

# Integration with Siemens MagicStore PACS

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*HP Medical Archive  
Solution*

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## Contents

Preface .....	4
Purpose and Audience .....	4
Currency .....	4
Overview .....	4
MagicStore Integration .....	4
Integration Procedure .....	5
Assumptions .....	5
Integrate MagicStore PACS and the HP MAS System .....	6
NFS Integration .....	6
RSH Responder Installation .....	6
MagicStore Configuration .....	8
Verify the Integration .....	8
Disable the MagicStore Integration .....	10
Remove the RSH Responder .....	11

## Preface

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### Purpose and Audience

This guide describes how to integrate the HP Medical Archive solution (HP MAS) system with a Siemens MagicStore PACS. This guide is intended for anyone responsible for configuring an HP MAS deployment with a Siemens MagicStore PACS. If you are using this guide, it is assumed that you have a good understanding of the HP MAS software and of the integration procedures described in the *Administrator Guide*. A fairly high level of computer literacy is assumed, including knowledge of Linux/Unix.

### Currency

This edition of the *Integration with Siemens MagicStore PACS Technical Guide* is **revision 5.0**.

## Overview

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### MagicStore Integration

Siemens MagicStore treats the HP MAS system as a “Deep Archive” for long-term storage of closed exams. Once an exam has been marked as complete, MagicStore compiles all images in an exam into a single .tar archive file. MagicStore then copies this file to a Gateway Node using the Unix remote shell and remote copy commands.

Within the HP MAS system, each Primary Gateway Node runs a service that authenticates remote shell logins (rsh) and remote copy (rcp) commands from MagicStore.

The file system on the Gateway Node is mirrored to each Gateway Node server in the replication group, and the archive file is sent for permanent storage to a Storage Node.

Once a day, the Long Term Manager (LTM) on MagicStore queries the HP MAS to check if studies saved to the grid have been moved to permanent storage. If the acknowledgement program on the

Gateway Node confirms that the files have been archived, the LTM deletes the copy of the exam in short term storage on MagicStore.

MagicStore never moves, renames, or deletes a study that has been saved to the HP MAS system. If the study is updated by the MagicStore PACS after it has been saved to the HP MAS system, MagicStore creates a new archive .tar file with the same name as the original study, and writes the updated copy to the same location on the managed file system of the Gateway Node.

## Integration Procedure

To integrate a Siemens MagicStore PACS with the HP MAS system, you must install the custom “Siemens RSH Responder” package on each Gateway Node integrated with MagicStore. The Siemens RSH Responder enables remote shell connections and remote copies between MagicStore and the Gateway Node, and responds to queries from MagicStore as to the archive status of exams saved to the grid.

The complete integration procedure includes the following steps:

1. Run the `config_nfs.rb` script to capture information that the HP MAS system uses to authenticate the remote shell and remote copy commands from MagicStore. See [“NFS Integration” on page 6](#).
2. Install and start the Siemens RSH Responder program on each Gateway Node. See [“RSH Responder Installation” on page 6](#).
3. Configure MagicStore with authentication credentials for the Gateway Node server. See [“MagicStore Configuration” on page 8](#).
4. Verify that MagicStore can archive and retrieve from the grid. See [“Verify the Integration” on page 8](#).
5. Document the integration to MagicStore in the Customer Questionnaire.

### Assumptions

- MagicStore PACS is correctly installed
- MagicStore PACS is operating correctly.
- MagicStore PACS is being integrated with an existing HP MAS deployment.

### Prerequisites

Ensure that you have the following:

- printed copy of the Passwords.txt file
- printed copy of the Configuration.txt file
- list of NFS clients provided in the Customer Questionnaire
- HP MAS 8.0 Software installation CD
- HP MAS *Administrator Guide*
- these instructions

## Integrate MagicStore PACS and the HP MAS System

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### NFS Integration

The HP MAS system uses the information captured by the NFS client integration script to create the directory used by MagicStore to store files.

Follow the instructions in the *Administrator Guide* for integrating an NFS client with the Primary and Secondary Gateway Nodes using config\_nfs.rb.

The list of NFS clients in the Customer Questionnaire includes the IP address of the MagicStore server and the directory name of the MagicStore NFS file share.

In general, the directory name is the MagicStore server name. Enter the server name when prompted for the directory name by the config\_nfs.rb script. The MagicStore writes to this directory using the path /archive/<MagicStore\_Server\_Name>.

The next step is to install the RSH Responder as described below.

### RSH Responder Installation

The Siemens RSH Responder must be installed on each Gateway Node server in the replication group that is integrated with the Siemens MagicStore PACS.

To install the Siemens RSH Responder:

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**NOTE** Start with the Primary Gateway Node (the Main Gateway Node in a High Availability (HA) cluster).

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1. At the Gateway Node server, press **<Alt>+<F1>** to access a command shell.
2. Log in as **root** using the password listed in the Passwords.txt file.
3. Insert the HP MAS 8.0 Software CD.
4. To mount the CD and install the package containing the RSH Responder, enter:

```
mount /cdrom
/cdrom/swupdate/smart-cdrom-install.rb bycast-siemens
umount /cdrom
```

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**NOTE** If the Siemens RSH Responder has already been installed, an error message is displayed.

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5. Remove the CD from the server.
  6. Ensure that the FSG service is running:
    - a. Press **<Alt>+<F7>** to return to the Server Manager interface.
    - b. Verify that the File System Gateway (FSG) service has the status Running.
    - c. Press **<Alt>+<F1>** to return to the command shell session.
  7. If this is a HA cluster, repeat steps **1** to **6** for the Supplementary Gateway Node.
- 

**NOTE** You need to install the bycast-siemens package on both the Main and Supplementary Gateway Nodes prior to running the script fsgrshdinstall.rb. This is to ensure that heartbeat doesn't try to manage the service until it is installed on all Gateway Nodes in the cluster.

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8. Configure the FSG service on the Gateway Node to start and stop the RSH Responder. Enter:

```
cd /usr/local/fsg
./fsgrshdinstall.rb
```

---

**NOTE** If this is a HA cluster, run the script on both the Main and the Supplementary Gateway Node servers.

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9. Use the NMS to verify that the RSH Responder service is running.
    - a. Access the NMS web interface from a web browser:  
**https://<Admin Node\_IP\_address>**
-

- b. In the NMS, go to the **GN1-A-1 ► FSG ► Client Services**
- c. On the Overview tab, ensure that the Siemens RSH Responder service has a status of Running.



Figure 1: FSG — Client Services

**NOTE** Client file-sharing services do not run on the Standby FSG in a HAGC replication group. The services will appear as "Stopped" under the Standby FSG > Client Services.

10. Repeat steps 1 to 9 for each remaining Gateway Node in the replication group.

## MagicStore Configuration

The next step is to configure MagicStore with authentication credentials for the Gateway Node server.

1. Consult the Configuration.txt file for the value of the external IP address of the Primary Gateway Node server.
2. Set the archive host of MagicStore to be the external IP address of the Primary Gateway Node server.

Consult the MagicStore PACS documentation for details.

## Verify the Integration

Ensure that the MagicStore PACS can archive and retrieve files to the HP MAS system.



The following instructions give general guidance on how to test archiving and retrieval from within MagicStore. For complete information, consult your MagicStore documentation.

To test archiving from MagicStore:

1. From a MagicView workstation, create a test folder.
2. Sign off on the folder, and then send it to MagicStore.

MagicStore is commonly configured to archive files throughout the day. If your MagicStore is configured in this way, the test folder is immediately sent for archiving on HP MAS. Consult the MagicStore documentation for instructions on changing at what time MagicStore archives files.

3. On the MagicStore server that hosts the IMS database, locate the EFID of the most recently saved file. (The EFID is the unique identifier of the exam folder.) From a Solaris command shell, enter commands:

```
#: su ms
#: grep saved /home/sn_root/error/ltn.log | tail -1

2005.09.08 13:47:02.71:
001SM1DC732005090821013171 (45 obj, 14229 kB/s)
```

In this example, the EFID of the exam is  
001SM1DC732005090821013171.

4. From the command console of the Gateway Node, check to see if an archive file named for this EFID has been saved. Depending upon the configuration of MagicStore, it is saved to one of the following directories:
  - /fsg/<MagicStore\_Server\_Name>/YYYY/MM/DD/EFID.tar
  - or —
  - /fsg/<MagicStore\_Server\_Name>/YYYY/MM/EFID.tar
 where YYYY = year, MM=month, and DD=day that the exam was captured.

To test retrieval from MagicStore:

1. Force MagicStore to check that the folder was saved to archive: (For full instructions, consult your MagicStore documentation.)
  - a. From the service account of the MagicStore application, check that the folder you just saved is “Saved but not Confirmed”. Select **Utilities ► Ltm ► List unconfirmed folders**, and enter an appropriate date range. The EFID of the folder is listed. Exit the service application.



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## Remove the RSH Responder

Once you have disabled the NFS integration, follow these instructions to remove the RSH Responder. Once the RSH Responder has been removed, the integration between MagicStore and the HP MAS system is disabled.

To remove the RSH Responder:

1. Start with the Primary Gateway Node.
2. Ensure that the FSG service is running:
  - a. Go to the Server Manager console of the server.
  - b. Verify that the File System Gateway (FSG) service has the status Running.
3. Press **<Alt>+<F1>** to access a command shell.
4. Log in as **root** using the password listed in the Passwords.txt file.
5. Remove the Siemens RSH Responder from the FSG resources file.  
Enter:

```
cd /usr/local/fsg
./fsg_rshdremove.rb
```
6. Remove the package from the server. Enter:

```
smart remove bycast-siemens
```
7. Repeat steps **2** to **6** for each Gateway Node in the replication group.

## Re-enable the Integration

To re-enable the MagicStore PACS integration with the HP MAS system:

1. Re-enable the disabled file share on each Gateway Node.
  - a. Run config\_nfs.rb again.
  - b. Select the enable option and enter the MagicStore share name from the list of disabled shares.
2. Re-install the RSH Responder.

