EMC® Smarts®
IP Management Suite
7.0

Migration Guide

P/N 300-004-282
REV A01

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Preface

This document provides instructions for migrating EMC Smarts IP Management Suite products on Solaris, HP-UX, Linux, and Windows platforms to version 7.0 from previous versions.

Audience for this guide

This guide is intended for administrators and integrators who are responsible for installing the IP Management Suite.

Related documentation

In addition to this document, EMC Corporation provides a Help system for command line programs as well as product documentation.

Help for command line programs

Descriptions of command line programs are available as HTML pages. The index.html file, which provides an index to the various commands, is located in the BASEDIR/smarts/doc/html/usage directory.

EMC Smarts documentation

Readers of this guide may find the following related documentation helpful. It can be found in the BASEDIR/smarts/doc/pdf directory.

Note: These documents are updated periodically. Electronic versions of the updated manuals are available on the Powerlink website: `http://Powerlink.EMC.com`.

- *EMC Smarts Documentation Catalog*
- *EMC Smarts System Administration Guide*
- *EMC Smarts ICIM Reference*
- *EMC Smarts Common Information Model Infrastructure Models Chart*
- *EMC Smarts Common Information Model Application/Business Models Chart*
- *EMC Smarts ASL Reference Guide*
- *EMC Smarts Perl Reference Guide*

EMC Smarts IP Management Suite documentation

The following EMC Smarts documents are relevant to users of the IP Management product suite:

- *EMC Smarts IP Management Suite Installation Guide*

- *EMC Smarts IP Management Suite Migration Guide*
- *EMC Smarts IP Management Suite Deployment Guide*
- *EMC Smarts IP Management Suite Discovery Guide*
- *EMC Smarts IP Management Suite Configuration Guide*
- *EMC Smarts IP Availability Manager User's Guide*
- *EMC Smarts IP Performance Manager and Server Performance Manager User's Guide*
- *EMC Smarts IP Adapters User's Guide*
- *EMC Smarts IP Availability Manager Extension for IPv6 User's Guide*
- *EMC Smarts Quick Start Guide*

Refer to the *EMC Smarts Documentation Catalog* for documentation resources provided with other EMC Smarts product suites.

Suggestions for searching PDF files

You may search across multiple PDF files using the Adobe Acrobat Reader software (available as a free file download from http://www.adobe.com).

1. If the documentation is not accessible to all users of the EMC Smarts product suite, copy the contents of the ***BASEDIR****/smarts/doc/pdf* directory to a central location, such as a shared drive on your LAN, that operators and others may view.
2. To search throughout the documentation library, open the Acrobat Reader software.
   - Choose *Edit* > *Search*, and enter a word or phrase.
   - In the *Where would you like to search* option, select *All PDF Documents in* and enter the path name of the location where the PDF documents reside.

If you have more than one EMC Smarts product suite installed, you can set up cross-product document searches by copying files from the ***BASEDIR****/smarts/doc/pdf* directory for each product suite into this common documentation directory path.

Conventions used in this guide

EMC uses the following conventions for notes and cautions.

Note: A note presents information that is important, but not hazard-related.

IMPORTANT

An important notice contains information essential to the operation of the software.

CAUTION

A caution contains information essential to avoid data loss or damage to the system or equipment. The caution may apply to hardware or software.

Typographical conventions

EMC uses the following conventions in this guide:

Normal font	In running text: • Interface elements (for example, button names, dialog box names) outside of procedures • Items that the user selects outside of procedures • Java classes and interface names • Names of resources, attributes, pools, Boolean expressions, buttons, DQL statements, keywords, clauses, environment variables, filenames, functions, menu names, utilities • Pathnames, URLs, filenames, directory names, computer names, links, groups, service keys, file systems, environment variables (for example, command line and text), notifications
Bold	In procedures: • Names of dialog boxes, buttons, icons, menus, fields, and maps • Selections from the user interface, including menu items, and field entries • Key names • Window names • Code examples • Commands • User interface tabs
Italic	Used for: • Full publications titles referenced in text In procedures: • Directory paths • Filenames • Scripts • Important/unique words • URLs • Utilities • Variables
`Courier`	Used for: • System output • User entry
< >	Angle brackets used to enclose parameter or variable values supplied by the user.
[ ]	Square brackets used to indicate optional values.
|	Vertical bar used to indicate alternate selections. The bar means “or”.
{ }	Braces used to indicate content that you must specify (that is, x or y or z).
...	Ellipses used to indicate nonessential information omitted from the example.
%	Used to indicate a C shell prompt.
#	Used to indicate a C shell superuser prompt.
▼▲	Used to indicate a command is wrapped over one or more lines. The command must be typed as one line.

Pathname conventions

Directory pathnames are shown with forward slashes (/). Users of the Windows operating systems should substitute back slashes (\) for forward slashes.

Graphical conventions

If there are figures illustrating consoles in this document, they represent the consoles as they appear in Windows. Under UNIX, the consoles appear with slight differences.

For example, in views that display items in a tree hierarchy such as the Topology Browser, a plus sign displays for Windows and an open circle displays for UNIX.

Smarts Manager

Unless otherwise specified, the term Smarts Manager is used to refer to EMC Smarts programs such as Domain Managers, Global Managers, and adapters.

EMC Smarts IP Management Suite installation directory

In this document, the term ***BASEDIR*** represents the location where EMC Smarts software is installed.

- For UNIX, this location is: /opt/InCharge*<n>*/*<productsuite>*.
- For Windows, this location is: C:\InCharge*<n>**<productsuite>*.

The <n> represents the EMC Smarts software platform version number. The <productsuite> represents the EMC Smarts product suite to which the product belongs. For example, on UNIX operating systems, EMC Smarts IP Availability Manager is, by default, installed to: /opt/InCharge7/IP/smarts. On Windows operating systems, this product is, by default, installed to: C:\InCharge7\IP\smarts. This location is referred to as BASEDIR/smarts.

Optionally, you can specify the root of BASEDIR to be something other than /opt/InCharge7 (on UNIX) or C:\InCharge7 (on Windows), but you cannot change the <productsuite> location under the root directory.

For more information about the directory structure of EMC Smarts software, refer to the *EMC Smarts System Administration Guide*.

EMC Smarts IP Management Suite products

The EMC Smarts IP Management Suite includes the following products:

- EMC Smarts IP Availability Manager
- EMC Smarts IP Performance Manager
- EMC Smarts IP Discovery Manager
- EMC Smarts Adapter for HP OpenView NNM
- EMC Smarts Adapter for IBM/Tivoli NetView

Where to get help

EMC support, product, and licensing information can be obtained as follows.

Product information — For documentation, release notes, software updates, or for information about EMC products, licensing, and service, go to the EMC Powerlink™ website (registration required) at:

http://Powerlink.EMC.com

Technical support — For technical support, go to EMC Customer Service on Powerlink. To open a service request through Powerlink, you must have a valid support agreement. Please contact your EMC sales representative for details about obtaining a valid support agreement or to answer any questions about your account.

Sales and customer service contacts — For the list of EMC sales locations, please access the EMC home page at:

http://EMC.com/contact

1

Overview

This chapter describes the EMC Smarts IP Management Suite products, compatibility with other EMC Smarts products, and migration tasks.

- Suite products 1-2

The product suite is distributed on a CD-ROM and is installed in the */IP* subdirectory under the InCharge7 root directory.

Suite products

This section describes the suite products and their compatibility with other EMC Smarts products.

EMC Smarts IP Management Suite

The suite contains the following:

- *EMC Smarts IP Availability Manager:* The IP Availability Manager product diagnoses connectivity failures, including analysis of root causes, in IP networks.
- *EMC Smarts IP Performance Manager:* The IP Performance Manager product diagnoses faults, including device- and performance-centric analysis of root causes, in IP networks.
- *EMC Smarts IP Discovery Manager:* The IP Discovery Manager performs layer-3 and layer-2 connectivity and device containment discovery for IP networks. It also discovers information about a system's resources.
- *EMC Smarts Adapter for HP OpenView NNM:* The Adapter for HP OpenView NNM product imports topology and traps from HP OpenView NNM.
- *EMC Smarts Adapter for IBM/Tivoli NetView:* The Adapter for IBM/Tivoli NetView product imports topology and traps from IBM/Tivoli NetView.

2

Performing Migration Tasks

This chapter describes steps for migrating to version 7.0 of the EMC Smarts IP Management Suite from a previous version.

- Overview of migration tasks 2-2
- Perform the migration procedure 2-4

Overview of migration tasks

The approved operating systems for IP Management Suite 7.0 are:

- Solaris 8, 9, or 10
- Red Hat Enterprise Linux AS, Release 3 or 4
- Windows 2003 Enterprise Edition, SP1 or R2
- HP-UX 11.11.

These procedures apply to three different migration scenarios shown in Table 2-1:

Table 2-1 Migration Scenarios

Scenario	Example
"Migration to a different server with the same operating system" on page 2-4	Migrating IP Management Suite 6.2.3 or 6.5.3 on one server to IP Management Suite 7.0 on a different server running the same operating system.
"Migration to the same server with the same operating system" on page 2-7	Migrating IP Management Suite 6.2.3 or 6.5.3 on a server to IP Management Suite 7.0 on the same server running the same operating system.
"Migration to a different server with a different operating system" on page 2-11	Migrating IP Management Suite 6.2.3 or 6.5.3 on one server to IP Management Suite 7.0 on a different server running a different operating system.

If you do not have a previous version or if you chose to start with version 7.0 and discard any previous version settings, configurations, or repositories, you can use procedures found in the *EMC Smarts IP Management Suite Installation Guide*.

Operating systems supported for migration

Migration requires that you consider any customizations made in the existing installation. Customizations such as modified configuration files and custom adapters need to be evaluated in order to complete the migration. If you received custom patches for releases earlier than 7.0, see "Where to get help" on page -viii, for instructions on contacting technical support for assistance in migrating them.

IP Management Suite 7.0 can be migrated from the following older versions:

- EMC Smarts IP Management Suite 6.2 SP3
- EMC Smarts IP Management Suite 6.5 SP3

If your current IP Management Suite installation is not at either of these version levels, you must first install the appropriate SmartPack to bring it to either of these levels before starting the 7.0 installation.

Determining current version of software

To determine your existing application and platform version level, perform the following:

1. From the IP Management Suite *BASEDIR/smarts/bin/*, enter the following command:

   ```
   sm_server --version
   ```

2. EMC Smarts displays the following:

   V<*Number*> <*Date*> <*Build*>
   Copyright <*Date*> EMC Corporation

Note: Product versions vary and do not always match the software platform version number. For example, if you select *About* from the *Help* menu in the Global Console, you may see a different number.

Perform the migration procedure

The following migration procedure is divided into the following scenarios:

- "Migration to a different server with the same operating system" on page 2-4
- "Migration to the same server with the same operating system" on page 2-7
- "Migration to a different server with a different operating system" on page 2-11

Before starting any of the processes, read the prerequisites of that scenario to make sure you comply with that scenario's conditions and results.

Migration to a different server with the same operating system

Prerequisites

To perform this type of migration, the following conditions must be met:

- You are migrating from version 6.2.3 or 6.5.3 IP Management Suite. If you have any other version, you must install the SmartPack to bring you to one of these versions.
- If you use secret phrase encryption, you must know the secret phrase used for encryption in your EMC Smarts deployment. The secret phrase is part of the EMC Smarts security feature.
- If you installed any Rolling Patches after the most recent SmartPack, you must have available the Rolling Patch readme file that contains the file names that were changed by the Rolling Patch.
- If Professional Services created or modified any files, you must identify the files that were modified and decide if they must be migrated to the 7.0 release.
- If you are migrating from a 6.x installation on Windows 2000, you must either migrate to a Windows 2003 Enterprise Edition, SP1 or R2 operating system or a UNIX (Solaris, HP-UX, or Linux) operating system.

Migration Process

1. Install the 7.0 IP Management Suite. See *EMC Smarts IP Management Suite Installation Guide* for this process.

   Note: During the installation process, you are asked if you want to install services. It is strongly suggested that you do. If you do not install services at this point, you must install them manually later in the process (Step 6 on page 2-7.)

2. At the conclusion of the installation process, if you have changed your secret phrase from the default, run the *sm_rebond* utility in the 7.0 installation of the IP Management Suite to change the secret phrase used for encryption to match the one used in the rest of your deployment.

   a. From a command line, go to:

      c:\InCharge7\IP\smarts\bin (Windows)
      or
      /opt/InCharge7/IP/smarts/bin (UNIX)

   b. Enter the following command:

      ```
      sm_rebond --basedir=InCharge7\IP\smarts
      ```

   Note: This path assumes you used the default installation path. If you initially installed the application to a different path, use that path.

3. Follow the instructions for changing the secret phrase.

   If you need to know more about this process, see the *EMC Smarts System Administration Guide*.

WARNING

If you do not know your secret phrase, contact EMC Customer Service and resolve this before continuing.

Note: In addition to changing the secret phrase, this utility is supposed to stop and restart any services running in the suite for which you changed the secret phrase.

4. Reconcile your file changes.

   The following steps provide information on transferring modified files from the 6.2.3 or 6.5.3 installation to the new 7.0 installation.

   Note: This process only applies to modified files under the 6.x */local* hierarchy.

   - Files that have not changed between the 6.2.3 or 6.5.3 and the 7.0 IP Management Suite releases can be safely copied to the 7.0 installation.
   - Files that have changed between the 6.2.3 or 6.5.3 and the 7.0 IP Management Suite releases, and that have been modified (under *BASEDIR/smarts/local*), must be compared to determine if the changes need to be made to the 7.0 versions of the file.
   - 6.x files modified by 6.x Rolling Patches released after the 7.0 IP Management Suite release must be compared to determine if the changes need to be made to the 7.0 version of the file.

   a. Modified versions of the configuration files.

      The files listed below can be copied from the *BASEDIR/smarts/local* directory of a 6.2.3 or 6.5.3 IP Management Suite installation to the *BASEDIR/smarts/local* directory of the 7.0 installation.

      – conf/brokerConnect.conf
      – conf/clientConnect.conf
      – conf/serverConnect.conf
      – conf/seedfile
      – conf/discovery/partition.conf
      – conf/discovery/user-defined-connections.conf
      – conf/trapd/trapd.conf
      – conf/OV/server.conf
      – conf/NV/server.conf

      In addition, you can safely migrate any of the following:

      – Saved consoles
      – Saved maps
      – Custom map background images
      – ASL hook scripts
      – ASL filters
      – Tool scripts (client, server, and automatic)

b. User-modifiable files under *BASEDIR/smarts/local* that changed between the 6.x and 7.0 releases of IP Management Suite.

Compare 6.x and 7.0 user-modifiable files to identify differences that may affect operation of the suite.

– Files that changed between IP Management Suite 6.2.3 and 6.5.3.

The following are user-modifiable files that changed between IP Management Suite 6.2.3 and 6.5.3. When reconciling these files, you should compare the differences between the 6.2.3 and 6.5.3 versions to verify that there were no changes to these files:

- conf/discovery/discovery.conf

- conf/discovery/name-resolver.conf

- conf/discovery/oid2type_Field.conf

- conf/discovery/oid2type_Misc.conf

- conf/discovery/settings.conf

- conf/discovery/custom/custom-start-fulldscv.asl

- conf/discovery/custom/custom-start-system.asl

- conf/discovery/custom/custom-end-system.asl

- conf/discovery/custom/custom-start-post.asl

- conf/discovery/custom/custom-end-post.asl

– The are no user-modifiable files that changed between IP Management Suite 6.5.3 and 7.0.

Note: Many files related to the configuration of IP Management Suite have changed from previous releases and only the versions included with 7.0 should be used.

c. Files that were modified by a Rolling Patch

Files applied by a Rolling Patch after applying a SmartPack are installed in the */local* directory. However, the IP Management Suite 7.0 release has incorporated the changes in all previous Rolling Patches. Therefore, you do not need to migrate these files from the 6.x */local* directories unless you customized them after applying the Rolling Patch.

Note: You cannot copy the changed file from 6.x directory. You can only make the change through the *sm_edit* utility on the 7.0 version of each file.

If a Rolling Patch was installed after the last 6.x SmartPack, you need to identify the files that were modified by that Rolling Patch. These files are identified in each Rolling Patch Readme file in a way similar to the following example:

```
Changed Components:
rules/ics/show-impact.sl
actions/server/show-impact.cmd (Windows
actions/server/show-impact.sh (Unix)
conf/ics/ics-default.xml
```

The applicable files were installed by a Rolling Patch after the 6.2.3 or 6.5.3 SmartPack was applied.

5. Migrate your 6.x license file as explained in "License Migration Procedure" on page E-1.
6. If you did not install services during the installation, you need to install them at this point. Refer to Appendix A, page A-1 for instructions on how to do this.
7. If you are installing the 7.0 Broker during the IP Management Suite installation to a location different than the 6.x broker, for each server registered with the Broker, you need to use the *sm_edit* utility to edit the *SM_BROKER_DEFAULT* variable in the *runcmd_env.sh* file in each of those server's *BASEDIR/smarts/local/conf* directory with the host name (and port) of the machine running the broker.

   Note: If the Broker host is resolved using a DNS name, this step is not necessary.

8. Start the IP Management Suite. See "Start EMC Smarts products" on page 6-3.
9. When you are satisfied that the IP Management Suite 7.0 is running and all services are functioning properly, you should uninstall version 6.x of the IP Management Suite.

   See the uninstallation process in the *EMC Smarts IP Management Suite Installation Guide*

Migration to the same server with the same operating system

Prerequisites

To perform this type of migration, the following conditions must be met:

- You are migrating from version 6.2.3 or 6.5.3 IP Management Suite. If you have any other version, you must install the SmartPack to bring you to one of these versions.
- You cannot install version 7.0 of the IP Management Suite in the same directory as version 6.x of the IP Management Suite.
- If you use secret phrase encryption, you must know the secret phrase used for encryption in your EMC Smarts deployment. The secret phrase is part of the EMC Smarts security feature.
- If you installed any Rolling Patches after the most recent SmartPack, you must have available the Rolling Patch readme file that contains the file names that were changed by the Rolling Patch.
- If Professional Services created or modified any files, you must identify the files that were modified and decide if they can by migrated to the 7.0 release.
- You need to consider the impact on the system if you reboot your IP Management Suite server during the migration process. This applies only if you are running Windows 2003 Enterprise Edition, SP1 or R2 for your server's operating system.

Migration Process

Note: If services are running, we strongly suggest that you do not shut them down.

1. Install the 7.0 IP Management Suite. See *EMC Smarts IP Management Suite Installation Guide* for this process.

   Note: On Windows 2003 Enterprise Edition, SP1 and R2, EMC Smarts products do not install properly and EMC Smarts services do not start properly when installed to a directory path containing spaces. Therefore, the directory names used in *BASEDIR* cannot contain spaces.

Note: During the installation process, you will be asked if you want to install services. It is strongly suggested that you do not. You will be instructed to install services manually later in the process (Step 9 on page 2-11).

Note: Repository files (*<domain_name>.rps*) are copied from the previous IP Management Suite installation to a 7.0 IP Management Suite installation during the installation process. (Repository files are located in the *BASEDIR/smarts/local/repos/icf* directory.)

2. At the conclusion of the installation process, if you have changed your secret phrase from the default, run the *sm_rebond* utility in the 7.0 installation of the IP Management Suite to change the secret phrase used for encryption to match the one used in the rest of your deployment.

   a. From a command line, go to:

      c:\InCharge7\IP\smarts\bin (Windows)
      or
      /opt/InCharge7/IP/smarts/bin (UNIX)

   b. Enter the following command:

      ```
      sm_rebond --basedir=InCharge7\IP\smarts
      ```

Note: This path assumes you used the default installation path. If you initially installed the application to a different path, use that path.

3. Follow the instructions for changing the secret phrase.

   If you need to know more about this process, see the *EMC Smarts System Administration Guide*.

WARNING

If you do not know your secret phrase, contact EMC Customer Service and resolve this before continuing.

Note: In addition to changing the secret phrase, this utility is supposed to stop and restart any services running in the suite for which you changed the secret phrase.

4. Reconcile your file changes

   The following steps provide information on transferring modified files from the 6.2.3 or 6.5.3 installation to the new 7.0 installation.

Note: This process only applies to modified files under the 6.x */local* hierarchy.

- Files that have not changed between the 6.2.3 or 6.5.3 and the 7.0 IP Management Suite releases that can be safely copied to the 7.0 installation.
- Files that have changed between the 6.2.3 or 6.5.3 and the 7.0 IP Management Suite releases, and that have been modified (under *BASEDIR/smarts/local*) must be compared to determine if the changes need to made to the 7.0 versions of the file.
- 6.x files modified by 6.x Rolling Patches released after the 7.0 IP Management Suite release must be compared to determine if the changes need to be made to the 7.0 version of the file.

a. Modified versions of the configuration files.

The files listed below can be copied from the *BASEDIR/smarts/local* directory of a 6.2.3 or 6.5.3 IP Management Suite installation to the *BASEDIR/smarts/local* directory of the 7.0 installation.

- conf/brokerConnect.conf
- conf/clientConnect.conf
- conf/serverConnect.conf
- conf/seedfile
- conf/discovery/partition.conf
- conf/discovery/user-defined-connections.conf
- conf/trapd/trapd.conf
- conf/OV/server.conf
- conf/NV/server.conf

In addition, you can safely migrate any of the following:

- Saved consoles
- Saved maps
- Custom map background images
- ASL hook scripts
- ASL filters
- Tool scripts (client, server, and automatic)

b. User-modifiable files under *BASEDIR/smarts/local* that changed between the 6.x and 7.0 releases of IP Management Suite.

Compare 6.x and 7.0 user-modifiable files to identify differences that may affect operation of the suite.

- Files that changed between IP Management Suite 6.2.3 and 6.5.3.

  The following are user-modifiable files that changed between IP Management Suite 6.2.3 and 7.0. When reconciling these files, you should compare the differences between 6.2.3 and 6.5.3 versions to verify that there were no changes to these files:

  - conf/discovery/discovery.conf

  - conf/discovery/name-resolver.conf

  - conf/discovery/oid2type_Field.conf

  - conf/discovery/oid2type_Misc.conf

  - conf/discovery/settings.conf

  - conf/discovery/custom/custom-start-fulldscv.asl

  - conf/discovery/custom/custom-start-system.asl

  - conf/discovery/custom/custom-end-system.asl

  - conf/discovery/custom/custom-start-post.asl

  - conf/discovery/custom/custom-end-post.asl

- The are no user-modifiable files that changed between IP Management Suite 6.5.3 and 7.0.

Note: Many files related to the configuration of IP Management Suite have changed from previous releases and only the versions included with 7.0 should be used.

c. Files that were modified by a Rolling Patch.

Files applied by a Rolling Patch after applying a SmartPack are installed in the */local* directory. However, the IP Management Suite 7.0 release has incorporated the changes in all previous Rolling Patches. Therefore, you do not need to migrate these files from the 6.x */local* directories unless you customized them after applying the Rolling Patch.

Note: You cannot copy the changed file from 6.x directory. You can only make the change through the *sm_edit* utility on the 7.0 version of each file.

If a Rolling Patch was installed after the last 6.x SmartPack, you need to identify the files that were modified by that Rolling Patch. These files are identified in each Rolling Patch Readme file in a way similar to the following example:

```
Changed Components:
rules/ics/show-impact.sl
actions/server/show-impact.cmd (Windows
actions/server/show-impact.sh (Unix)
conf/ics/ics-default.xml
```

The applicable files were installed by a Rolling Patch after the 6.2.3 or 6.5.3 SmartPack was applied.

5. Migrate your 6.x license file as explained in "License Migration Procedure" on page E-1.

6. Run *BASEDIR/smarts/bin/sm_service.exe show --cmdline* from your 6.x server to get a listing of all installed services. Save the output.

   Example:

   ```
   C:\InCharge6\IP\smarts\bin\sm_service.exe show --cmdline
   ```

   For each service you have installed, you will see output similar to the following:

   ```
   sm_service install --force --name=ic-broker
   "--description=SMARTS InCharge Broker"
   --env=SM_CLIENTCONNECT=brokerConnect.conf --startmode=runonce
   C:\InCharge6\SAM\smarts\bin\brstart.exe  "--port=426"
   "--restore=C:\InCharge6\SAM/smarts/local/repos
   /broker/broker.rps" "--output"
   ```

   where `ic-broker` is the name of the service that you are interested in.

7. Remove all 6.x services that are going to be replaced by IP Management Suite 7.0 using the *BASEDIR/smarts/bin/sm_service remove <service name>* command where service name was listed in Step 6.

8. If you are installing on Windows 2003 Enterprise Edition SP1 or R2, reboot to remove all traces of the services that you uninstalled in Step 7, then go to Step 9.

   For UNIX, Linux, or HP-UX, you also need to point the IP Management Suite to the new 7.0 services that will be installed in Step 9. Do this by making a copy of */etc/init.d/ic-serviced* (*/sbin/init.d/ic-serviced* for HP-UX), change the *SMHOME* variable to point to the 7.0 services, and place it in the 7.0 */etc/init.d/* directory (*/sbin/init.d* for HP-UX).

9. Since you did not install services during the installation, you need to install the services you want manually. Refer to Appendix A, page A-1 for instructions on how to do this.
10. If you are installing the 7.0 Broker during the IP Management Suite installation to a location different than the 6.x broker, for each server registered with the Broker, you need to use the *sm_edit* utility to edit the *SM_BROKER_DEFAULT* variable in the *runcmd_env.sh* file in each of those server's *BASEDIR/smarts/local/conf* directory with the host name (and port) of the machine running the broker.

Note: If the Broker host is resolved using a DNS name, this step is not necessary.

11. Start the IP Management Suite. See "Start EMC Smarts products" on page 6-3.
12. When you are satisfied that the IP Management Suite 7.0 is running and all services are functioning properly, you should uninstall version 6.x of the IP Management Suite from the *BASEDIR* of the server where 6.x IP Management Suite was installed.

CAUTION

For Windows only, if you use the Windows "Add/Remove Programs" capability at this point, you will be incorrectly uninstalling version 7.0 instead of 6.x. Therefore, you must uninstall the 6.x application using the uninstaller.exe from the 6.x *BASEDIR***.**

This will prevent conflicts if the 6.x version of IP Management Suite is started up by mistake while 7.0 is running. See the process on "Uninstalling the IP Management Suite" on page 5-1 in the *EMC Smarts IP Management Suite Installation Guide*.

Note: Uninstall will display errors if services were installed by the installation program when they installed 6.x, but were removed the services by hand in Step 7 since the uninstal process will try to remove them and they won't be there.

Migration to a different server with a different operating system

Prerequisites

To perform this type of migration, the following conditions must be met:

- You are migrating from version 6.2.3 or 6.5.3 IP Management Suite. If you have any other version, you must install the SmartPack to bring you to one of these versions.
- If you use secret phrase encryption, you must know the secret phrase used for encryption in your EMC Smarts deployment. The secret phrase is part of the EMC Smarts security feature.
- If you installed any Rolling Patches after the most recent SmartPack, you must have available the Rolling Patch readme file that contains the file names that were changed by the Rolling Patch.
- If Professional Services created or modified any files, you must identify the files that were modified and decide if they can by migrated to the 7.0 release.
- If you are migrating from a 6.x installation on Windows 2000, you must either migrate to a Windows 2003 Enterprise Edition, SP1 or R2 operating system or a UNIX (Solaris, HP-UX, or Linux) operating system.

Migration Process

1. Install the 7.0 IP Management Suite. See *EMC Smarts IP Management Suite Installation Guide* for this process.

   Note: During the installation process, you will be asked if you want to install services. It is strongly suggested that you do. If you do not install services at this point, you must install them manually later in the process (Step 7 on page 2-14).

2. At the conclusion of the installation process, if you have changed your secret phrase from the default, run the *sm_rebond* utility in the 7.0 installation of the IP Management Suite to change the secret phrase used for encryption to match the one used in the rest of your deployment.

   a. From a command line, go to:

      c:\InCharge7\IP\smarts\bin (Windows)
      or
      /opt/InCharge7/IP/smarts/bin (UNIX)

   b. Enter the following command:

      ```
      sm_rebond --basedir=InCharge7\IP\smarts
      ```

   Note: This path assumes you used the default installation path. If you initially installed the application to a different path, use that path.

3. Follow the instructions for changing the secret phrase.

   If you need to know more about this process, see the *EMC Smarts System Administration Guide*.

   WARNING

   If you do not know your secret phrase, contact EMC Customer Service and resolve this before continuing.

   Note: In addition to changing the secret phrase, this utility is supposed to stop and restart any services running in the suite for which you changed the secret phrase.

4. Reconcile your file changes

   The following steps provide information on transferring modified files from the 6.2.3 or 6.5.3 installation to the new 7.0 installation.

   Note: This process only applies to modified files under the 6.x */local* hierarchy.

   - Files that have not changed between the 6.2.3 or 6.5.3 and the 7.0 IP Management Suite releases can be safely copied to the 7.0 installation.
   - Files that have changed between the 6.2.3 or 6.5.3 and the 7.0 IP Management Suite releases, and that have been modified (under *BASEDIR/smarts/local*) must be compared to determine if the changes need to made to the 7.0 versions of the file.
   - 6.x files modified by 6.x Rolling Patches released after the 7.0 IP Management Suite release must be compared to determine if the changes need to be made to the 7.0 version of the file.

   a. Modified versions of the configuration files.

The files listed below can be copied from the *BASEDIR/smarts/local* directory of a 6.2.3 or 6.5.3 IP Management Suite installation to the *BASEDIR/smarts/local* directory of the 7.0 installation.

- conf/brokerConnect.conf
- conf/clientConnect.conf
- conf/serverConnect.conf
- conf/seedfile
- conf/discovery/partition.conf
- conf/discovery/user-defined-connections.conf
- conf/trapd/trapd.conf
- conf/OV/server.conf
- conf/NV/server.conf

In addition, you can safely migrate any of the following:

- Saved consoles
- Saved maps
- Custom map background images
- ASL hook scripts
- ASL filters
- Tool scripts (client, server, and automatic)

b. User-modifiable files under *BASEDIR/smarts/local* that changed between the 6.x and 7.0 releases of IP Management Suite.

Compare 6.x and 7.0 user-modifiable files to identify differences that may affect operation of the suite.

- Files that changed between IP Management Suite 6.2.3 and 6.5.3.

  The following are user-modifiable files that changed between IP Management Suite 6.2.3 and 6.5.3:

  - conf/discovery/discovery.conf

  - conf/discovery/name-resolver.conf

  - conf/discovery/oid2type_Field.conf

  - conf/discovery/oid2type_Misc.conf

  - conf/discovery/settings.conf

  - conf/discovery/custom/custom-start-fulldscv.asl

  - conf/discovery/custom/custom-start-system.asl

  - conf/discovery/custom/custom-end-system.asl

  - conf/discovery/custom/custom-start-post.asl

  - conf/discovery/custom/custom-end-post.asl

- The are no user-modifiable files that changed between IP Management Suite 6.5.3 and 7.0.

Note: Many files related to the configuration of IP Management Suite have changed from previous releases and only the versions included with 7.0 should be used.

c. Files that were modified by a Rolling Patch

Files applied by a Rolling Patch after applying a SmartPack are installed in the */local* directory. However, the IP Management Suite 7.0 release has incorporated the changes in all previous Rolling Patches. Therefore, you do not need to migrate these files from the 6.x */local* directories unless you customized them after applying the Rolling Patch.

Note: You cannot copy the changed file from 6.x directory. You can only make the change through the *sm_edit* utility on the 7.0 version of each file.

If a Rolling Patch was installed after the last SmartPack, you need to identify the files that were modified by that Rolling Patch. These files are identified in each Rolling Patch Readme file in a way similar to the following example:

```
Changed Components:
rules/ics/show-impact.sl
actions/server/show-impact.cmd (Windows
actions/server/show-impact.sh (Unix)
conf/ics/ics-default.xml
```

The applicable files were installed by a Rolling Patch after the 6.2.3 or 6.5.3 SmartPack was applied.

5. After you have addressed the reconciliation process in step Step 4, you need to determine if you are changing your operating system from Windows to UNIX or from UNIX to Windows as part of this migration. If you are, run the UNIX command line utility *dos2unix* or *unix2dos* against all the files that were involved in the reconciliation process. For more information, see your UNIX MAN page on these UNIX utilities.
6. Migrate your 6.x license file as explained in "License Migration Procedure" on page E-1.
7. If you did not install services during the installation, you need to install them at this point. Refer to Appendix A, page A-1 for instructions on how to do this.
8. If you are installing the 7.0 Broker during the IP Management Suite installation to a location different than the 6.x broker, for each server registered with the Broker, you need to use the *sm_edit* utility to edit the *SM_BROKER_DEFAULT* variable in the *runcmd_env.sh* file in each of those server's *BASEDIR/smarts/local/conf* directory with the host name (and port) of the machine running the broker.

   Note: If the Broker host is resolved using a DNS name, this step is not necessary.

9. Start the IP Management Suite. See "Start EMC Smarts products" on page 6-3.
10. When you are satisfied that the IP Management Suite 7.0 is running and all services are functioning properly, you should uninstall version 6.x of the IP Management Suite from the *BASEDIR* of the server where 6.x IP Management Suite was installed. This will prevent conflicts if the 6.x version of IP Management Suite is started up by mistake while 7.0 is running. See the uninstallation process in the *EMC Smarts IP Management Suite Installation Guide*

3

Verifying the Migration

This chapter describes tasks for confirming proper migration of the EMC Smarts IP Management Suite. The tasks include the following:

- Start EMC Smarts products 3-2
- Start EMC Smarts services 3-3
- Verify the EMC Smarts version level 3-4
- Verify the EMC Smarts product status 3-5
- Where to go next 3-6

Start EMC Smarts products

EMC Smarts recommends installing managers and adapters as services. If you installed the products as services, you must start them for the first time. These services start automatically upon system reboot, but the following sections describe additional methods to start EMC Smarts services.

If you did not install the products as services, you can install them now.

For information on manually installing products as services, see "Manually Installing Services" on page A-1.

For information on starting services, see the procedures "Start EMC Smarts services" on page 3-3.

For more information, see the *EMC Smarts System Administration Guide*.

Start EMC Smarts services

The following sections describe methods for starting EMC Smarts services.

Starting services on UNIX

Starting all EMC Smarts services on UNIX

Use the ic-serviced command to check the status of the service daemon by issuing the command:

```
# <system-dependent path>/ic-serviced status
```

If the sm_serviced process does not respond, the process is not running. Start the service by issuing the command:

```
# <system-dependent path>/ic-serviced start
```

The script is stored in a system-specific location:

- Solaris: /etc/init.d
- Linux: /etc/init.d
- HP-UX: /sbin/init.d

Starting individual EMC Smarts services on UNIX systems

To start or stop a service manually, use the sm_service utility. Issue the command:

▼
```
# BASEDIR/smarts/bin/sm_service start <service_name> [<service_name>
  ...]
```
▲

where <*service_name*> is each service you need to start.

Example: Starting a Service for the IP Availability Manager

```
# BASEDIR/smarts/bin/sm_service start ic-am-server
```

Verify the EMC Smarts version level

To determine your existing application and platform version level, perform the following:

1. From the IP Management Suite *BASEDIR/smarts/bin/*, enter the following command:

```
sm_server --version
```

2. EMC Smarts displays the following:

```
<Application Suite> V<Application version> <Date and time of build>
- <Build number>  Copyright <Date>, EMC Corporation
Foundation V<Platform version> <(InternalBuildNumber)> <Date and
time of build> - <Build <number> Copyright <Date>, EMC Corporation
```

Where *<Application Suite>* is in the format *<Major Release>.<Minor Release>.<SmartPack>.<Rolling Patch>*

Example

```
IP_NETWORK_SUITE V7.0.0.0  Thu Nov  9 00:46:47 EST 2006 - Build 46
Copyright 1995-2006, EMC Corporation
Foundation V7.0(67304), 05-Nov-2006 19:43:42 - Build 47  Copyright
1995-2006, EMC Corporation
```

Verify the EMC Smarts product status

You can determine the current state of the products in the suite that register with the Broker by issuing the following command:

```
BASEDIR/smarts/bin/brcontrol
```

This command displays a list of EMC Smarts Managers and adapters registered with the broker, their states (RUNNING, DEAD, UNKNOWN), process IDs, port numbers, and the last time that their states changed.

Also check any log files for the products. Typically, these log files are in BASEDIR/smarts/local/logs.

Where to go next

EMC Smarts products must be configured before they can perform useful analysis and provide information to operators. To continue deploying the IP Management Suite, perform the following tasks:

1. Configure the IP Domain Managers, for example
   - EMC Smarts IP Availability Manager, as described in the *EMC Smarts IP Availability Manager User's Guide*.
   - EMC Smarts IP Performance Manager, if used, as described in the *EMC Smarts IP Performance Manager and Server Performance Manager User's Guide*.
   - EMC Smarts IP Discovery Manager, as described in the *EMC Smarts IP Management Suite Discovery Guide*
2. Configure IP Adapters, as described in the *EMC Smarts IP Adapters User's Guide*.
3. Install permanent licenses, as described in the *EMC Smarts System Administration Guide*.
4. Configure security, as described in the *EMC Smarts System Administration Guide*.
5. Start the Global Console, as described in the *EMC Smarts Service Assurance Manager Operator's Guide*. You will use the Global Console to monitor network activity sent from the underlying Domain Managers.
6. Configure the Global Manager to receive notifications from the Domain Managers, as described in the *EMC Smarts Service Assurance Manager Configuration Guide*.
7. Discover the network, as described in the *EMC Smarts IP Management Suite Discovery Guide*.

A

Manually Installing Services

If you did not start components of the product suite as services when you installed the EMC Smarts IP Management Suite, you may install services manually. Services are programs that, once started, are generally intended to run continuously. Components installed as services start automatically upon system reboot; those not installed as services (manual processes or disabled processes) require that you issue commands to start and stop them as necessary.

Typical reasons to install products as services include the following conditions:

- During installation of the suite, you choose to start product components manually and now want to run the components as services.
- Multiple instances of a single product component running as a service are required. During installation, you can install only a single instance of a product component as a service.

To install a product component as a service, enter the appropriate **sm_service install** command.

For components that are not installed as services, you need to install them either as services (`--startmode=runonce`) or manual processes (`--startmode=manual`) with **sm_service**, and start them as needed with the **sm_service start** command.

Note: At startup, the IP Availability Manager (AM) Server, IP Performance Manager (PM) Server, or both (AM-PM Server) running as a single process will attempt to listen for SNMP traps on port 9000. Because only one process can listen for traps on port 9000, only one of these three servers (AM, PM, or AM-PM) should be started as a Service.

For a complete description of the command syntax, see the *EMC Smarts System Administration Guide*.

Start Services

- The `--ignore-restore-errors` option is required when starting an IP Server (am, pm, am-pm, or dm) that will use a prior repository file.
- In the following examples, if you are installing the services on Windows, substitute c:\ (assuming you are installing on a c: drive) instead of /opt/ and use backwards slashes (\) instead of forward slashes (/).

Broker

An EMC Smarts client application, such as a console or an adapter, utilizes the broker to determine where EMC Smarts servers are running.

The default options for the broker and their values are:

```
▼/opt/InCharge7/SAM/smarts/bin/sm_service install
   --name=ic-broker
   --startmode=runonce
   --description="EMC SMARTS Broker"
   --env=SM_CLIENTCONNECT=brokerConnect.conf ic-broker
   /opt/InCharge7/SAM/smarts/bin/brstart
    --port=426
    --output
--restore=/opt/InCharge7/SAM/smarts/local/repos/broker/broker
.rps▲
```

Note: Indicates that this command must be typed as one line. Separate each option with a space when typing the command.

The value for <PORT> is configured during installation.

IP Availability Manager-only Server

EMC Smarts IP Availability Manager monitors and diagnoses availability problems within networks.

The default options for the IP Availability Manager Server and their values are:

```
▼/opt/InCharge7/IP/smarts/bin/sm_service install
   --name=ic-am-server
   --startmode=runonce
   --description="EMC SMARTS IP Manager Server"
   /opt/InCharge7/IP/smarts/bin/sm_server
   --name=INCHARGE-AM
   --config=icf
   --bootstrap=bootstrap-am.conf
   --port=0
   --subscribe=default
   --ignore-restore-errors
   --output▲
```

Note: Indicates that this command must be typed as one line. Separate each option with a space when typing the command.

Performance Manager-only Server

EMC Smarts IP Performance Manager monitors devices within networks, and diagnoses performance problems that occur.

The default options for the Performance Manager and their values are:

```
▼/opt/InCharge7/IP/smarts/bin/sm_service install
   --name=ic-pm-server
   --startmode=runonce
   --description="EMC SMARTS IP Performance Manager Server"
   /opt/InCharge7/IP/smarts/bin/sm_server
   --name=INCHARGE-PM
   --config=icf
   --bootstrap=bootstrap-pm.conf
   --port=0
   --subscribe=default
   --ignore-restore-errors
   --output▲
```

Note: Indicates that this command must be typed as one line. Separate each option with a space when typing the command.

IP Availability Manager and IP Performance Manager Server

The default options and values for the server that runs the IP Availability Manager and IP Performance Managers together are:

```
▼/opt/InCharge7/IP/smarts/bin/sm_service install
   --name=ic-am-pm-server
   --startmode=runonce
   --description="EMC SMARTS IP Manager and Performance Manager
   Server"
   /opt/InCharge7/IP/smarts/bin/sm_server
   --name=INCHARGE-AM-PM
   --config=icf
   --bootstrap=bootstrap-am-pm.conf
   --port=0
   --subscribe=default
   --ignore-restore-errors
   --output▲
```

Note: Indicates that this command must be typed as one line. Separate each option with a space when typing the command.

Discovery Manager Server

EMC Smarts Discovery Manager provides automated discovery of Layer 2 and 3 elements in IP networks.

The default options for the Discovery Manager Server and their values are:

```
▼/opt/InCharge7/IP/smarts/bin/sm_service install
   --name=ic-dm-server
   --startmode=runonce
   --description="EMC SMARTS Discovery Manager Server"
   /opt/InCharge7/IP/smarts/bin/sm_server
   --name=INCHARGE-DISCMGR
   --config=icf
   --bootstrap=bootstrap-dm.conf
   --port=0
   --ignore-restore-errors
   --output▲
```

Note: Indicates that this command must be typed as one line. Separate each option with a space when typing the command.

B

UNIX Procedures for CD-ROMs

As a reference, this chapter includes UNIX commands and examples used when installing the suite.

Mounting the CD-ROM

1. Insert the CD-ROM into the CD-ROM drive.
2. If the CD-ROM is automatically mounted, continue to step 3. Otherwise, select the appropriate mount command as shown in Table B-1.

Table B-1 Mounting the CD-ROM for UNIX operating systems

Operating System	Commands and Examples
Solaris	Syntax: `# mount -o ro -F hsfs <DEVICE> /mnt` Example: `# mount -o ro -F hsfs /dev/dsk/c0t6d0s0 /mnt`
HP-UX	Syntax: `# mount -ocdcase -o ro -F cdfs <DEVICE> /mnt/cdrom` Example: `# mount -ocdcase -o ro -F cdfs /dev/cdrom /mnt/cdrom`
Linux	Syntax: `# mount <DEVICE>` Example: `# mount /dev/cdrom /mnt/cdrom`
Where *<DEVICE>* is the mount point for your CD-ROM drive.	

3. Change to the CD-ROM directory by entering the appropriate command from Table B-2.

Table B-2 Changing to the CD-ROM Directory in Unix Operating Systems

Operating System	Command
Solaris	If Volume Manager (VM) is running: `# cd /cdrom/<suite>_<version>_<build>/suite` If VM is not running: `# cd /mnt/suite`
HP-UX	# cd /mnt/cdrom/suite
Linux	If Automount is running: `# cd /cdrom/<suite>_<version>_<build>/suite` If Automount is not running: `# cd /mnt/cdrom/suite`
Where: *<suite>* is the product suite, for example, NPM, IP, MPLS, or SAM. *<version>* is the release version, for example, 1_1_0 or 6_2_0. *<build>* is a build number, for example, 6219 or 23922.	

C

Manually Starting Products

This chapter includes the following sections:

- "Start Products in Native Mode (UNIX only)" on page C-2

Start Products in Native Mode (UNIX only)

If any products were not installed as services in UNIX, you can manually start them. EMC Corporation does not recommend using this method in a production environment, but it can be useful for testing. To start a product, enter the appropriate **sm_server** command from Table C-1. For a complete description of the command syntax, see the *EMC Smarts System Administration Guide*.

Table C-1 Starting EMC Smarts IP Management Suite products in native mode

Commands for starting EMC Smarts IP Management Suite products in native mode	
Product	**Command (▼▲ indicates the command must be typed on one line.)**
Broker	▼ # *BASEDIR*/smarts/bin/brstart --port=<*port*>--output ▲
IP Availability Manager	▼ # *BASEDIR*/smarts/bin/sm_server --name=<*IP_Manager_name*> --config=icf --bootstrap=bootstrap-am.conf --subscribe=default --port=<*port_name*> --output=<*file_name*>▲

D

Understanding the sm_edit Utility

As part of the EMC Smarts deployment and configuration process, you need to modify certain files. User modifiable files include configuration files, rule set files, templates, and files (such as seed files, and security configuration files) that contain encrypted passwords. Original versions of these files are installed into appropriate subdirectories under the BASEDIR/smarts/ directory.

Examples:

- The original versions of the Global Manager configuration files on UNIX are installed to /opt/InCharge7/SAM/smarts/conf/ics
- The original versions of the Console configuration files on Windows are installed on C:\InCharge7\SAM\smarts\conf\console

Original versions of files should not be altered. If a file requires modification, it must be stored as a local copy of the file in BASEDIR/smarts/local or one of its subdirectories.

Examples:

- A modified ics.conf file on UNIX should be saved to /opt/InCharge7/SAM/smarts/local/conf/ics
- A modified properties.conf file on Windows should be saved to C:\InCharge7\SAM\smarts\local\conf\console.

Smarts software is designed to first search for user modifiable files in BASEDIR/smarts/local or one of its subdirectories. If a modified version of a file is not found in the local area, Smarts software then searches appropriate nonlocal directories.

To facilitate proper file editing, EMC Corporation provides the sm_edit utility with every Smarts product suite. When used to modify an original version of a file, this utility automatically creates a local copy of the file and places it in the appropriate location under BASEDIR/smarts/local. This ensures that the original version of the file remains unchanged. You can invoke sm_edit from the command line. Optionally, you can configure Windows so that sm_edit is automatically invoked when user-modifiable files are double-clicked in Windows Explorer.

To invoke the sm_edit utility from the command line, specify the path and the name of the file to edit under BASEDIR/smarts. If multiple Smarts products are running on the same host, invoke sm_edit from the bin directory of the product suite with the files to edit.

Example:

To edit the configuration file for the Global Manager, invoke the sm_edit utility as follows:

```
# /opt/InCharge7/SAM/smarts/bin>sm_edit conf/ics/ics.conf
```

In this example, the sm_edit utility automatically creates a local copy of the ics.conf file in the /opt/InCharge7/SAM/smarts/local/conf/ics directory and opens the file in a text editor. If a local version of the file already exists, the sm_edit utility opens the local version in a text editor. In addition, sm_edit creates any necessary subdirectories.

The *EMC Smarts System Administration Guide* provides additional information about the sm_edit utility.

E

License Migration Procedure

This section describes how to migrate an existing 6.x license file as part of migrating to EMC Smarts version 7.0.

- Migrate the permanent license file and set up the FLEXnet license server E-3
- Ensuring access to the FLEXnet license server using SM_LICENSE.....E-6

Prerequisites

This section provides the procedure for migrating the license server. For complete information about EMC Smarts licensing, including how to obtain license files, deployment considerations, and troubleshooting, see the *EMC Smarts System Administration Guide*.

Before you begin, you need to be aware of the following considerations:

- You can use your existing 6.5.1 or 6.2 license file provided that you have not: acquired more features, increased the number of licenses, or changed machines (host IDs).

  If you have acquired more features, increased the number of licenses, or changed machines, then you must obtain a new license file. See the *EMC Smarts System Administration Guide* for instructions to obtain a permanent license file.

- You will need to use the FLEXnet 10.1.3 license server provided with EMC Smarts version 7.0 software. The setup instructions are described in the following subsection.

  FLEXnet software is backward-compatible. For example, a newer license manager daemon (lmgrd) will work with older vendor daemons and older FLEXnet-licensed products. So a FLEXnet 10.1.3 license server provided with EMC Smarts version 7.0 software will work with FLEXlm 9.2 license files distributed for EMC Smarts version 6.5.1 software.

This license migration procedure is similar to the procedure used to set up licensing for a new installation with the following differences:

- You can reuse your existing license file for Step 3.
- You stop the old license server in Step 6 and uninstall it in Step 9.
- If you set up the new FLEXnet license server on the same system as the old license server, you do not need modify the *SM_LICENSE* variable for your other EMC Smarts software installations.

Note: For the following procedure, you need administrative privileges for both the EMC Smarts software and the systems on which the software is running.

Note: In this discussion, a temporary license file is referred to as *smarts.lic* and a permanent license file is referred to as *<host_id>.smarts.lic*. These are the names of the license files when they are generated and sent to you by the EMC Corporation. If you install a license server with the *install_license* script described later, you should be aware that the script changes the permanent license file name from *<host_id>.smarts.lic* to *smarts.lic*.

Migrate the permanent license file and set up the FLEXnet license server

On the system where the EMC Smarts Broker resides, perform these steps to migrate the permanent license file and set up the new server:

1. If you have not already installed the 7.0 software, do so. Install the software on the same system in a different directory than the older software.

   If you installed the software on a different system, you need a new license file.

2. If you previously used a temporary license (copied *smarts.lic* to the *BASEDIR/smarts/local/conf* directory), you need to delete it because it will cause the *install_license* script to fail later in Step 5.

3. Copy your existing permanent license file, *<host_id>.smarts.lic,* from the old installation directory to the new *BASEDIR* directory on the system where the license server will run.

   Typically, this location should be the same host and *BASEDIR* as for the EMC Smarts Broker. By default, *BASEDIR* is */opt/InCharge7/<productsuite>* for UNIX and *C:\InCharge7\<productsuite>* for Windows.

   If you obtained a new permanent license file, save the attachment to a file named *<host_id>.smarts.lic* in your *BASEDIR* directory on the system where the license server will run.

   WARNING

   Do not save the permanent license file (<host_id>.smarts.lic) to the BASEDIR/smarts/local/conf directory. The install_license script will fail if it finds a permanent license file in this directory. Also, do not save a permanent license file to the BASEDIR/smarts/script or BASEDIR/smarts/conf directory.

   Later, as the result of Step 5, the *install_license* script installs the permanent license file into the *BASEDIR/smarts/local/conf* directory.

4. If necessary, you may need to change the port for the FLEXnet license server (which will be installed in Step 5). For example, if the default port, 1744, is used by another process, the FLEXnet license server can run on a different port. Do not make any changes to the permanent license file unless you need to change the port.

   Use any text editor to open the *<host_ID>.smarts.lic* file. The first line of the permanent license file, labelled SERVER, contains the hostname, host ID, and port of the license server, as shown in the following example:

   ```
   SERVER this_host 8323fcbf 1744
   ```

   Change the port number from the default (“1744”) on the SERVER line and save the file.

   If the FLEXnet license server will be deployed on the opposite side of a firewall from your other Smarts software installations, see the *EMC Smarts System Administration Guide* for instructions.

5. Install the FLEXnet license server using the i*nstall_license* script. By default, this file is located in the *BASEDIR/smarts/script* directory.

You must run the *install_license* script on the same system where the license server runs. This script requires superuser privileges (user ID 0) for UNIX, and administrator privileges for Windows. You must specify the full path to the permanent license file.

For example, the command on UNIX systems is:

```
▼ # /opt/InCharge7/SAM/smarts/script>install_license.sh install
<path to license file>/<host_ID>.smarts.lic ▲
```

On Windows systems, for example, the command is:

```
▼ C:\InCharge7\SAM\smarts\script>install_license.cmd install
    <path to license file>\<host_ID>.smarts.lic ▲
```

Note: Indicates this command should be typed as one line.

In addition to installing the FLEXnet license server, the install_license script performs other functions such as configuring the license server to start when the system reboots. For more information, see the *EMC Smarts System Administration Guide*.

6. Stop the old license server. Use the same command in Step 7 except substitute stop for start.
7. Start the FLEXnet license server. The FLEXnet license server runs as a daemon on UNIX and as a service on Windows and automatically starts the vendor daemon for EMC Smarts. Issue the command appropriate for your platform.

   Solaris:

   ```
   # /etc/init.d/SMARTS-License start
   ```

   HP-UX:

   ```
   # /sbin/init.d/SMARTS-License start
   ```

   Linux:

   ```
   # /etc/init.d/SMARTS-License start
   ```

   Windows:

   To manually start the license server, do the following as administrator:

   - Select Start > Settings > Control Panel > Administrative Tools.
   - Select Services.
   - Select the FLEXlm License Manager service.
   - Right-click and choose Start.
8. Verify that the new FLEXlm license server started by checking your EMC Smarts Smarts Manager log file. To do so, start your EMC Smarts Smarts Manager and view the EMC Smarts Smarts Manager log file for two messages that indicate success:

   - ICF-N-LICENSEDFEATURE-Enabling
   - ICF-N-RESTOREFINISH-PersistenceManager: restore finished

   The log file name is based upon the EMC Smarts Smarts Manager's name (for example, INCHARGE-SA.log) and the log file is located in the *BASEDIR/smarts/local/logs* directory.

For instructions on starting your EMC Smarts Smarts Manager, see the installation guide that accompanied your product suite.

Note: On the system where the FLEXnet license server and EMC Smarts Broker reside, for a permanent license file, you do not need to edit the *SM_LICENSE* variable in the *runcmd_env.sh* file for that product suite, because by default the install_license script adds the *SM_LICENSE* variable with the appropriate values.

If other product suites were already deployed on the same system, you do not need to manually edit the *SM_LICENSE* variable in the *runcmd_env.sh* file for those product suites if the new FLEXnet license server is set up on the same system as the old license server.

If the new FLEXnet license server is set up on a different system than the old license server or if you installed other 7.0 product suites on the same system, you need to manually edit the *SM_LICENSE* variable in the *runcmd_env.sh* file for those product suites as described in "Ensuring access to the FLEXnet license server using SM_LICENSE" on page E-6.

For example, if the Service Assurance Management Suite and IP Management Suite reside on System1 and the install_license script is invoked from the */opt/InCharge7/SAM/smarts/script* directory, the script modifies the variable, but you will have to modify the variable for the 7.0 IP Management Suite.

---

9. Uninstall the old license server using the install_license script.

   For example:

   Command on UNIX systems is:

   ```
   # /opt/InCharge6/SAM/smarts/script>install_license.sh uninstall
   ```

   Command on Windows systems is:

   ```
   C:\InCharge6\SAM\smarts\script>install_license.cmd uninstall
   ```

Ensuring access to the FLEXnet license server using SM_LICENSE

Note: If you set up the new FLEXnet license server on the same system as the old license server, you do not need modify the *SM_LICENSE* variable for other EMC Smarts software installations. You can skip this task.

When you install EMC Smarts software on more than one system, you must ensure that the EMC Smarts software on each system can connect to the FLEXnet license server in order to be able to check out licenses. For the system where you installed the FLEXnet license server, the *SM_LICENSE* variable is added automatically by the *install_license* script. For other EMC Smarts software installations, you need to modify the variable.

To set up licensing for other product suites or the Global Console, you need set the *SM_LICENSE* variable to specify the *<port>@<lic_host>* of the FLEXnet license server.

Use the *sm_edit* utility to edit the *SM_LICENSE* variable in the runcmd_env.sh file. The runcmd_env.sh file resides in the *BASEDIR/smarts/local/conf* directory of the product suite.

Perform the following steps:

1. For UNIX, invoke *sm_edit* from the *BASEDIR/smarts/bin* directory:

   ```
   % sm_edit conf/runcmd_env.sh
   ```

   To open runcmd_env.sh on Windows, invoke *sm_edit* as follows:

   ```
   C:\>sm_edit conf\runcmd_env.sh
   ```

   For example on Windows, type:

   ```
   C:\InCharge7\SAM\smarts\bin>sm_edit conf\runcmd_env.sh
   ```

2. Set the *SM_LICENSE* variable to *<port>@<lic_host>* of the FLEXnet license server.

   The *runcmd_env.sh* file should resemble the following:

   ```
   SM_BROKER_DEFAULT=localhost:426
   SM_LICENSE=1744@SYSTEM1
   SM_SNMP_BUG_COMPATIBLE=TRUE
   SM_INCOMING_PROTOCOL=1,0
   SM_OUTGOING_PROTOCOL=1,0
   ```

3. Save the *runcmd_env.sh* file and close it.

4. Any EMC Smarts program within a product suite started after this point will use the applicable environment variables specified in the *runcmd_env.sh* file. EMC Smarts programs that are already running need to be restarted for any new environment variable to take effect. To start services, see the installation installation guide that accompanied your product suite.