

# *InCharge*<sup>TM</sup>

## Network Protocol Management Suite Installation Guide

Version 1.1

OL-7718-01



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# Preface

This document provides instructions for installing InCharge Network Protocol Management Suite products on Solaris, HP-UX, Linux, and Windows platforms.

## Intended Audience

This document is intended for administrators who are responsible for installing the InCharge Network Protocol Management Suite.

## Prerequisites

You must have root or administrative privileges on the local host to perform the installation.

# Document Organization

This document consists of the following chapters.

<b>1. OVERVIEW</b>	Describes the contents of the InCharge Network Protocol Management Suite CD-ROM, product compatibility, and installation tasks.
<b>2. SUPPORTED PLATFORMS FOR THE NETWORK PROTOCOL MANAGEMENT SUITE</b>	Lists the products of the suite by platform.
<b>3. REQUIREMENTS FOR THE NETWORK PROTOCOL MANAGEMENT SUITE</b>	Summarizes hardware and third-party product requirements for the InCharge Network Protocol Management Suite.
<b>4. INSTALLING THE NETWORK PROTOCOL MANAGEMENT SUITE</b>	Explains how to install the InCharge Network Protocol Management Suite using an InstallShield Wizard.
<b>5. PERFORMING POST-INSTALLATION TASKS</b>	Explains post-installation tasks.
<b>6. UNINSTALLING THE NETWORK PROTOCOL MANAGEMENT SUITE</b>	Describes how to remove the InCharge Network Protocol Management Suite from your system.
<b>A. INSTALLING THE NETWORK PROTOCOL MANAGEMENT SUITE USING CLI-MODE</b>	Describes how to install the InCharge Network Protocol Management Suite using a text-based interface.
<b>B. INSTALLING THE NETWORK PROTOCOL MANAGEMENT SUITE USING UNATTENDED-MODE</b>	Describes how to install the InCharge Network Protocol Management Suite using a user-modifiable file.

# Documentation Conventions

Several conventions may be used in this document as shown in Table 1.

**Table 1:** Documentation Conventions

CONVENTION	EXPLANATION
sample code	Indicates code fragments and examples in Courier font
<b>keyword</b>	Indicates commands, keywords, literals, and operators in bold
%	Indicates C shell prompt
#	Indicates C shell superuser prompt
<parameter>	Indicates a user-supplied value or a list of non-terminal items in angle brackets
[option]	Indicates optional terms in brackets
<i>/InCharge</i>	Indicates directory path names in italics
<b><i>yourDomain</i></b>	Indicates a user-specific or user-supplied value in bold, italics
<i>File &gt; Open</i>	Indicates a menu path in italics
▼▲	Indicates a command is wrapped over one or more lines. The command must be typed as one line.

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

Also, 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.

Finally, unless otherwise specified, the term InCharge Manager is used to refer to InCharge programs such as Domain Managers, Global Managers, and adapters.

# InCharge Network Protocol Suite Installation Directory

In this document, the term **BASEDIR** represents the location where InCharge 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 InCharge software platform version number. The `<productsuite>` represents the InCharge product suite to which the product belongs. For example, on UNIX operating systems, InCharge Network Protocol Manager is, by default, installed to: `/opt/InCharge6/NPM/smarts`. On Windows operating systems, this product is, by default, installed to: `C:\InCharge6\NPM\smarts`. This location is referred to as **BASEDIR**/`smarts`.

Optionally, you can specify the root of **BASEDIR** to be something other than `/opt/InCharge6` (on UNIX) or `C:\InCharge6` (on Windows), but you cannot change the `<productsuite>` location under the root directory.

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

## InCharge Network Protocol Suite Products

The InCharge Network Protocol Management Suite includes the following products:

- Network Protocol Manager for BGP
- Network Protocol Manager for OSPF

## Additional Resources

In addition to this document, SMARTS provides the following resources.

## InCharge Commands

Descriptions of InCharge commands 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.

## Documentation

Readers of this document may find other SMARTS documentation (also available in the **BASEDIR**/*smarts/doc/pdf* directory) helpful.

### **InCharge Documentation**

The following SMARTS documents are product independent and thus relevant to users of all InCharge products:

- *InCharge Release Notes*
- *InCharge Documentation Roadmap*
- *InCharge System Administration Guide*
- *InCharge ICIM Reference*
- *InCharge ASL Reference Guide*
- *InCharge Perl Reference Guide*

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## Overview

This chapter describes the InCharge Network Protocol Management Suite products, compatibility with other InCharge products, and installation tasks.

The product suite is distributed on a CD-ROM and is installed, by default, in the `/NPM` subdirectory under the InCharge root directory.

## Suite Contents

The Network Protocol Management Suite contains the Network Protocol Manager. The Network Protocol Manager must run as a separately configured service for each routing protocol that it manages: Network Protocol Manager for BGP or Network Protocol Manager for OSPF.

## InCharge Product and Version Compatibility

The Network Protocol Management Suite is compatible with the following InCharge products:

- 6.2 Service Assurance Management Suite with SmartPack 1 or later
- 6.2 IP Management Suite with SmartPack 1 or later

# Network Protocol Management Suite Installation Program

The installation program supports three installation methods:

- InstallShield Wizard mode is a Java-based Graphical User Interface (GUI) method intended for both UNIX and Windows platforms. This method is described in [Installing the Network Protocol Management Suite](#) on page 13.
- Command Line Interface (CLI) mode is a text-based method intended for UNIX platforms with non-graphics consoles. This method is described in [Installing the Network Protocol Management Suite Using CLI-Mode](#) on page 45.
- Unattended mode is intended for both UNIX and Windows platforms. This method reads the selections and settings for the installation from a user-modifiable file, which enables users to easily duplicate the installation on many computer systems. This method is described in [Installing the Network Protocol Management Suite Using Unattended-Mode](#) on page 57.

Use any of these methods to install the Network Protocol Management Suite.

## Installation Tasks

Installation of the Network Protocol Management Suite requires prior installation of the Global Manager from the Service Assurance Management Suite and the Availability Manager from the IP Management Suite. For information, see the *InCharge Service Assurance Management Suite Installation Guide* and the *InCharge IP Management Suite Installation Guide*.

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**Note:** InCharge 6.2 provides advanced security features. For information about the levels of security and how they might affect your deployment, see the *InCharge System Administration Guide*.

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To install the Network Protocol Management Suite, you need to satisfy or perform the following tasks.



**Table 2: New Network Protocol Management Suite Installation Tasks**

TASKS	GO TO:
Before You Install the Network Protocol Management Suite:	
The InCharge Broker and FlexLM License Server should be installed, configured, and operating.	<i>InCharge Service Assurance Management Suite Installation Guide</i> for installation information <i>InCharge System Administration Guide</i> for license information
The Global Console and Global Manager products should be installed, configured, and licensed. These products must be from Service Assurance Management Suite version 6.2 with SmartPack 1 or later.	<i>InCharge Service Assurance Management Suite Installation Guide</i>
The Availability Manager should be installed, configured, and licensed. These products must be from IP Management Suite version 6.2 with SmartPack 1 or later.	<i>InCharge IP Management Suite Installation Guide</i>
Review the important release issues for the Network Protocol Management Suite.	<i>InCharge Network Protocol Management Suite Release Notes</i>
Obtain an evaluation or permanent license for the products you will install from Network Protocol Management Suite.	<i>InCharge System Administration Guide</i> for license information To request a license, send an e-mail message to <a href="mailto:licensing@smarts.com">licensing@smarts.com</a> .
Determine if the products that you are installing from the Network Protocol Management Suite are supported for your platform.	<a href="#">Supported Platforms for the Network Protocol Management Suite</a> on page 5
Determine if your system meets the hardware requirements for the products that you are installing from the Network Protocol Management Suite.	<a href="#">Hardware Requirements</a> on page 8
To run the installation InstallShield Wizard, ensure Java Runtime Environment (JRE) version 1.4 (or later) is installed on your system.	<a href="#">JRE Requirement for the InstallShield Wizard</a> on page 7
Ensure that you have the appropriate administrative privileges.	<a href="#">Privileges Requirement</a> on page 8

**Table 2:** New Network Protocol Management Suite Installation Tasks *(continued)*

TASKS	GO TO:
Installation Method:	
Install the Network Protocol Management Suite.	Choose one of the following installation methods: <ul style="list-style-type: none"> <li>• <a href="#">Installing the Network Protocol Management Suite</a> on page 13</li> <li>• UNIX only, <a href="#">Installing the Network Protocol Management Suite Using CLI-Mode</a> on page 45</li> <li>• <a href="#">Installing the Network Protocol Management Suite Using Unattended-Mode</a> on page 57</li> </ul>
After You Install:	
Save your license in the proper location: <ul style="list-style-type: none"> <li>• Evaluation license—Save <i>trial.dat</i> to the <b>BASEDIR</b>/smarts/local/conf directory. Edit the SM_LICENSE variable in the <i>runcmd_env.sh</i> file so that the variable specifies the full path name to the <i>trial.dat</i> file.</li> <li>• Permanent license—Use the procedures described in the <i>InCharge System Administration Guide</i>.</li> </ul>	<a href="#">InCharge System Administration Guide</a>
Default encryption is enabled during the 6.2 installation process. You can configure InCharge installations with a variety of levels of security. SMARTS highly recommends that you increase your level of security.	<a href="#">InCharge System Administration Guide</a>
If you installed the products as services, start them for the first time.	<a href="#">Starting InCharge Products</a> on page 19
Verify the current state of the products and InCharge Broker.	<a href="#">Verifying the InCharge Product Status</a> on page 21

# 2

## Supported Platforms for the Network Protocol Management Suite

This chapter lists supported platforms and their recommended patch levels.

### Supported Platforms

Table 3 summarizes the supported platforms for the Network Protocol Management Suite.

**Table 3:** Supported Platforms for Network Protocol Management Suite

INCHARGE PRODUCT	PLATFORM			
	SOLARIS	HP-UX	LINUX	WINDOWS
Network Protocol Manager	8 and 9	11.00 and 11.11	Red Hat Linux Advanced Server ES, AS, or WS 2.1	Windows 2000 Server and Advanced Server with SP4 or later, Windows 2003

### Recommended Patch Levels

Your platform's operating system must be patched to the level that is currently recommended by the operating system vendor.



# 3

## Requirements for the Network Protocol Management Suite

This chapter describes pre-installation requirements for the Network Protocol Management Suite. It includes:

- JRE Requirement for the InstallShield Wizard
- Privileges requirement
- Hardware requirements
- Additional HP-UX Requirements
- X Server Settings (UNIX Only)

### JRE Requirement for the InstallShield Wizard

To run the installation program, you must have the Java Runtime Environment (JRE) version 1.4 (or later) installed on your system. The installation program attempts to detect that a compatible JRE version has been installed on your system.

To obtain the required JRE version for HP-UX platform, download it from <http://www.hp.com/products1/unix/java/index.html> and, for all other platforms, download it from <http://java.sun.com>. The required JRE version is also available from SMARTS Technical Support.

For UNIX, if a compatible JRE version is installed and the installation program cannot locate it, you must specify the location when you execute the installation program. The syntax is:

```
./setup-solaris.bin -is:javahome <local_java_dir>
```

where **<local\_java\_dir>** is the directory path to the local Java home directory; for example, `/opt/java/j2sdk1.4.2_03`.

For Windows, if a compatible JRE version is installed and the installation program cannot locate it, you must open a command-line shell and execute the installation program from the directory where it is installed. The syntax is:

```
setup-winnt.exe -is:javahome <local_java_dir>
```

where **<local\_java\_dir>** is the directory path to the local Java home directory; for example, `C:\Program Files\Java\j2re1.4.2_03`.

The Setup command is described in [Starting the Installation Wizard](#) on page 14.

## Privileges Requirement

To install the Network Protocol Management Suite, you must either:

- Be superuser (User ID 0) on UNIX platforms, or
- Have administrative privileges on Windows platforms.

## Hardware Requirements

The minimum hardware levels for installation of the Network Protocol Management Suite are summarized in the following tables:

- Table 4 lists disk space requirements for installing all products in the Network Protocol Management Suite.
- Table 5 lists minimum requirements for CPUs, memory, and data disk space used by the Network Protocol Management Suite software for writable files such as logs, repository files, and output files. If you are installing more than one product, your system must meet the products' total memory and data disk space requirements.
- Table 6 lists minimum hardware platform requirements.

Note that these requirements are in addition to the requirements for any products from the Service Assurance Management Suite and the IP Management Suite that are also installed on the same computer system.

**Table 4: Required Disk Space for the Network Protocol Management Suite**

PLATFORM	DISK SPACE
Solaris 8 and 9	350 MB
HP-UX 11.00 and 11.11	550 MB
Red Hat Linux Advanced Server ES, AS, or WS 2.1	200 MB
Windows 2000, 2003	150 MB

**Table 5: CPU, Memory, and Data Disk Space Requirements**

INCHARGE PRODUCT	CPUS	MEMORY (RAM)	DATA DISK SPACE
Network Protocol Manager	2	512 MB	100 MB for each instance of Network Protocol Manager

**Table 6: Platform Requirements for the Network Protocol Management Suite**

PLATFORM	PLATFORM HARDWARE (MINIMUM)
Solaris 8 and 9	Sun Fire 280
HP-UX 11.00 and 11.11	L2000/rp5400
Red Hat Linux Advanced Server ES, AS, or WS 2.1	2xPentium4, 2GHz
Windows 2000 and 2003	2xPentium4, 2GHz

## Additional Requirements for HP-UX 11.00 and 11.11

Use the HP-UX system administration manager tool to verify that the following parameters in Table 7 are set accordingly. Use "Choose Kernel Configuration," "Choose Configurable Parameter" to get to the definition page. The necessary procedures are described in the *HP-UX System Administration Tasks* manual.

If necessary, make changes. Then, rebuild the kernel and reboot the system. If you need additional help, contact your system administrator.

**Table 7: HP-UX Parameters and Values**

PARAMETER	VALUE
maxdsiz	at least 2 GB (2147483648 bytes)
max_thread_proc	at least 256
ncallout	$nproc + 10 * nSMARTS$
nkthread	$2 * nproc + max\_thread\_proc * nSMARTS$

The following formulas are used for calculating the parameter values that appear in Table 7.

- The process data size limit kernel parameter (maxdsiz) must be set to at least 2 GB (2147483648 bytes).

The value of this parameter is in decimal bytes. If it is below 2 GB (2147483648 bytes), increase it, rebuild the kernel, and restart the system.

- The max\_thread\_proc parameter must be set to at least 256, and the ncallout and nkthread parameters are calculated as follows.

In the formulas, “nSMARTS” is the total number of InCharge Managers and consoles running simultaneously on the machine, and “nproc” is a varying system parameter displayed by HP-UX system administration manager. It represents the maximum number of processes on the machine.

- The ncallout value must be equal to at least the calculated result, although the HP-UX system administration manager default is almost always sufficient.

$$ncallout = nproc + 10 * nSMARTS$$

- The nkthread value must be equal to at least the calculated result:

$$nkthread = 2 * nproc + max\_thread\_proc * nSMARTS$$

(The max\_thread\_proc parameter must be at least 256.)



## X Server Settings (UNIX Only)

The InstallShield Wizard installation method uses a graphical wizard. When using this installation method on UNIX, the installation program is an X11 application. The host on which you install the InCharge software and the host on which you log on must be configured to run X11.



# 4

## Installing the Network Protocol Management Suite

This chapter describes how to install the Network Protocol Management Suite using the InstallShield Wizard. The basic installation steps are the same for all supported UNIX and Windows platforms.

### What Is InstallShield Wizard Installation?

InstallShield Wizard installation is the graphics-based method of executing the InCharge Installation program. It can be run on both UNIX and Windows platforms.

To run the InstallShield Wizard installation, the console attached to the system on which you are installing the software must support a Java-based GUI. All consoles for Windows platforms support Java-based GUIs, but not all consoles for UNIX platforms do.

To install the Network Protocol Management Suite on a UNIX platform with a non-graphics console, see [Installing the Network Protocol Management Suite Using CLI-Mode](#) on page 45.

## Starting the Installation Wizard

To start the InstallShield Wizard installation process, follow these steps:

- 1 Insert the CD-ROM into the CD-ROM drive.

---

**Note:** For Windows, if the installation setup program starts automatically, autorun is enabled. Go to [Running the Installation Setup](#) on page 15. If autorun is disabled, go to Step 3.

---

- 2 For UNIX operating systems, mount the CD-ROM. Follow the mounting instructions for your operating system:

- **Solaris:** If the Volume Manager is running, it automatically mounts the CD-ROM to `/cdrom/<incharge>` where **<incharge>** is the format:

```
<suite>_<productversionNumber>_<buildNumber>
```

For example, **<inCharge>** can be: `NPM_1_1_0_6219`. The build number might vary.

If the Volume Manager is not running, use the **mount** command:

```
# mount -o ro -F hsfs DEVICE /mnt
```

where **DEVICE** is your CD-ROM. For device information, ask your system administrator. For example,

```
# mount -o ro -F hsfs /dev/dsk/c0t6d0s0 /mnt
```

- **HP-UX:** Use the **mount** command:

```
# mount -ocdcase -o ro -F cdfs DEVICE /mnt/cdrom
```

where **DEVICE** is your CD-ROM. For device information, ask your system administrator. For example,

```
# mount -ocdcase -o ro -F cdfs /dev/cdrom /mnt/cdrom
```

- **Linux:** If the CD-ROM does not automatically mount, use the **mount** command:

```
# mount DEVICE
```

where **DEVICE** is your CD-ROM. For device information, ask your system administrator. For example,

```
# mount /dev/cdrom
```

- 3 Change directory to the CD-ROM. Enter the appropriate command for your operating system:

- **Solaris:**

```
# cd /cdrom/<incharge>/suite
```

where **<inCharge>** might be: NPM\_1\_1\_0\_6219.

If the Volume Manager is not running, use this command instead:

```
# cd /mnt/suite
```

- **HP-UX:**

```
# cd /mnt/cdrom/suite
```

- **Linux:**

```
# cd /cdrom/incharge/suite
```

If the automount utility is not running, use this command instead:

```
# cd /mnt/cdrom/suite
```

- **Windows:**

Use Windows Explorer to access the CD-ROM drive and locate the */suite* directory.

- 4 Execute the appropriate Setup command from Table 8. Upon executing the command, the SMARTS Welcome screen displays.

**Table 8:** The Setup Commands

OPERATING SYSTEM	EXECUTE:
Solaris	# ./setup-solaris.bin
HP-UX	# ./setup-hpux.bin
Red Hat Linux	# ./setup-linux.bin
Windows	setup-winnt.exe

## Running the Installation Setup

The installation program presents you with a series of screens. At almost any point in the process, you may return to a previous screen, continue, or cancel the process. All of the products are installed to the local host.

---

**Note:** Depending upon your selections, certain steps might not be necessary and corresponding screens might not display.

---

- 1 On your system, stop all SMARTS services, SMARTS daemon processes, SMARTS cron jobs, and any other process that uses programs or libraries in *any* InCharge installation area. Click **OK** in the Warning dialog box if you have stopped all SMARTS programs.

- 2 Click **Next** in the Welcome screen to continue.

If you wish to view the requirements check results, click **Get System Information**. The installation setup program performs a requirements check for patches and operating system requirements, except for memory.

**Next** is disabled if:

- You do not have administrative privileges for the products you are attempting to install. A message also displays.
- Your system failed the requirements check. If this occurs, review the check results by clicking **Get System Information**, cancel the installation setup program, and upgrade your system. See [Recommended Patch Levels](#) on page 5 and [Requirements for the Network Protocol Management Suite](#) on page 7.

---

**Note:**

The installation setup program does not check for the memory requirement for a particular product. Do not install a product on a system with less than the minimum memory requirement specified in [Requirements for the Network Protocol Management Suite](#) on page 7.

---

- 3 Read and accept the SMARTS end user license agreement and click **Next**.
- 4 If the installation program detects an existing installation of the product suite that you are attempting to install, the Installation Type screen displays. This screen does not display if you are installing the suite for the first time.

Select Install, if you wish to retain an existing installation and you wish to install the suite in a different directory on the same host. Later, you will be prompted to specify a different directory.

- 5 Click **Next** to accept the default installation directory or type your preferred directory and click **Next**.

The default installation directory is `/opt/InCharge6` (on UNIX) or `C:\InCharge6` (on Windows).

If you specify a directory, be sure to use forward slashes ("/") for both UNIX and Windows directories. Directory names cannot contain spaces. If the specified directory does not exist, it will be created. If you do not have write privileges, an error message displays.

- 6 In the Setup screen, if you select:
  - *Custom* to install a specific product, click **Next**. Then, in the Product Selection screen, deselect products that you do not wish to install (by default, all products are selected). Click **Next**.
  - *Complete* to install the entire suite, click **Next**.
- 7 Select the products that you wish to install as services and click **Next**. If a product is not selectable (displays as gray text), click **Back** to return to the Product Selection screen and select the product.

SMARTS recommends installing products as services. Refer to the *InCharge System Administration Guide* for information on managing products installed as services.

- 8 Choose a location to install an InCharge Broker or specify the location of an existing broker. Click **Next** to continue.

---

**Note:**

To determine the host and port location of an existing broker, execute the **brcontrol** command from the installation area of a previously installed InCharge product.

---

- 9 Read and accept the SMARTS Perl API license agreement and click **Next**.
- 10 Review the list of products that will be installed and the target installation directory. At the bottom, the total amount of disk space required for the selected products is provided so that you can verify that adequate disk space is available. To install the products, click **Next** and the Installation Progress screen displays.
- 11 Upon completion, the Installation Summary displays informational messages such as successful confirmations, error messages, and warnings. Click **Finish** to exit the installation. It is not necessary to reboot the system after installation.

Investigate any errors or warnings. The log file is a text file with the naming convention *Install.<suite>.<productversionNumber>.log*. It is located in the **BASEDIR**/*smarts/setup/logs* directory. If the installation process fails, the log files are located in the */tmp* directory.

- 12** Unmount the CD-ROM after completing the installation. For more information, refer to [Unmounting the CD-ROM](#) on page 18.
- 13** Perform post-installation steps. See [Performing Post-Installation Tasks](#) on page 19.

Repeat these steps for all of the hosts in your deployment that require the installation of InCharge products.

## Unmounting the CD-ROM

The CD-ROM should be unmounted before starting the applications. Be sure that no processes are currently accessing the drive.

### UNIX

Type the following commands:

```
# cd /  
# umount /mnt/incharge  
# eject
```

### Windows

Eject the CD-ROM from the machine.



# 5

## Performing Post-Installation Tasks

This chapter explains tasks that you might want to perform after installation. The tasks are intended for all Network Protocol Management Suite installation scenarios. They are:

- Start products or components as services.
- Verify the status of the products.

### Starting InCharge Products

If you installed the products (or components) as services, you need to start them for the first time. SMARTS recommends installing managers and adapters as services.

InCharge programs 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.

Use the method appropriate for your platform.

### Starting Services on UNIX

Start the `sm_serviced` process to restart the services. Check the status of `sm_serviced` by issuing the command:

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

If the `sm_serviced` process is not responding, issue the command:

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

The script is stored in a system-specific location: `/etc/init.d` on Solaris and Linux; and `/sbin/init.d` on HP-UX.

### Starting Services on Windows

To restart all of the services, reboot your system.

### Starting Individual Services on UNIX

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

```
sm_service start <service_name> [<service_name> ...]
```

For example, to start the BGP service for the InCharge Network Protocol Manager, issue:

```
# BASEDIR/smarts/bin/sm_service start ic-npm-bgp
```

For example, to start the OSPF service for the InCharge Network Protocol Manager, issue:

```
# BASEDIR/smarts/bin/sm_service start ic-npm-ospf
```

For products 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.

For information about starting services, refer to the *InCharge System Administration Guide*.

### Starting Individual Services on Windows

Programs that are installed as services can also be started and/or stopped from the windows desktop.

To start a service from the windows desktop, follow these steps:

- 1 Select *Settings > Control Panel > Administrative Tools*.
- 2 Select *Services*.
- 3 Select the InCharge service.
- 4 Choose **Start**.

---

**Note:** To stop a service, choose **Stop** instead of **Start**.

---

## Verifying the InCharge Product Status

You can determine the current state of the Network Protocol Manager by issuing the following command:

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

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



# 6

## Uninstalling the Network Protocol Management Suite

This chapter describes instructions for uninstalling this product suite or individual products. The uninstall process (**uninstaller** command) removes selected products or an entire suite using the same interactive program as the install procedure. After uninstalling, your customized files remain saved in **BASEDIR/smarts/local**. For Windows, you can also use Add/Remove Programs from the Control Panel to uninstall a suite.

---

**WARNING:** Introduced with platform version 6.0, InCharge uses standard install software to install and uninstall product suites. You must use either the **uninstaller** command or, for Windows, Add/Remove Programs to uninstall InCharge software. Failure to use either method will result in an unstable system and/or inconsistent product directories. Do not manually delete the installed product directories.

---

---

**WARNING:** Before you uninstall an InCharge product, you should stop all InCharge processes, consoles, and any adapters that interface with it.

---

---

**WARNING:** For UNIX only, for a complete uninstallation, if you intend to uninstall multiple suites from the same host, the last suite you should uninstall is the suite you installed first. During the installation of the first suite, the InCharge Service Database is also installed and the other suites subsequently access it. Uninstalling the Service Database prior to uninstalling other suites will disable the **sm\_service** command for those products and interrupt products running as services. To identify which suite was installed first, examine the directory path listed in the `init.d` table. The Service Database resides in the `/var/smarts` directory.

---

## Uninstallation Steps

This section describes how to uninstall a suite or individual products.

### Stopping InCharge Services

SMARTS requires that you stop the InCharge services that are running (including the FLEXlm License Server) from the install area. For more information on stopping InCharge services, refer to the *InCharge System Administration Guide*.

---

**Note:** For UNIX only, before uninstalling suites or individual products, check that the status of the `sm_serviced` process is running with the **ic\_serviced status** command. The `sm_serviced` process must be running for uninstallation. If the process is not running, use the **ic\_serviced start** command to start it. These commands are described in the *InCharge System Administration Guide*.

---

### Uninstalling the FLEXlm Server

When uninstalling *all* your InCharge products, you must also uninstall the FLEXlm License Server. If any InCharge products will remain in your network and use the FLEXlm License Server, do *not* uninstall it.

The FLEXlm License Server runs as a daemon on UNIX and as a service on Windows. These automatically start the license server. If you uninstall InCharge products without uninstalling the FLEXlm License Server, a message displays that the FLEXlm (`lmgrd`) service is still running. Keep in mind that an InCharge application will not start if it is unable to contact the license server.

To stop and uninstall the FLEXlm License Server, execute the `install_license` script with the **uninstall** command from the **BASEDIR/smarts/script** directory.

### UNIX

```
# BASEDIR/smarts/script/install_license.sh uninstall
```

### Windows

```
BASEDIR\smarts\script\install_license.cmd uninstall
```

## Uninstalling From the Control Panel (Windows Only)

---

**Note:** If you installed the same suite in two or more directories on your system, do not use Add/Remove Programs; use the **uninstaller** command instead. Add/Remove Programs does not support multiple instances of the same suite.

---

To use the Windows Control Panel to uninstall a product suite, perform these steps:

- 1 Click *Start > Settings > Control Panel*.
- 2 Double-click **Add/Remove Programs**.
- 3 From the Add/Remove Programs window, select the appropriate service for your product suite.
- 4 Click **Change/Remove**.

## Running the Uninstallation Program

You can uninstall a suite or individual products from the local host.

- 1 Execute the **uninstaller.bin** command for UNIX or the **uninstaller.exe** command for Windows. For example:  

```
BASEDIR/_uninst/uninstaller.bin
```
- 2 Click **Next** in the Welcome screen to continue.
- 3 In the Product Selection screen, click **Next** to uninstall the entire suite of products (by default, all products are selected) or deselect products that should remain installed.

- 4 Review the list of products that will be uninstalled and the target installation directory. Once you click **Next**, you cannot cancel the uninstallation process.

If necessary, click **Back** to return to the Product Selection screen to revise your selections.

To uninstall the products, click **Next**; the Uninstallation Progress screen displays.

- 5 Upon completion, the Uninstallation Summary displays informational messages such as successful confirmations, error messages, and warnings. If **Next** displays, your system needs to be rebooted. Click it and then reboot your system. Otherwise, click **Finish** to exit the uninstallation.

The log file is a text file with the naming convention *Uninstall.<suite>.<productversionNumber>.log*. It is located in the **BASEDIR**/*smarts/setup/logs* directory. If the uninstallation process fails, the log files are located in the */tmp* directory.

- 6 Examine any remaining directories if you plan to re-install InCharge and save customized files located in the */local* directory. Depending upon the suite, some or all of the following subdirectories will remain in the **BASEDIR**/*smarts* directory after uninstallation because they contain user-modified files:

- */classes*
- */local*
- */bin*
- */setup*



# A

## Installing the Network Protocol Management Suite Using CLI-Mode

This appendix briefly describes how to install the InCharge Network Protocol Management Suite using Command Line Interface (CLI) mode installation. It also describes how to uninstall the InCharge Network Protocol Management Suite using CLI-mode. Sample sessions are provided.

### What Is CLI-Mode Installation?

CLI-mode installation is the text-based method of executing the InCharge Installation program. It can be run only on UNIX platforms and is intended for UNIX platforms with non-graphics consoles.

SMARTS provides this text-mode alternative to the InstallShield Wizard installation method for UNIX users.

CLI-mode installation offers the following advantages: X display, fixed ports to permit communication through firewalls, and special access to production systems are not required.

The process flow for CLI-mode installation is identical to that of the InstallShield Wizard installation:

- To install, satisfy previously-described requirements, stop the InCharge services for the suite, and, afterwards, perform migration and post-installation tasks, if applicable.
- To uninstall, stop InCharge services, including the service for the FLEXlm License Server.

The log files are located in the **BASEDIR**/*smarts/setup/logs* directory. If the installation process fails, the log files are located in the */tmp* directory.

User selections and the navigation method for CLI-mode are described in [User Selections and Navigation](#) on page 47.

## Running the CLI-Mode Installation

To start the CLI-Mode installation program, execute the **Setup** command with the `-console` option. The syntax is:

```
<setup-executable> -console
```

where **<setup-executable>** is one of the commands in Table 9.

**Table 9:** The Setup Commands

OPERATING SYSTEM	EXECUTABLE
Solaris	setup-solaris.bin
HP-UX	setup-hpux.bin
AIX	N/A
Red Hat Linux	setup-linux.bin

For example, to start the CLI-Mode installation on Solaris, execute:

```
# ./setup-solaris.bin -console
```

## Running the CLI-Mode Uninstallation

To uninstall a product suite or individual products using CLI-Mode, execute the **uninstaller.bin** command with the `-console` option. The syntax is:

```
BASEDIR/_uninst/uninstaller.bin -console
```

## User Selections and Navigation

During the installation and uninstallation processes, you are prompted with a series of steps and menus. You can either accept the default value or select another choice.

### Default Values

The default values are indicated in brackets or as pre-defined selections (check marks) in menus. To accept the default value, press **Enter**.

### Replying to Prompts

When replying to a prompt, you can either accept the default value or select another choice. To reply "yes," enter y or Y; to reply "no," enter n or N. Do not press **Delete**; this causes the process to terminate with an error message.

### Menu Selections

For selections in menus, you can accept default selections or type the number of the item and press **Enter**. A check mark (X) displays next to the item. When you are finished making selections, type zero (0) and press **Enter**.

If you incorrectly type an entry, press **4** to repeat the prompt and select the correct value. Arrow keys and the Backspace key are not supported.

### Navigation Method

To navigate between the steps, use the keys listed in Table 10.

**Table 10:** Function Keys

KEY	FUNCTION
<b>1</b>	Next, continue to the next step
<b>2</b>	Previous, go back to the previous step
<b>3</b>	Cancel, terminates the program
<b>4</b>	Redisplay, repeats the step

## Sample Session: CLI-Mode Installation

This sample session illustrates how to install the Network Protocol Management Suite using CLI-mode installation. Individual products are installed into a user's */work* directory.

InstallShield Wizard

Initializing InstallShield Wizard...

Searching for Java(tm) Virtual Machine...

.....  
Running InstallShield Wizard...

Before upgrade or installation, stop all SMARTS services, daemon processes, cron jobs, or any other process that uses programs or libraries in any InCharge installation area on the local system.

[OK]

-----  
Welcome to the InstallShield Wizard for SMARTS Network Protocol Management Suite

The InstallShield Wizard will install SMARTS Network Protocol Management Suite on your computer.

SMARTS Network Protocol Management Suite  
System Management Arts, Inc.  
<http://www.smarts.com>

Would you like to see system information? [Y]

Operating System Information

Name: SunOS

Architecture: sparc

Version: 5.8

Required OS Patch Levels

Passed	Name	Tag	Required	Actual
true	108652		33	83
true	108940		24	52
true	108921		12	16

Press 1 for Next, 3 to Cancel or 4 to Redisplay [1]

-----  
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Avenue-Suite 700,  
White Plains, New York 10601  
Telephone: (914) 948-6200 extension 8509  
Facsimile: (914) 948-6270  
Email: contracts@SMARTS.com

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All fees are due and payable within thirty (30) days from receipt of SMARTS' applicable invoice. The fees identified on the Order(s) are exclusive of taxes and duties. Customer agrees to pay any and all taxes and duties that may be imposed by any taxing authority in connection with the Agreement, excluding taxes based on SMARTS' income or franchise taxes. Past due amounts are subject to a late charge equal to the lesser of 1 1/2% per month or the maximum amount allowed by law.

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Customer agrees to respond to semi-annual audit letters confirming the usage of the Software.

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#### 4. TERMINATION

In addition to other termination rights granted herein, this Agreement may be terminated by either party upon written notice, provided the basis for such termination is a material failure by the other party to perform its obligations

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hereunder and such failure is not corrected within thirty (30) days from the date such notice is received. Upon termination, Customer shall promptly discontinue use of the Software and return all copies of the Software and related materials in its possession or control to SMARTS or certify to their destruction. This license will terminate automatically if you fail to comply with the limitations described herein. SMARTS may terminate this Agreement immediately should any Software become, or in SMARTS' or its licensors' opinion(s) be likely to become, the subject of a claim of infringement of any intellectual property right. On termination, you must immediately destroy all copies of the Software and Documentation. The provisions of Sections 3, 8, 9 and 12 shall survive expiration or termination.

#### 5. MAINTENANCE

The first annual maintenance period for Priority Maintenance ("Maintenance") shall commence upon SMARTS' acceptance of any Order. Maintenance shall automatically renew for additional terms of one (1) year each commencing on the first day following the expiration of the then-current annual maintenance period ("Renewal Date"). Annual Maintenance will be calculated at a rate equivalent to twenty-five percent (25%) of the then-current list price for the Software. Customer may terminate Maintenance for any licensed Software by

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providing written notification to SMARTS at least sixty (60) days prior to the next Renewal Date. Customer shall identify to SMARTS one (1) person and one (1) alternate person to serve as Customer's support contact ("Customer Contact"). Only a Customer Contact may request Maintenance from SMARTS.



Customer may change the Customer Contact by prior written notice to SMARTS.

Maintenance includes (i) unlimited telephone support 24 hours per day, 7 days per week, and (ii) correction of errors to keep the Software in conformance with the user documentation (e.g., releases, modifications, refinements and enhancements) which are provided to SMARTS' general client base at no additional charge (the "Refinements"). SMARTS will provide one copy of Refinements to the Customer site and Customer may copy and distribute each such Refinement to the locations at which a licensed copy of the Software is installed and in use. For so long as SMARTS is offering Maintenance for the Software, and provided Customer has paid the applicable invoice, Maintenance will be provided and renewed in accordance with SMARTS' standard Maintenance policies in effect at the time of Maintenance subscription or renewal. If Customer fails to pay any Maintenance invoice on or before the commencement of any Maintenance period, Customer's right to receive Maintenance will terminate. Such discontinuance will not affect Customer's right to use the Software or void the license rights granted hereunder. Maintenance fees are nonrefundable. SMARTS may assign its duties of

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Maintenance to a third party, provided that SMARTS will remain responsible for the actions of such third party.

### 6. LIMITED WARRANTY

If at any time within the period ending thirty (30) days from the date of the applicable Order, the Software delivered thereunder substantially fails to perform the functions described in the applicable Software user documentation, Customer shall promptly notify SMARTS in writing of such alleged nonconformance. To the extent such deficiency exists in a current unaltered release of the Software, SMARTS shall, at its own cost and expense, either correct such deficiency or advise Customer how to achieve substantially the same functionality with the Software through a procedure different from that set forth in the documentation. SMARTS will undertake commercially reasonable efforts to effect the correction or provide advice pursuant to the foregoing warranty within 30 days of being so notified. Should SMARTS fail to do either, Customer may, as its sole remedy, upon giving SMARTS written notice within five days of such failure terminate the license to the affected Software, return such Software and receive a refund of all license fees paid by Customer for such Software. SMARTS DOES NOT WARRANT THAT USE OF THE SOFTWARE WILL BE UNINTERRUPTED OR THAT THE OPERATION OF THE SOFTWARE WILL BE ERROR-FREE OR

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SECURE, AND SMARTS HEREBY DISCLAIMS ANY AND ALL LIABILITY ON ACCOUNT THEREOF. EXCEPT FOR THE EXPRESS WARRANTIES IN THIS SECTION 6, SMARTS MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

### 7. INFRINGEMENT

SMARTS will indemnify, defend and hold Customer harmless from any action brought against Customer that is based on a claim that the Software, when used within the scope of this Agreement, infringes a United States patent, copyright, or trade secret. In such event, Customer shall give SMARTS prompt written notice of any claim and SMARTS shall have sole control of the defense, settlement or compromise. Customer may elect to participate in any such action with an attorney of its own choice at its own expense. Should any Software become, or in SMARTS' opinion is likely to become, the subject of a claim of infringement, SMARTS may at its option (i) procure for Customer the right to continue using the Software, or (ii) replace or modify the Software to make it non-infringing, or (iii) terminate the license for the affected Software. Upon termination of the license, SMARTS will refund to Customer, as SMARTS' sole liability and Customer's sole remedy, all license fees paid by Customer for the

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terminated license less an amount equal to one sixtieth of such license fees for each month or portion thereof that has elapsed since the effective date of the applicable license. The foregoing states the entire liability of SMARTS with respect to any claim of infringement.

### 8. IMPLEMENTATION AND ALTERATION

Customer acknowledges and agrees that (i) failure to implement all Refinements supplied by SMARTS as a part of Maintenance and (ii) any attempts by Customer to alter any Software without SMARTS' written direction or consent will be at Customer's sole risk and may render the Software unusable or nonconforming to the applicable user documentation. In no event will SMARTS have any obligation to support or maintain any Software that is misused, modified without SMARTS' prior written consent, or any Software for which Refinements have not been applied. SMARTS is not be responsible or liable for warranty or infringement claims, Software errors or any nonconformance with the applicable user documentation if such claims arise out of or are related to (i) any alteration or

modification made by Customer without the prior written consent of SMARTS; (ii) Customer's failure to implement any Refinements; (ii) Customer's misuse of the Software or (iv) the use or combination of the Software with software or other items not provided by SMARTS. Customer shall at all times maintain no

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fewer than two (2) qualified engineers trained for proper use of the Software at the Designated Location.

### 9. LIMITATION OF LIABILITY

EXCEPT WITH RESPECT TO SMARTS' OBLIGATIONS UNDER SECTION 7, AND NOTWITHSTANDING THE FORM IN WHICH ANY LEGAL OR EQUITABLE ACTION MAY BE BROUGHT, SMARTS SHALL IN NO EVENT BE LIABLE HEREUNDER FOR DAMAGES WHICH EXCEED THE AMOUNT OF THE LICENSE OR SERVICE FEES PAID BY CUSTOMER FOR THE SOFTWARE OR SERVICE WHICH GAVE RISE TO SUCH DAMAGES, OR IF NOT SOFTWARE RELATED, TO THE AMOUNT OF THE LICENSE FEES PAID IN THE ONE YEAR PRIOR TO THE DATE ON WHICH THE EVENT GIVING RISE TO SUCH DAMAGES OCCURRED. IN NO EVENT WILL SMARTS BE LIABLE FOR CONSEQUENTIAL DAMAGES OR FOR ANY OTHER INDIRECT DAMAGES SUCH AS, BUT NOT LIMITED TO, EXEMPLARY OR PUNITIVE DAMAGES, EVEN IF IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE LIMITATIONS, EXCLUSIONS AND DISCLAIMERS SET FORTH IN THIS SECTION 9 SHALL NOT HAVE THE OBJECT OR EFFECT OF LIMITING OR EXCLUDING SMARTS' LIABILITY FOR DEATH OR PERSONAL INJURY CAUSED BY SMARTS.

### 10. REFERENCE SITE

Subject to Customer's prior written approval on a case-by-case basis, Customer agrees: a) to be a reference site for SMARTS; b) to provide SMARTS prospects

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with information regarding Customer's use of the Software; c) to be the subject of a SMARTS "Success Story" and a press release to be written and published by or on behalf of SMARTS; and d) to provide SMARTS with a mutually agreeable testimonial that may be used by SMARTS in advertising and other promotional purposes.

### 11. FORCE MAJEURE

Neither party will incur any liability to the other party on account of any loss or damage resulting from any delay or failure to perform all or any part of this Agreement if such delay or failure is caused, in whole or in part, by events, occurrences or causes beyond the control and without the

negligence of the parties. Such events, occurrences or causes do not include the inability to meet financial obligations.

### 12. GENERAL

If the copy of the Software you received was accompanied by a printed or other form of "hard-copy" End User License Agreement or Software License Agreement whose terms vary from this Agreement, then the hard-copy End User License Agreement governs your use of the Software if signed by all parties. Customer may not assign, delegate, sublicense, pledge or otherwise transfer its rights

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or obligations under this Agreement without SMARTS' prior written consent. If any provision of this Agreement is deemed illegal or unenforceable, that provision shall be severed and the remainder of this Agreement will remain in full force and effect. The headings used in this Agreement are for convenience only and shall not create any rights or obligations or affect the meaning or interpretation of this Agreement. This Agreement shall be construed and enforced in accordance with the laws of the State of New York. Customer acknowledges that the Software is subject to export controls under applicable export control regulations, including without limitation, the U.S. Export Administration Regulations. SMARTS shall be entitled to recover from Customer reasonable attorneys' fees it incurs in enforcing its rights hereunder. This Agreement supersedes all other agreements, proposals, representations and other understandings regarding the Software, whether oral or written. The terms and conditions of any purchase order or other instrument issued by Customer or its agent in connection with this Agreement that are in addition to or inconsistent with the terms and conditions of this Agreement are null and void and shall not be binding on SMARTS. All notices permitted or required under this Agreement shall be sent to the recipient party's address stated in the latest Order under this Agreement (as may be modified in writing) by certified mail, return receipt requested, or receipted overnight carrier. Alterations or modifications

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of this Agreement will be valid only if made in a writing signed by both parties.

(C) 1996 - 2004, System Management ARTS Incorporated. All rights reserved.

Please choose from the following options:

- 1 - I accept the terms of the license agreement.
- 2 - I do not accept the terms of the license agreement.

To select an item enter its number, or 0 when you are finished: [0] 1

- 1 - I accept the terms of the license agreement.
- 2 - I do not accept the terms of the license agreement.

To select an item enter its number, or 0 when you are finished: [0]

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]

-----  
Choose to install "SMARTS Network Protocol Management Suite" to this directory, or specify the directory path to install to a different directory.

Enter a directory: [/opt/InCharge6]

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]

-----  
Choose the setup type that best suits your needs.

- 1 - Complete  
This option installs all available products in the Suite.
- 2 - Custom  
This option allows you to choose which products you would like to install.

To select an item enter its number, or 0 when you are finished: [0]

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]

-----  
Select the services you wish InCharge to start up automatically at system boot. When selecting a service, the service registers with the Service Control Manager. Services relate to the products chosen in the Product Selection screen.

If you see a service you wish to install, but the option is disabled, return to the Product Selection to choose the corresponding product.

Would you like to install services now? [Y]

-----  
InCharge Core Services  
-----

[ ] 1 - SMARTS InCharge Broker

Select the service to install, or 0 to continue: [0]

-----  
Network Protocol Manager Services  
-----

[ ] 1 - SMARTS NPM for OSPF

[ ] 2 - SMARTS NPM for BGP

Select the service to install, or 0 to continue: [0] 1

[X] 1 - SMARTS NPM for OSPF

[ ] 2 - SMARTS NPM for BGP

Select the service to install, or 0 to continue: [0] 2

[X] 1 - SMARTS NPM for OSPF

[X] 2 - SMARTS NPM for BGP

Select the service to install, or 0 to continue: [0]

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]

-----  
Enter the hostname of your InCharge broker: [localhost]

Enter the port of your InCharge broker: [426]

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]

-----  
You have selected the PERL API to be installed as a product. You must accept this license in order to continue. If you do not agree with this license, choose Custom from the installation type menu, deselect the PERL API as a product, and you will not be required to accept this license to continue.  
-----

### IMPORTANT NOTICE!

BY CLICKING THE "I ACCEPT" BUTTON BELOW AND/OR USING SMARTS PERL API SOFTWARE (THE "SOFTWARE"), YOU ARE CONSENTING TO BE BOUND BY AND BECOMING A PARTY TO A LEGALLY BINDING AGREEMENT. IF YOU ARE AGREEING TO THESE TERMS OF USE ON BEHALF OF A COMPANY, YOU REPRESENT THAT YOU ARE AUTHORIZED TO BIND THE COMPANY TO THE TERMS OF USE. IF YOU DO NOT ACCEPT THE TERMS AND CONDITIONS LISTED BELOW, CLICK ON THE "I DO NOT ACCEPT" BUTTON BELOW AND EXIT THIS WEBSITE NOW.

PLEASE READ THE FOLLOWING SOFTWARE LICENSE CAREFULLY BEFORE INSTALLING OR USING THE SOFTWARE. BY INSTALLING OR USING THE SOFTWARE, YOU ARE CONSENTING TO BE BOUND BY THIS LICENSE. IF YOU DO NOT AGREE WITH THESE TERMS, YOU MAY NOT INSTALL OR OTHERWISE USE THE SOFTWARE.

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### SMARTS SOFTWARE LICENSE AGREEMENT

THIS SOFTWARE LICENSE AGREEMENT sets forth the terms and conditions under which rated, a Delaware corporation with headquarters located at 44 South Broadway, Suite 700, White Plains, New York 10601 ("SMARTS") grants to you (the "Customer") a license to use the Software. The effective date of this Agreement shall be the date you click the "I ACCEPT" button below.

### GENERAL TERMS AND CONDITIONS

#### 1. LICENSE GRANT

1.1 SMARTS grants to Customer a nonexclusive, nontransferable, perpetual limited license to use a single copy of the Software inclusive of applicable user documentation (which is included in the defined term "Software") at the Customer site.

1.2 Each copy of the Software licensed shall be a single copy license that allows the Customer to use it as part of, or in conjunction with, applications

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developed or implemented by you only at the Customer site and only for the internal use of Customer.

1.3 Customer may not charge, or allow others to charge, any party for use of the Software. Customer may not: (a) copy the Software, or allow others to copy, in whole or in part or (b)

apply, or allow others to apply, any process or technique to the Software for the purposes of ascertaining the source code of any SMARTS software product. Customer may change the Customer site to another within the U.S. at any time upon prior written notice. Upon relocation, Customer must discontinue use of the Software at the prior Customer site.

1.4 Any use, modification, reproduction, release, performance, display or disclosure of the Software and/or the user documentation by the U.S. Government or any of its agencies shall be governed solely by the terms of this Agreement and shall be prohibited except to the extent expressly permitted by the terms of this Agreement. The Software and accompanying documentation are deemed to be "commercial computer software" and "commercial computer software documentation", respectively, pursuant to DFAR Section 227.7202 and FAR 12.212(b), as applicable. Any technical data provided that is not covered by the above provisions is deemed to be "technical data-commercial items" pursuant to DFAR Section 227.7015(a). Any use, modification, reproduction, release, performance, display or disclosure of such technical data shall be governed by

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the terms of DFAR Section 227.7015(b).

### 2. NO CHARGE

There is no charge for the Software.

### 3. TITLE, CONFIDENTIALITY

3.1 The Software and all intellectual property rights related thereto (the "Proprietary Information") constitute trade secrets and proprietary data of SMARTS and any third party from whom SMARTS has received marketing rights, and nothing in this Agreement shall be construed to convey any title or ownership rights to Customer. Customer shall use best efforts to safeguard the confidentiality of the Proprietary Information and any other information marked as confidential by SMARTS. Customer agrees to receive and hold in confidence and not disclose, except as explicitly allowed hereunder, the Proprietary Information to any third parties. Customer may disclose Proprietary Information to consultants under contract with Customer, provided all such consultants are bound to Customer in writing by confidentiality terms no less restrictive than those of this Agreement. Customer shall not allow the removal or modification of any proprietary notice made part of the Software and must reproduce all proprietary rights notices on any copies of the Software made pursuant to this



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Agreement. Customer acknowledges that SMARTS and any third party providing marketing rights shall have the right to take all reasonable steps to protect their proprietary interests and shall be entitled to seek injunctive relief and any other legal or equitable remedies. All enhancements, intellectual property rights and/or modifications to the Software shall also be owned by SMARTS or the respective third party, shall constitute Software, and shall be subject to these provisions. SMARTS, with reasonable prior notice, shall have the right to audit the usage of the Software and Customer's compliance with this Agreement. Customer agrees to respond to semi-annual audit letters confirming the usage of the Software.

3.2 The Software may have asset protection devices that restrict installation if the Software is used or moved in an unauthorized manner.

#### 4. TERMINATION

In addition to other termination rights granted herein, this Agreement may be terminated by either party upon written notice, provided the basis for such termination is a material failure by the other party to perform its obligations hereunder and such failure is not corrected within thirty (30) days from the date such notice is received. Upon termination, Customer shall promptly

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discontinue use of the Software and return all copies of the Software and related materials in its possession or control to SMARTS or certify to their destruction. The provisions of Sections 3, 6 and 7 shall survive expiration or termination.

#### 5. MAINTENANCE

Maintenance may be available for the Software. Please contact your SMARTS representative for more information.

#### 6. "AS IS" -- NO WARRANTIES -- LIMITATION OF LIABILITY

THE SOFTWARE IS PROVIDED "AS IS." INASMUCH AS THE SOFTWARE IS PROVIDED WITHOUT CHARGE, SMARTS MAKES NO WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. ALL IMPLIED WARRANTIES ARE EXPRESSLY DISCLAIMED.

NOTWITHSTANDING THE FORM IN WHICH ANY LEGAL OR EQUITABLE ACTION MAY BE BROUGHT, IN NO EVENT WILL SMARTS BE LIABLE TO YOU OR TO ANY OTHER PARTY FOR ANY LOSS (INCLUDING TIME, MONEY AND GOODWILL) FOR DIRECT, INDIRECT, SPECIAL OR

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CONSEQUENTIAL DAMAGES WHICH MAY ARISE FROM USE OF THE SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE LIMITATIONS, EXCLUSIONS AND DISCLAIMERS SET FORTH IN THIS SECTION 6 SHALL NOT HAVE THE OBJECT OR EFFECT OF LIMITING OR EXCLUDING SMARTS' LIABILITY FOR DEATH OR PERSONAL INJURY CAUSED BY SMARTS.

### 7. GENERAL

Customer may not assign, delegate, sublicense, pledge or otherwise transfer its rights or obligations under this Agreement without SMARTS' prior written consent. If any provision of this Agreement is deemed illegal or unenforceable, that provision shall be severed and the remainder of this Agreement will remain in full force and effect. The headings used in this Agreement are for convenience only and shall not create any rights or obligations or affect the meaning or interpretation of this Agreement. This Agreement shall be construed and enforced in accordance with the laws of the State of New York. Customer acknowledges that the Software is subject to export controls under applicable export control regulations, including without limitation, the U.S. Export Administration Regulations. SMARTS shall be entitled to recover from Customer reasonable attorneys' fees it incurs in enforcing its rights hereunder. This Agreement supersedes all other agreements, proposals, representations and other understandings regarding the Software, whether oral or written. The terms and

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conditions of any purchase order or other instrument issued by Customer or its agent in connection with this Agreement that are in addition to or inconsistent with the terms and conditions of this Agreement are null and void and shall not be binding on SMARTS. Alterations or modifications of this Agreement will be valid only if made in a writing signed by both parties.

Questions may be directed to, and software may be returned to SMARTS as follows:

Attention: Contracts Department, SMARTS, 44 South Broadway Avenue-Suite 700, White Plains, New York 10601

Telephone: (914) 948-6200 extension 8509  
Facsimile: (914) 948-6270  
Email: contracts@SMARTS.com

I HAVE READ THE FOREGOING TERMS AND CONDITIONS AND AGREE TO BE BOUND BY THEM AND BIND MY COMPANY TO THEM TO THE FULLEST EXTENT PERMITTED BY LAW.

Please choose from the following options:

- 1 - I accept the terms of the license agreement.
- 2 - I do not accept the terms of the license agreement.

To select an item enter its number, or 0 when you are finished: [0] 1

- 1 - I accept the terms of the license agreement.
- 2 - I do not accept the terms of the license agreement.

To select an item enter its number, or 0 when you are finished: [0]

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]

-----  
SMARTS Network Protocol Management Suite will be installed in the following location:

/opt/InCharge6/NPM

with the following features:

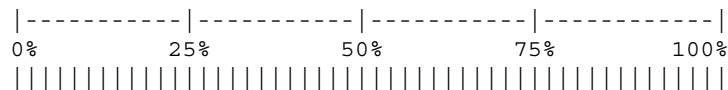
Network Protocol Manager  
Perl API

for a total size:

225.9 MB

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]

Installing SMARTS Network Protocol Management Suite . Please wait...



Creating uninstaller...

-----  
The InstallShield Wizard has successfully installed SMARTS  
Network Protocol

Management Suite . Choose Finish to exit the wizard. The  
following warnings  
were generated:

- The service SMARTS NPM for BGP installed successfully.
- The service SMARTS NPM for OSPF installed successfully.

Press 3 to Finish or 4 to Redisplay [3] 3

# B

## Installing the Network Protocol Management Suite Using Unattended-Mode

This appendix briefly describes how to install the InCharge Network Protocol Management Suite using unattended-mode installation. It also describes how to uninstall the InCharge Network Protocol Management Suite using unattended-mode.

### What Is Unattended-Mode Installation?

Unattended-mode installation, or simply unattended installation, reads the commands and settings for your installation from a user-modifiable file that you create prior to beginning the installation. Manual intervention is not necessary during the installation process.

Unattended installation, an alternative to the InstallShield Wizard or CLI-mode installation method, is available for all supported platforms.

Unattended installation offers the following advantages: It is useful for performing multiple installations in a large deployment and, for UNIX users, the X protocol is not required. InCharge installations are typically performed using the InstallShield Wizard installation, but some organizations have security-based policies for UNIX users that prohibit the transmission of the X protocol.

For unattended operation:

- To install, modify a response file as described in [About Response Files](#) on page 59. You also need to satisfy previously-described requirements, stop the InCharge services for the suite, and, afterwards, perform migration and post-installation tasks, if applicable.
- To uninstall, stop InCharge services including the service for the FLEXlm License Server.

The log files are located in the **BASEDIR**/*smarts/setup/logs* directory. If the installation process fails, the log files are located in the */tmp* directory. A non-zero status indicates a failure.

## Running the Unattended Installation

To start an unattended installation, execute the **Setup** command with the `-options` option and a fully-qualified directory path for the response file. The command can only be invoked from a command-line shell. The syntax is:

```
<setup-executable> -options <path>/<suite-response.txt>
```

where **<setup-executable>** is one of the following:

**Table 11:** The Setup Commands

OPERATING SYSTEM	EXECUTABLE:
Solaris	setup-solaris.bin
HP-UX	setup-hpux.bin
AIX	N/A
Red Hat Linux	setup-linux.bin
Windows	setup-winnt.exe

## Running the Unattended Uninstallation

To uninstall all of the products for a suite using the unattended uninstallation, execute the **uninstaller.bin** command with the `-silent` option. The syntax is:

```
BASEDIR/_uninst/uninstaller.bin -silent ▼  
▲-G replaceNewerResponse="Yes to All"
```

- ▼▲ Indicates the command must be typed as one line.
- 

## About Response Files

Each suite has a response file located on the CD-ROM in the */utils* directory. Its naming convention is *<suite>-response.txt*.

The response file provides instructions and examples of command line options that are passed to the unattended installation program. The command line options are organized by process flow. The process flow is almost identical to that of the InstallShield Wizard installation.

Before you execute the unattended installation program, you need to:

- 1** Copy the response file to the */tmp* directory on your system.
- 2** Modify the values for the command line options to select the products and services you wish to install and to ensure that the values reflect your environment. Command line options must contain acceptable values and fully-qualified directory paths.

