dedicated network to connect the Filer to the SAP Database Server.You can connect the filer directly via a crossover cable or a switch that is only used for this connection. You should use Gigabit Ethernet to connect the systems, but there are also small systems that are running on 100 BaseT.

2.2. Filer Volume Configuration, Local Disks

For performance reasons, all volumes used for database files should consist of at least six disks. In a production environment you must use at least six disks. In case of small systems you can put more than one SAP system on a volume for example, production and Q/A systems. For security reasons we recommend using different volumes for database log files and database data files on production systems.

- One volume for the data devspaces and the system devspace directories (e.g. `volname = vol_dbdata`).

- One Volume for the Log Devspaces. All the SAP directories and the SAPDB Binaries are also placed on this volume (e.g. `volname = vol_dblog`).

2.3. Filer Qtree Configuration, NFS Exports

Qtree	Volume	NFS Export
sapdata	vol_dbdata	/vol/vol_dbdata/sapdata
saplog	vol_dblog	/vol/vol_dblog/saplog
sapdb	vol_dblog	/vol/vol_dblog/sapdb
sapmnt	vol_dblog	/vol/vol_dblog/sapmnt
usr_sap	vol_dblog	/vol/vol_dblog/usr_sap

2.4. Filer options

- ```
  vol options vol_dbdata nosnap on
  vol options vol_dblog nosnap on
  ```

- ```
  vol options vol_dbdata nosnapdir on
  vol options vol_dblog nosnapdir on
  ```

- ```
  vol options vol_dbdata minra on
  vol options vol_dblog minra on
  ```
  ```

- vol options vol_dbdata nvfail on
  vol options vol_dblog nvfail on

3. Operating System Configuration

3.1. Mounting the Volumes, Creating the Directories

Mount options:

- rsize= 32768,wsize=32768,intr,rw,nolock,nfsvers=3,suid,hard

SAP directories:

- mkdir /sapmnt
- chmod 777 /sapmnt
- mount filer:/vol/vol_dblog/sapmnt /sapmnt
- mkdir /usr/sap
- chmod 777 /usr/sap
- mount filer:/vol/vol_dblog/usr_sap /usr/sap

SAPDB directories:

- mkdir sapdb
- chmod 777 /sapdb
- mount filer:/vol/vol_dblog/sapdb /sapdb
- mkdir /sapdb/sapdata
- chmod 777 /sapdb/sapdata
- mount filer:/vol/vol_dbdata/sapdata /sapdb/sapdata
- mkdir /sapdb/saplog
- chmod 777 /sapdb/saplog
- mount filer:/vol/vol_dblog/saplog /sapdb/saplog

3.2. Mounting the File Systems at Operating System Boot

```
/etc/fstab:
.........................
.........................
filer:/vol/vol_dblog/sapmnt     /sapmnt    nfs
rw,nolock,hard,nfsvers=3,intr,suid
filer:/vol/vol_dblog/usr_sap    /usr/sap    nfs
rw,nolock,hard,nfsvers=3,intr,suid
filer:/vol/vol_dblog/sapdb     /sapdb      nfs
rw,nolock,hard,nfsvers=3,intr,suid
filer:/vol/vol_dblog/saplog    /sapdb/<SID>/saplog    nfs       rw,nolock,hard,
      nfsvers=3,intr,suid
filer:/vol/vol_dbdata/sapdata   /sapdb/<SID>/sapdata   nfs      rw,nolock,hard,
```

```
      nfsvers=3,intr,suid
.........................
.........................
```

4. SAP Installation

Install R3Setup from the SAP Kernel CD. After the installation copy the files CENTRAL.R3S and DATABASE.R3S to CENTRAL.SAV and DATABASE.SAV to keep a copy of the original file. CENTRAL.R3S is the command file used by R3Setup when installing the central instance. DATABASE.R3S is the command file used by R3Setup when installing the database instance.

4.1. Central Instance Installation CENTRAL.R3

During the installation of the central instance, you will get an error when R3Setup tries to change the permissions of saposcol. The installation will abort.
Exit R3Setup and change the permissions of saposcol in the following way:

```
> chmod u+s /sapmnt//exe/saposcol
```

Now edit the file CENTRAL.R3S change the status of the corresponding step from STATUS=ERROR to STATUS=OK.
Restart R3Setup.

4.2. Database Instance Installation DATABASE.R3S

Edit the file DATABASE.R3S.

- Insert `BREAK_ON_NFS=NO` at the step `ADADBDIRECTORIES_IND_ADA`
- Insert `EXTRACT_ON_NFS=YES` at the step `ADAEXTRACTCLTOOLS_IND_ADA`

Start or restart R3Setup.

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