



Using NetApp Filers with Sun Java System Messaging Server Message Store

Sun Java™ Enterprise System Technical Note



Sun Microsystems, Inc.
4150 Network Circle
Santa Clara, CA 95054
U.S.A.

Part No: 819-6504-10

Copyright 2006 Sun Microsystems, Inc. 4150 Network Circle, Santa Clara, CA 95054 U.S.A. All rights reserved.

Sun Microsystems, Inc. has intellectual property rights relating to technology embodied in the product that is described in this document. In particular, and without limitation, these intellectual property rights may include one or more U.S. patents or pending patent applications in the U.S. and in other countries.

U.S. Government Rights – Commercial software. Government users are subject to the Sun Microsystems, Inc. standard license agreement and applicable provisions of the FAR and its supplements.

This distribution may include materials developed by third parties.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and other countries, exclusively licensed through X/Open Company, Ltd.

Sun, Sun Microsystems, the Sun logo, the Solaris logo, the Java Coffee Cup logo, docs.sun.com, Java, and Solaris are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

Products covered by and information contained in this publication are controlled by U.S. Export Control laws and may be subject to the export or import laws in other countries. Nuclear, missile, chemical or biological weapons or nuclear maritime end uses or end users, whether direct or indirect, are strictly prohibited. Export or reexport to countries subject to U.S. embargo or to entities identified on U.S. export exclusion lists, including, but not limited to, the denied persons and specially designated nationals lists is strictly prohibited.

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright 2006 Sun Microsystems, Inc. 4150 Network Circle, Santa Clara, CA 95054 U.S.A. Tous droits réservés.

Sun Microsystems, Inc. détient les droits de propriété intellectuelle relatifs à la technologie incorporée dans le produit qui est décrit dans ce document. En particulier, et ce sans limitation, ces droits de propriété intellectuelle peuvent inclure un ou plusieurs brevets américains ou des applications de brevet en attente aux Etats-Unis et dans d'autres pays.

Cette distribution peut comprendre des composants développés par des tierces personnes.

Certains composants de ce produit peuvent être dérivées du logiciel Berkeley BSD, licenciés par l'Université de Californie. UNIX est une marque déposée aux Etats-Unis et dans d'autres pays; elle est licenciée exclusivement par X/Open Company, Ltd.

Sun, Sun Microsystems, le logo Sun, le logo Solaris, le logo Java Coffee Cup, docs.sun.com, Java et Solaris sont des marques de fabrique ou des marques déposées de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays. Toutes les marques SPARC sont utilisées sous licence et sont des marques de fabrique ou des marques déposées de SPARC International, Inc. aux Etats-Unis et dans d'autres pays. Les produits portant les marques SPARC sont basés sur une architecture développée par Sun Microsystems, Inc.

L'interface d'utilisation graphique OPEN LOOK et Sun a été développée par Sun Microsystems, Inc. pour ses utilisateurs et licenciés. Sun reconnaît les efforts de pionniers de Xerox pour la recherche et le développement du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une licence non exclusive de Xerox sur l'interface d'utilisation graphique Xerox, cette licence couvrant également les licenciés de Sun qui mettent en place l'interface d'utilisation graphique OPEN LOOK et qui, en outre, se conforment aux licences écrites de Sun.

Les produits qui font l'objet de cette publication et les informations qu'il contient sont régis par la législation américaine en matière de contrôle des exportations et peuvent être soumis au droit d'autres pays dans le domaine des exportations et importations. Les utilisations finales, ou utilisateurs finaux, pour des armes nucléaires, des missiles, des armes chimiques ou biologiques ou pour le nucléaire maritime, directement ou indirectement, sont strictement interdites. Les exportations ou réexportations vers des pays sous embargo des Etats-Unis, ou vers des entités figurant sur les listes d'exclusion d'exportation américaines, y compris, mais de manière non exclusive, la liste de personnes qui font objet d'un ordre de ne pas participer, d'une façon directe ou indirecte, aux exportations des produits ou des services qui sont régis par la législation américaine en matière de contrôle des exportations et la liste de ressortissants spécifiquement désignés, sont rigoureusement interdites.

LA DOCUMENTATION EST FOURNIE "EN L'ETAT" ET TOUTES AUTRES CONDITIONS, DECLARATIONS ET GARANTIES EXPRESSES OU TACITES SONT FORMELLEMENT EXCLUES, DANS LA MESURE AUTORISEE PAR LA LOI APPLICABLE, Y COMPRIS NOTAMMENT TOUTE GARANTIE IMPLICITE RELATIVE A LA QUALITE MARCHANDE, A L'APTITUDE A UNE UTILISATION PARTICULIERE OU A L'ABSENCE DE CONTREFAÇON.

Using NetApp Filers with Sun Java System Messaging Server Message Store

This technical notes describes how to configure NetApp storage appliances called *filers* with the Sun Java™ System Messaging Server 6 2005Q4 message store.

The component product affected by this technical note is:

- Sun Java System Messaging Server 6 2005Q4

This technical note contain the following sections:

- [“Technical Note Revision History”](#) on page 3
- [“About This Technical Note”](#) on page 4
- [“Planning Disk Capacity and Creating Volumes”](#) on page 4
- [“Configuring Messaging Server to Work with NetApp Filers”](#) on page 5
- [“Configuring the Message Store Database Snapshot”](#) on page 6
- [“Accessing Sun Resources Online”](#) on page 7

Technical Note Revision History

Date	Description of Changes
April 11, 2006	Re-issue of this technical note for Sun Java Enterprise System 2005Q4.
September 27, 2005	Corrected typo in release version of Messaging Server.
August 26, 2005	Modified “To Configure Messaging Server to Work with NetApp Filers” on page 6 with note to change startup script.
August 8, 2005	Noted that the message store file system on the NetApp filer can only be mounted by a single Messaging Server host.
July 29, 2005	Initial release of this technical note.

About This Technical Note

The Messaging Server message store contains the user mailboxes for a particular Messaging Server instance. The size of the message store increases as the number of mailboxes, folders, and log files increase.

As you add more users to your system, your disk storage requirements increase. Depending on the number of users your server supports, the message store might require one physical disk or multiple physical disks. Messaging Server enables you to add more stores as needed.

One approach to adding more stores is by using *storage appliances*. NetApp storage appliances called filers integrate seamlessly with Messaging Server in the message delivery environment. Filers are reliable and provide excellent performance, scalability, and data availability. Filers provide high-performance access to a single copy of the data, which is shared across all types of UNIX® clients through NFS.

The high-level steps to configure the NetApp filer for Messaging Server are:

1. Planning disk capacity
2. Creating volumes
3. Configuring Messaging Server to access the NetApp filer

In addition, you can use Snapshot™ to create periodic copies for data protection in the event of server failure or loss of data. You can use SnapRestore® to quickly restore mailboxes from the snapshots taken previously. You can dump the Snapshot copies to tape library using NDMP and store them offsite. For more streamlined disaster recovery (DR) purposes, you can send these Snapshot copies by using SnapMirror® to a NetApp NearStore® system located at a secondary site or data center.

Planning Disk Capacity and Creating Volumes

You need to create a volume (or volumes) on the filer before installing Messaging Server. To avoid disk I/O bottlenecks, configure the system with as many spindles as possible. Note that more spindles in a volume means longer RAID reconstruction time in case disk failure happens.

Note – The message store file system on the NetApp filer can only be mounted by one Messaging Server host. Sharing the same message store file system by more than one Messaging Server is not supported.

▼ To Create a Volume on a NetApp Data ONTAP 7G (Flexible Volume)

- ▶ The following commands create an aggregate (`aggr1`) and a flexible volume (`eng`).

- To create an aggregate called `aggr1` with 10 spindles (disks):

```
aggr create aggr1 10
```

- To create a 20 GB flexible volume called `eng`:

```
vol create eng aggr1 20g
```

▼ To Create a Volume on a NetApp Data ONTAP 6.5 and Older (Traditional Volume)

- 1 The following command creates a volume called `eng` with 10 spindles:

```
vol create eng 10
```

- 2 Export the volume(s) to Messaging Server through NFS.

Add the following entry to the system `/etc/exports` file on the filer (the server is `msg1`).

```
/vol/eng -root=msg1
```

- 3 Run the Data ONTAP `exportfs` command.

```
exportfs -a
```

- 4 Mount the volume `eng` from server `msg1`.

```
mount filer:/vol/eng /eng
```

- 5 Use `/eng` as the path to the message store.

Configuring Messaging Server to Work with NetApp Filers

After creating the volume, you need to configure Messaging Server so that it can function with the NetApp device.

▼ To Configure Messaging Server to Work with NetApp Filers

- 1 **Configure the temporary database directory on the Messaging Server host by setting the `store.dbtmpdir` parameter to a directory under `/tmp`.**

For example:

```
configutil -o store.dbtmpdir -v /tmp/mboxlist
```

- 2 **Move the `data/lock` directory to a local file system, for example, `/tmp`.**

- 3 **Create a symlink to the lock directory.**

For example:

```
mv /var/opt/SUNWmsgsr/lock /tmp/lock  
ln -s /tmp/lock /var/opt/SUNWmsgsr/lock
```

Note – If you do this, modify the startup script to recreate the `/tmp/lock` directory (with proper permissions) upon bootstrap. Otherwise, it won't exist and your sever will fail to start.

Configuring the Message Store Database Snapshot

After configuring Messaging Server to work with the NetApp filer, you need to specify a message store database snapshot interval and location.

A snapshot is a hot backup of the database and is used by `store` to restore a broken database transparently in a few minutes. This is much quicker than using `reconstruct`, which relies on the redundant information stored in other areas.

▼ To Configure Message Store Database Snapshot Location and Interval

- 1 **Plan the snapshot location and interval based on the following:**

- Try to allocate five times as much space for the database and snapshots combined.
- Reconfigure snapshots to run on a separate disk that is tuned to the system's needs.
- Having a snapshot interval which is too small will result in a frequent burden to the system and a greater chance that a problem in the database will be copied as a snapshot. Having a snapshot interval too large can create a situation where the database will hold the state it had back when the snapshot was taken.

- A snapshot interval of a day is recommended and a week or more of snapshots can be useful if a problem remains on the system for a number of days and you wish to go back to a period prior to point at which the problem existed.
- 2 Use `configutil` parameters to configure the snapshot location and interval, as described in “To Specify Message Store Database Snapshot Interval and Location” in *Sun Java System Messaging Server 6 2005Q4 Administration Guide*.

Further Reading

Refer to the following documentation for more information.

- To use Snapshot and SnapRestore, see the following document:
http://netapp.com/tech_library/ftp/3392.pdf
- To manage the message store and database snapshots, see Chapter 18, “Managing the Message Store,” in *Sun Java System Messaging Server 6 2005Q4 Administration Guide*.

Accessing Sun Resources Online

The docs.sun.comSM web site enables you to access Sun technical documentation online. You can browse the docs.sun.com archive or search for a specific book title or subject. Books are available as online files in PDF and HTML formats. Both formats are readable by assistive technologies for users with disabilities.

To access the following Sun resources, go to <http://www.sun.com>:

- Downloads of Sun products
- Services and solutions
- Support (including patches and updates)
- Training
- Research
- Communities (for example, Sun Developer Network)

Third-Party Web Site References

Third-party URLs are referenced in this document and provide additional, related information.

Note – Sun is not responsible for the availability of third-party web sites mentioned in this document. Sun does not endorse and is not responsible or liable for any content, advertising, products, or other materials that are available on or through such sites or resources. Sun will not be responsible or liable for any actual or alleged damage or loss caused or alleged to be caused by or in connection with use of or reliance on any such content, goods, or services that are available on or through such sites or resources.

Sun Welcomes Your Comments

Sun is interested in improving its documentation and welcomes your comments and suggestions. To share your comments, go to <http://docs.sun.com> and click Send Comments. In the online form, provide the full document title and part number. The part number is a 7-digit or 9-digit number that can be found on the book's title page or in the document's URL. For example, the part number of this book is 819-6504.