NOKIA

Nokia Intellisync
Wireless Email
Linux Installation Guide

Version 9.2

Nokia Contact Information

Corporate Headquarters

Web Site	http://www.nokia.com
Telephone	1-888-477-4566 *or* 1-650-625-2000
Fax	1-650-691-2170
Mail Address	Nokia Inc. 313 Fairchild Drive Mountain View, California 94043-2215 USA

Regional Contact Information

Americas	Nokia Inc. 313 Fairchild Drive Mountain View, CA 94043-2215 USA	Tel: 1-877-997-9199 Outside USA and Canada: +1 512-437-7089 email: info.ipnetworking_americas@nokia.com
Europe, Middle East, and Africa	Nokia House, Summit Avenue Southwood, Farnborough Hampshire GU14 ONG UK	Tel: UK: +44 161 601 8908 Tel: France: +33 170 708 166 email: info.ipnetworking_emea@nokia.com
Asia-Pacific	438B Alexandra Road #07-00 Alexandra Technopark Singapore 119968	Tel: +65 6588 3364 email: info.ipnetworking_apac@nokia.com

Nokia Customer Support

Web Site:	https://support.nokia.com/		
Americas		**Europe**	
Voice:	1-888-361-5030 or 1-613-271-6721	**Voice:**	+44 (0) 125-286-8900
Fax:	1-613-271-8782	**Fax:**	+44 (0) 125-286-5666
Asia-Pacific			
Voice:	+65-67232999		
Fax:	+65-67232897		
			050602

Contents

About This Guide

This guide is organized into the following chapters:

- Chapter 1, "System Requirements"
- Chapter 2, "Installing on a Linux Server"
- Chapter 3, "Additional Server Installation Options"
- Chapter 4, "Upgrading the Nokia Intellisync Server"
- Chapter 5, "Post-Installation Testing"
- Appendix A, "Configuring a GroupWise Mobile Server"
- Appendix B, "Backing Up Data on a Linux Server"

Additional information provided in this section is as follows:

- Conventions This Guide Uses
- Related Documentation

Conventions This Guide Uses

The following sections describe the conventions this guide uses, including notices, text conventions, and command-line conventions.

Notices

Warning
Warnings advise the user that bodily injury might occur because of a physical hazard.

Caution
Cautions indicate potential equipment damage, equipment malfunction, loss of performance, loss of data, or interruption of service.

Note
Notes provide information of special interest or recommendations.

Command-line Conventions

You may encounter one or more of the following elements on a command-line path.

Table 1 Command-line Conventions

Convention	Description
command	This required element is usually the product name or other short word that invokes the product or calls the compiler or preprocessor script for a compiled Nokia product. It might appear alone or precede one or more options. You must spell a command exactly as shown and use lowercase letters.
Italics	Indicates a variable in a command that you must supply. For example: **delete interface *if_name*** Supply an interface name in place of the variable. For example: **delete interface nic1**
angle brackets < >	Indicates arguments for which you must supply a value: **retry-limit <1–100>** Supply a value. For example: **retry-limit 60**
Square brackets [ ]	Indicates optional arguments. **delete [slot *slot_num*]** For example: **delete slot 3**
Vertical bars, also called a *pipe* (|)	Separates alternative, mutually exclusive elements. **framing <sonet | sdh>** To complete the command, supply the value. For example: **framing sonet** or **framing sdh**
-flag	A flag is usually an abbreviation for a function, menu, or option name, or for a compiler or preprocessor argument. You must enter a flag exactly as shown, including the preceding hyphen.

Table 1 Command-line Conventions (*continued*)

Convention	Description
.ext	A filename extension, such as .ext, might follow a variable that represents a filename. Type this extension exactly as shown, immediately after the name of the file. The extension might be optional in certain products.
(. , ; + * - /)	Punctuation and mathematical notations are literal symbols that you must enter exactly as shown.
' '	Single quotation marks are literal symbols that you must enter as shown.

Text Conventions

Table 2 describes the text conventions in this guide.

Table 2 Text Conventions

Convention	Description
monospace font	Indicates command syntax, or represents computer or screen output, for example: `Log error 12453`
bold monospace font	Indicates text you enter or type, for example: `# configure nat`
Key names	Keys that you press simultaneously are linked by a plus sign (+): Press Ctrl + Alt + Del.
Menu commands	Menu commands are separated by a greater than sign (>): Choose File > Open.
The words enter and type	Enter indicates you type something and then press the Return or Enter key. Do not press the Return or Enter key when an instruction says *type*.
Italics	• Emphasizes a point or denotes new terms at the place where they are defined in the text. • Indicates an external book title reference. • Indicates a variable in a command: `delete interface if_name`

Related Documentation

Nokia offers a common framework for the Nokia Intellisync Mobile Suite products. For this reason, there are electronic manuals and online help systems that cover the entire suite, plus additional resources for specific products.

For instructions to access documentation, see the following topics:

- Accessing Server Documentation
- Accessing Server Online Help
- Accessing Client Documentation

Accessing Server Documentation

The following server guides are available for Wireless Email. These documents are available on the Nokia Support Web Site (http://support.nokia.com) in Adobe Portable Document Format (PDF) or through your system administrator.

- *Nokia Intellisync Wireless Email Linux Installation Guide (LinuxWEInstallGdeEN.pdf)*—includes the installation requirements and other information you need to install Nokia Intellisync Wireless Email software for servers and clients.

- *Nokia Intellisync Mobile Suite Release Notes (ReleaseNotesEN.pdf)*—includes important information you should know before you install and use Nokia Intellisync Mobile Suite. This document includes important late-breaking information that may not be included in other documentation. This document applies to the entire suite and is shared with other Nokia Intellisync Mobile Suite products.

- *Nokia Intellisync Wireless Email Administrator's Guide (WirelessEmailAdminGuideEN.pdf)*—covers system administrative functions for managing the Wireless Email server and client operations.

- *Nokia Intellisync Secure Gateway Administrator's Guide (SecureGatewayGdeEN.pdf)*—written as a companion book to the *Nokia Intellisync Wireless Email Administrator's Guide,* and includes administrative functions for managing the Secure Gateway server.

Accessing Server Online Help

Nokia Intellisync Mobile Suite installs an online help system to assist administrators working in WebAdmin Console.

Nokia Intellisync Mobile Suite WebAdmin Console Help—includes information for managing the Nokia Intellisync Mobile Suite server using WebAdmin Console.

Accessing Client Documentation

The following electronic documents are available on the Nokia Support Web site (http://support.nokia.com) in Adobe Portable Document Format (PDF) or through your system administrator.

Client Installation Guides

Each guide includes information for installing software on devices using a specific platform, configuring synchronization settings, and synchronizing for the first time.

Table 3 Client Guides

Name	File Name
Nokia Intellisync Mobile Suite Client Guide–Palm OS Platform	PalmUsersGuideEN.pdf
Nokia Intellisync Mobile Suite Client Guide–Windows Mobile Platform	WindowsMobileUsersGuideEN.pdf
Nokia Intellisync Mobile Suite Client Guide–S60 3rd Edition Platform	Symbian60_UsersGuideEN.pdf
Nokia Intellisync Mobile Suite Client Guide–S80 Platform	Symbian80_UsersGuideEN.pdf
Nokia Intellisync Mobile Suite Client Guide–UIQ 3rd Edition Platform	SymbianUIQ3_UsersGuideEN.pdf

Note
The client guides are *not* installed as part of the client installation. You decide whether to provide the documentation to your users.

Client Web Site Online Help

The Web PIM interface provides online help on every page for end users.

Nokia Intellisync Wireless Email Linux Installation Guide

1 System Requirements

Nokia Intellisync Wireless Email offers centralized email and personal information manager (PIM) synchronization for your users. Wireless Email allows you to synchronize email, contacts, memos, calendar, and to-do items among all your mobile devices, eliminating duplicate data entry. This same data is accessible from any Internet-ready mobile phone and Web browser on any computer connected to the Internet. For supported devices, you can set up the Push feature so users receive new email as it as it arrives on the server.

Recommended Server Configuration

Many factors—the number of users, the number of concurrent users, and the volume of information shared, among others—affect how you should set up your system. This section provides some general guidelines for configuring the server.

Components Requiring Dedicated Computers

Depending on the size of your installation and the number of users, some components may be installed on the same computer. Other components perform best when each component is installed on a dedicated computer (or computers).

Do not install Nokia Intellisync Wireless Email on the Novell GroupWise server.

Product Evaluation and Small Installations

For a product evaluation, you may install the Nokia Intellisync server and the database on the same computer. A single computer that meets the minimum requirements can easily handle both the server and database for a product evaluation or small installation (under 100 users).

After evaluating the product, many customers choose to purchase a license key and upgrade their evaluation environment to a production environment. For larger installations where the Nokia Intellisync server and the database are on the same computer, the system administrator is potentially limiting scalability. If you anticipate converting your existing evaluation system to a production system supporting more than 100 active users, consider using separate computers for the Nokia Intellisync server and the database during evaluation.

Minimum Requirements

Table 4 and Table 5show the minimum requirements for Nokia Intellisync Wireless Email. As minimum requirements, this list may not provide the optimal environment for peak system performance.

Minimum Client Requirements

The following table lists the minimum client requirements.

Table 4 Wireless Email Client Minimum Requirements

	PC Client	Pocket PC Client	SmartPhone	Palm OS Client	Symbian
HARDWARE					
Processor Type	3GHz Dual Core Processor	Supported processor type: ARM - XScale			
Hard Disk Space	10GB MB				
Memory	64 MB RAM	32 MB RAM	32 MB RAM	8 MB RAM	32 MB RAM
SOFTWARE					
Operating System	• Windows XP • Windows Vista	• Windows Mobile 5.0 or later	• Windows Mobile 5.0 or later	Palm 5.0 or later	• S80: 7.0 • S60: 9.1, 9.2, 9.3 • UIQ: 3.0
Browser	Microsoft Internet Explorer 6.0 or later				

Minimum Server Requirements

The following table lists the minimum server requirements. As minimum requirements, this list may not provide the optimal environment for peak system performance.

Table 5 Wireless Email Server Minimum Requirements

HARDWARE	
Processor	Two Intel Xeon 3.0 GHz or later
Hard Disk Space	5 GB free disk space
Memory	2 GB RAM
SOFTWARE	
Operating System	RedHat Enterprise Linux 5.2, SLES 10 (openSUSE Linux Enterprise Server 10.0), Open Enterprise Server 1.0
	Note SELinux is supported using Targeted policy and with the server not included as one of the targeted daemons. SELinux is not supported using Strict policy.
Browser	Firefox 2.0 or Internet Explorer 7 or later
Supported Database	Sybase SQL Anywhere 10
OTHER REQUIREMENTS	
Permissions	Root
Open port 443	Open port 443 for license server, secure Web access (HTTPS), synchronization requests, Windows Mobile provisioning, and for access to external hosts ans1.nokia.com, ans2.nokia.com, and mtsgateway.ext.nokia.com.
Open port 80	Open port 80 for Web access and synchronization requests
Open port 3102	Open port 3102 for synchronization requests
Open port 25	Open port 25 for SMS push The SMTP (sendmail) service must be configured correctly.
Latency between IMS server and other backend server, database, or file system	36 milliseconds or less

Note
Make sure the temp directory on the server has a minimum 1 GB free space to successfully extract installation files.

2 Installing on a Linux Server

This chapter contains information for installing Nokia Intellisync Wireless Email on a single Linux server or on a cluster of Linux servers.

In addition to basic installation instructions, there are steps you can take before and after installation to make sure Nokia Intellisync Wireless Email functions correctly.

Before You Install

Review the following information *before* installing the software:

- To upgrade your server with this release, do not uninstall a previous release. For more information, see "Upgrading the Nokia Intellisync Server" on page 33.
- To permanently uninstall Intellisync Mobile Suite, see "Uninstalling Intellisync Mobile Suite" on page 27.
- If you expect to serve a large number of users, you can install Nokia Intellisync Wireless Email on multiple servers. For more information, see "Configuring a Cluster Environment" on page 25.

Complete the following tasks *before* installing the software.

- Read the Release Notes document on the Nokia Support Web site (http://support.nokia.com) for important information about this release.
- Nokia recommends backing up existing Nokia Intellisync data before installing this release. For backup instructions, see "Backing Up Data on a Linux Server" on page 41.
- Use the requirements in Chapter 1, "System Requirements" to verify that all prerequisite software is installed and functioning properly.
- To run the installer in graphical mode, you must have an X server running during installation. If you do not have X installed on your server, you can use X forwarding and connect from a computer that is running X. To enable X forwarding when connecting from another computer, use the parameter "-X" with ssh. Refer to the following example.

  desktop1:/root# ssh -X root@server1

  The installation instructions in this document assume you are currently viewing the directory containing the installation files and that the downloaded installation files are located in /root/download.

Installing Nokia Intellisync Wireless Email

The server installation program uses Install Anywhere to ensure your computer meets specific requirements before installing the software. If the Install Anywhere application detects a problem, the installation stops. You can restart the installation once you correct the problem.The installation contains the following files:

- ims.bin
- ClientPack_*x.x.x*.jar (where *x* represents the version number)
- branding/branding.iam.zip
- branding/eula.txt
- silent/installer.properties (for running a silent installation)
- documentation
- db directory

Choosing an Installation Method

You can install Nokia Intellisync Wireless Email using one of the following methods:

- Graphical installation—provides a sequence of dialog boxes that require you to enter information such as your license key, the default administrator password, and company information. The graphical installation requires you to install from the server that is installing the program or you can use a remote server with X-Window tunneling. To run the graphical installation, see "Running a Graphical Installation" on page 18.
- Silent installation—provides a properties file that you can edit to configure information unique to your installation, such as your license key, company name, and default administrator password. The silent installation does not require an X server running, although it can run in graphical mode as well. The silent installation requires you to install from the server that is installing the program or you can use a remote computer without X-Window tunneling. To run a silent installation, see "Running a Silent Installation" on page 20.
- Console mode—provides a sequence of messages that require you to enter information such as your license key, the default administrator password, and company information.To run a silent installation, see "Running the Installation in Console Mode" on page 22.

Note
The installation must be run as root.

Running a Graphical Installation

Complete the following steps to run the graphical installation for Nokia Intellisync Wireless Email. Close all applications before starting the installation.

To install using the graphical installation

1. Change the directory to the installation folder on the server, and run the following command:

   ./ims.bin

   The Introduction dialog box appears.

2. Click Next.

   The Enter License Key dialog box appears.

3. Enter a valid license key for your software, and then click Next.

   The License Agreement dialog box appears.

4. Review the license agreement, select "I accept the terms of the License Agreement," and then click Next.

   The Choose Install Set dialog box appears.

5. Complete one of the following, and then click Next.

   ▪ Click Mobile Suite to install the components of Nokia Intellisync Mobile Suite for which you have a license.

     The Choose Uninstall Link Folder dialog box appears.

   ▪ Click Secure Gateway only if you have already installed Nokia Intellisync Mobile Suite, and then proceed to step 14.

6. Select one of the options, and then click Next. If you select Other, you can choose any valid path on the system except the */opt/ims* installation folder. The folder you select will contain the links to uninstall the software.

   The Advanced Options dialog box appears.

7. Complete one of the following:

   ▪ To continue without configuring a server cluster or external database, click Next.

     The Admin Information dialog box appears; proceed to step 11.

   ▪ To install this application in a clustered server environment or to configure an external database, check the Configure Advanced Options check box, and then click Next.

     The Cluster Installation dialog box appears.

8. Complete one of the following.

   ▪ Click Next if your server is *not* set up in a clustered server environment or if it is the first server to be set in a clustered environment.

     The Admin Information dialog box appears; proceed to step 11.

   ▪ Check the check box if your server is configured in a clustered environment, and then click Next.

     The Database Type dialog box appears.

9. From the Database Type dialog box, select an option from the list, and then click Next.

   The Database Parameters dialog box appears.

10. Enter the appropriate information, and then click Next.

The Admin Information dialog box appears.

11. In the Administrator Name field, type a user name for logging in WebAdmin Console to perform administrative server functions as the default system administrator.

12. In the Password field, type a password for accessing WebAdmin Console administrative server functions. This password is required to logon to the server as an administrator. If you are using the embedded database, you will use this same password.

⚠ **Caution**

The password must not contain quotation marks, commas, apostrophes, or more than one dollar sign.

13. In the Confirm Password field, type the password again, and then click Next.

The Company Information dialog box appears.

14. Type your company name using only alphanumeric characters.

15. Type your two letter country code in International Organization Standardization 3166 country code format. To look up your country code, type the following URL: http://www.iso.org/iso/english_country_names_and_code_elements.com

16. Type your external server name to which clients have access from outside the firewall, and then click Next. Use a fully qualified domain name format: *servername.domain.suffix*.

The Pre-Installation Summary dialog box appears.

17. Click Install to begin installing the software.

When the installer finishes processing the files, the Install Next Steps dialog box appears.

18. Review the information and note the server address. This is the server address for launching and accessing Nokia Intellisync Mobile Suite.

19. Click Next.

When the installation completes, the Install Complete dialog box appears.

20. Click Done.

21. Open a Web browser and type http://<*serveraddress*>/admin to access WebAdmin Console.

Running a Silent Installation

You can configure and run a silent install if you want to automate the installation of Nokia Intellisync Wireless Email or you do not have an X server running. Close all applications before starting the installation.

To configure and run a silent installation

1. From the installation folder on the server, open the following file:

```
silent/installer.properties
```

2. Edit the following file parameters to match your environment.

File Parameter	Instructions
INSTALLER_UI=silent	Installation is silent with minimal console output. **Note**: Do not change this parameter.
CHOSEN_INSTALL_SET=Mobile	Default setting to install Nokia Intellisync Mobile Suite. To install only Secure Gateway, change the parameter to CHOSEN_INSTALL_SET=Secure.
LICENSE=	Type your license key. The license key must be valid or the installation will stop.
USER_SHORTCUTS=/root	Selects the directory for creating the uninstall links. You can set this value to any valid path on the system except the `/opt/ims` installation folder.
ADMIN_COMPANY_NAME=	Type your company name using only alphanumeric characters.
ADMIN_COUNTRY=	Type your two letter country code in International Organization Standardization 3166 country code format. To look up your country code, type the following URL: http://www.iso.org/iso/english_country_names_and_code_elements.com
SERVERURL=	Type your external server name to which clients can access from outside the firewall. Use the format: *server.domain.suffix* **Note**: Do not add http:// or https:// to the server name.
ADMIN_USER=	Type a user name for logging in WebAdmin Console to perform administrative server functions as the default system administrator. **Note**: Not applicable when installing only Secure Gateway.
ADMIN_PW=	In the Password field, type a password for accessing WebAdmin Console administrative server functions. This password is required to logon to the server as an administrator. If you are using the embedded database, you will use this same password. The password must not contain quotation marks, commas, apostrophes, or more than one dollar sign. **Note**: Do not type a password if you are installing only Secure Gateway.
IMS_CLUSTER=	Type 0 Standalone installation First machine in a cluster installation Type 1 Existing cluster installation

File Parameter	Instructions
IMS_EXTERNAL_DB=	Type 0 Embedded db installation on another machine Cluster installation Type 1 External Oracle db installation **Note**: Only applicable when clustering is enabled and Wireless Email is disabled. Based on license key.
DB_ASA_EXT=	Type 0 Another db installation Type 1 External suite db installation **Note**: Only applicable when clustering is enabled.
DB_ORACLE=	Type 0 Another db installation Type 1 External Oracle db installation **Note**: Only applicable when external db or clustering is enabled.
DB_SERVER= DB_NAME= DB_PASSWORD= DB_USER= DB_PORT=	Type the appropriate information. **Note**: Applicable only when external db is enabled.

3. Open a terminal window.

4. Change the directory to the installation folder on the server, and run the following command:

```
./ims.bin -f ./silent/installer.properties
```

The installation process starts.

5. Open a Web browser and type http://<*serveraddress*>/admin to access the WebAdmin Console.

Running the Installation in Console Mode

Complete the following steps to run the installation in console mode. Close all applications before starting the installation.

To install using the console mode

1. Change the directory to the installation folder on the server, and run the following command:

```
./ims.bin -i console
```

The Introduction message appears.

2. Press Enter.

The Enter License Key message appears.

3. Enter a valid license key for your software, and then press Enter.

The License Agreement message appears.

4. Press Enter to scroll through and review the license agreement.

5. When prompted to accept the terms of the license agreement, type Yes, and then press Enter.

The Choose Install Set message appears.

6. Choose one of the following, and then press Enter.

- Press 1 to install the components of Nokia Intellisync Mobile Suite for which you have a license.

- The Choose Uninstall Link Folder message appears.

- Press 2 only if you have already installed Nokia Intellisync Mobile Suite, and then proceed to step 15.

7. Press the corresponding number of your choice, and then press Enter. If you select Other, you can choose any valid path on the system except the */opt/ims* installation folder. The folder you select will contain the links to uninstall the software.

The Advanced Options dialog box appears.

8. Complete one of the following:

- If this is the first server to be set in a clustered environment, or to continue without configuring a server cluster or external database, press Enter, and then proceed to step 12. step 12.

- To install this application in a clustered server environment or to configure an external database, type Yes, and then press Enter.

The Cluster Installation message appears.

9. Complete one of the following.

- Press Enter if your server is *not* set up in a clustered server environment or if it is the first server to be set in a clustered environment.

  The Admin Information message appears. Proceed to step 12.

- Type Yes if your server is configured in a clustered environment, and then press Enter.

  The Database Type message appears.

10. From the Database Type message, press a number from the list, and then press Enter.

The Database Parameters message appears.

11. Enter the appropriate information, and then press Enter.

The Admin Information message appears.

12. For the Administrator Name field, type a default system administrator user name for logging in WebAdmin Console, and then press Enter.

13. Type a password for accessing WebAdmin Console administrative server functions, and then press Enter. This password is required to logon to the server as an administrator. If you are using the embedded database, you will use this same password.

⚠ **Caution**

The password must not contain quotation marks, commas, apostrophes, or more than one dollar sign.

14. For the Confirm Password field, type the password again, and then press Enter.

The Company Information message appears.

15. Type your company name using only alphanumeric characters, and then press Enter.

16. Type your two letter country code in International Organization Standardization 3166 country code format, and then press Enter. To look up your country code, open a Web browser and type the following URL:
http://www.iso.org/iso/english_country_names_and_code_elements.com

17. Type your external server name to which clients may have access from outside the firewall, and then press Enter. Use a fully qualified domain name format: *servername.domain.suffix*.

The Pre-Installation Summary message appears.

18. Press Enter to begin installing the software.

When the installer finishes processing the files, the Install Next Steps message appears.

19. Review the information and note the server address. This is the server address for launching and accessing Nokia Intellisync Mobile Suite.

20. Press Enter.

When the installation completes, the Install Complete message appears.

21. Press Enter.

22. Open a Web browser and type http://<*serveraddress*>/admin to access WebAdmin Console.

Installing the Secure Gateway Server

Install the Secure Gateway application on each Secure Gateway server. The deployment size determines the number of Secure Gateway servers you need. Keep the status.html page open after the installation completes.

For information on installing and configuring the Secure Gateway server, refer to the *Nokia Intellisync Secure Gateway Administrator's Guide* on the Nokia Support Web Site (http://support.nokia.com) or through your system administrator.

Installing Nokia Intellisync on Multiple Servers

If you expect to serve a large number of users, consider running Nokia Intellisync Wireless Email across multiple servers to balance the load. Nokia Intellisync Wireless Email is designed to support clustered servers in most load-balancing environments.

Note
Nokia recommends that you use the same administrator password for the Nokia Intellisync servers that you used when installing the SQL Anywhere database server.

Configuring a Cluster Environment

To configure a cluster environment for Nokia Intellisync Wireless Email, complete the following procedure:

Installing Nokia Intellisync in a cluster

1. Install Nokia Intellisync Wireless Email on each server in the cluster. For installation instructions, see "Choosing an Installation Method" on page 18.

2. Confirm you can access and ping the following servers from the Nokia Intellisync servers:
   - Secure Gateway server
   - SQL Anywhere database server
   - Shared file system server

3. Confirm all servers in the cluster have the same date and time. If necessary, use Network Time Protocol service to synchronize the date and time on the servers.

4. Stop all Nokia Intellisync services on each server in the cluster. For more information, see "Starting and Stopping Services" on page 27.

5. Mount the folder you created on the shared file system server on all Nokia Intellisync servers. For example, on each server that will access the shared file system server, add the following line to the **/etc/fstab** file.

   ```
   server1:/opt/ims/sfs /opt/nfs nfs rsize=8192,wsize=8192,timeo=14,hard,intr,bg,rw
   ```

   Note
   This example assumes that the server hosting the shared file system is named server 1, the /var/sfs directory exists on each server, and you want to mount the exported shared file system to /var/sfs.

   ---

6. After adding the line, issue the command mount **/var/sfs** on each server that needs access to the shared file system server. You need to only do this once; the folder is automatically mounted the next time the server is started.

7. Start the Nokia Intellisync services on one of the servers in the cluster.

---

8. Complete the following steps.

   a. Log in to WebAdmin Console. Select System Settings > Directories and click Edit. In the Wireless Email Data field, change the folder to the mounted folder from the dedicated shared file system. Click Save, and then click Done.

   b. Select System Settings > Server Names and click Edit. If only one Secure Gateway is in the cluster, go to the Website Server Name field and change the URL to the Secure Gateway. If several Secure Gateway servers are in the cluster, go to the Website Server Name field and change the URL to the Load Balancer. Click Save, and then click Done.

   c. Select System Settings > Secure Gateways, click New. Add the new Secure Gateway server IP name for all Secure Gateway servers, and then click Save. From the Server Name list, check the box next to localhost, click Delete, and then click Done.

9. Manually stop the Nokia Intellisync services.

10. Start all services on the Secure Gateway server and the Nokia Intellisync servers in the cluster.

Required Linux Server Configuration

If your deployment is for more than 500 users, complete the following procedure to configure file limits on your server, database server, or secure gateway server.

To configure a deployment for more than 500 users

1. Edit the following file:

   /etc/security/limits.conf

2. Increase the numbers to the values provided in the table below. The far right column represents the number of open files and open sockets.

*	soft	nofile	63535
*	hard	nofile	63535

3. Edit the following file to turn on PAM limits to have the new values read at start-up:

   /etc/pam.d/login

4. Add the following information to the file **/etc/pam.d/login**

   session   required   /lib/security/pam_limits.so

5. Restart the server.

Starting and Stopping Services

Services start automatically after the installation completes.

To start Nokia Intellisync services

Run the following commands to start Nokia Intellisync services:

```
/etc/init.d/asadb start
/etc/init.d/securegateway start
/etc/init.d/mobilesuite start
```

To stop Nokia Intellisync services

Run the following commands to stop Nokia Intellisync services:

```
/etc/init.d/mobilesuite stop
/etc/init.d/securegateway stop
/etc/init.d/asadb stop
```

To check the status of Nokia Intellisync services

To check the status of Nokia Intellisync services, use the **status** argument for any script, as shown in the following example:

```
/etc/init.d/mobilesuite status
/etc/init.d/securegateway status
/etc/init.d/asadb status
```

Uninstalling Intellisync Mobile Suite

You can permanently uninstall Intellisync Mobile Suite. To upgrade your server, do not uninstall a previous release. For more information, see "Upgrading the Nokia Intellisync Server" on page 33.

To uninstall Intellisync Mobile Suite

1. Run the uninstall shortcut.

   ```
   sh Uninstall_SyncServer
   ```

   Note
   The default location for this file is the root user's home directory.

   ---

2. After uninstalling an existing version, copy all remaining directories to another location.

3. Run the following command:

   ```
   rm -rf /opt/ims
   ```

4. Go to the following directory and remove any reference to services (mobilesuite, securegateway, and asadb):

   `/etc/init.d`

5. Go to the following file and remove any reference to services (mobilesuite, securegateway, and asadb):

   `/etc/crontab`

3 Additional Server Installation Options

This chapter contains information for installing Nokia Intellisync Wireless Email using the following options:

- Setting Up a Remote SQL Anywhere Database Server
- Setting Up Database Mirroring
- Setting Up a Dedicated Share File System Server

Setting Up a Remote SQL Anywhere Database Server

Use the following instructions for setting up a remote SQL Anywhere database server.

To set up a remote SQL Anywhere database server

1. Install Nokia Intellisync Wireless Email on the external SQL Anywhere database server. For installation instructions, refer to "Choosing an Installation Method" on page 18.

2. Stop all Nokia Intellisync services on each server in the cluster. For more information, see "Starting and Stopping Services" on page 27.

Setting Up Database Mirroring

Database mirroring is a configuration of two or three separate operational database servers that work together to maintain copies of the database and transaction log files.

The Nokia Intellisync server and the mirror server each maintain a copy of the database files and transaction log files. The third server, the Arbiter server, does not maintain a copy of the database but determines which of the other two servers has ownership of the database. Configuring three database servers (the Nokia Intellisync server, mirror, and Arbiter) is referred to as a *mirroring system*, and the Nokia Intellisync and mirror servers together are the *operational servers* or *partners*.

For more information about database mirroring, go to the following URL:

http://www.ianywhere.com/developer/product_manuals/sqlanywhere/1000/en/html/dbdaen10/ da-database-mirroring-overview.html.

The following steps provide setup instructions for a configuration with three computers:

- Server 1
- Server 2
- Arbiter server

To configure and set up a database mirror system

1. On server 1, server 2, and the Arbiter server, install the database engine that comes with Nokia Intellisync Wireless Email.
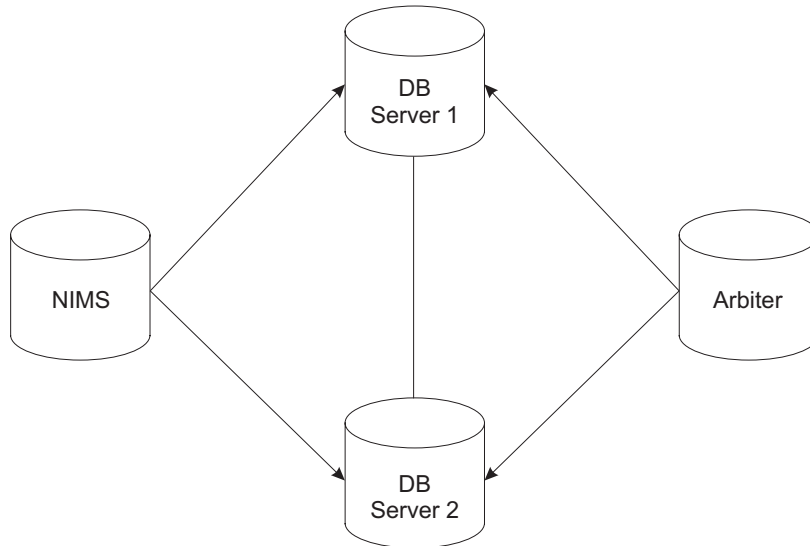
2. After installing the database engine, confirm that the database is no longer running on server 1, server 2, and the Arbiter server.

3. Install Nokia Intellisync Wireless Email on the server.

4. Stop all services on the Nokia Intellisync server.

5. To ensure the exact state of the database on server 1 and server 2, copy `/opt/ims/db/data/SyncDB.*` from the Nokia Intellisync server to server 1 and server 2 in the folder `/opt/ims/db/data/`.

6. After copying the files, check server 1 and server 2 to ensure that each folder contains the SyncDB.db and SyncDB.log files.

7. Start the Arbiter server using the following bash script.

```
#!/bin/bash
source /opt/ims/conf/ims_profile
source /opt/ims/db/linux/bin/sa_config.sh
dbsrv10 -x tcpip\(PORT=2639\) -su admin -n arbiter -xa
"auth=dba;DBN=SyncDB" -xf /opt/ims/log/arbiterstate.txt
```

The following command line specifies the dbsrv10 options:

- **-x**—instructs the database server to use TCP/IP communications over port 2639. The other servers also use TCP/IP, but communicate on different ports.
- **-su**—specifies the password for the utility database.
- **-n**—names the database server Arbiter.
- **-xa**—specifies the names of the mirrored databases and the authentication string (in this case abc) for Arbiter server. This authentication string must be used on all the servers (Arbiter, Primary, and Mirror) in a database *mirroring system*.
- **-xf**—specifies the location of the state information file for Arbiter.

8. Start the Nokia Intellisync server on the server 1 computer by using the following bash script.

```
#!/bin/bash
source /opt/ims/conf/ims_profile
source /opt/ims/db/linux/bin/sa_config.sh


dbsrv10 -n server1 -x tcpip\(PORT=2638\) -xf /opt/ims/log/
server1state.txt -su admin /opt/ims/db/data/SyncDB.db -sn ha_server
-xp
partner="(ENG=server2;LINKS=tcpip(port=2637;TIMEOUT=1));auth=dba;ar
biter=(ENG=arbiter;LINKS=tcpip(PORT=2639;TIMEOUT=1));mode=sync"
```

9. Start the mirror server on server 2 using the following bash script.

```
#!/bin/bash
source /opt/ims/conf/ims_profile
source /opt/ims/db/linux/bin/sa_config.sh


dbsrv10 -n server2 -x tcpip\(PORT=2637\) -xf /opt/ims/log/
server2state.txt -su admin /opt/ims/db/data/SyncDB.db -sn ha_server
-xp
partner="(ENG=server1;LINKS=tcpip(PORT=2638;TIMEOUT=1));auth=dba;ar
biter=(ENG=arbiter;LINKS=tcpip(PORT=2639;TIMEOUT=1));mode=sync"
```

10. From the Nokia Intellisync server, open the **/opt/ims/conf/config.properties** file and set the following database URL:

```
url=jdbc:ianywhere:driver=libdbodbc10_r.so;DatabaseName=SyncDB;Isol
ationLevel=1;ENG=ha_server;LINKS=tcpip
```

11. Start Nokia Intellisync Wireless Email.

Testing the High Availability Features

To test availability, stop all processes on either server 1, server 2, or the Arbiter server. Nokia Intellisync Wireless Email should continue working without any interruption in accessing the database.

Setting Up a Dedicated Share File System Server

Create a directory on a Linux server for the shared file system (SFS). For example:

/opt/ims/sfs/

This shared file system directory must be shared on the network and accessible from any of the Nokia Intellisync servers in the cluster.

The following example provides general steps for creating a shared file system directory with the following assumptions:

- You are using a network file system (NFS) protocol to export the directory and mount it from a remote server or servers.
- You are exporting the /opt/ims/sfs directory.
- You are not configuring security restrictions on servers that connect to the database server.

NFS sharing is complex and has many options, therefore Nokia recommends that you adjust the appropriate NFS export options to suit your operation. For more information, refer to your NFS server documentation.

To set up an exported NFS directory

1. Confirm that you have the NFS server packages installed on your Linux server. If your server is a SUSE Linux Enterprise Server (SLES) server, confirm the following packages are installed.

- aaa_base
- netcfg
- nfs-utils

2. Open the /etc/exports file and add the following information. For example:

/opt/ims/sfs *(rw,sync,no_root_squash)

3. Restart the NFS server. If your server is an SLES server, run the following command.

/etc/init.d/nfsserver restart

4   Upgrading the Nokia Intellisync Server

This chapter contains information for upgrading your Nokia Intellisync Wireless Email server using a graphical interface, silent mode, or console mode.

⚠ **Caution**
To upgrade your server with this release, do not uninstall a previous release.

Backing Up Existing Data

Nokia recommends that you back up your data before installing this release. For backup instructions, see "Backing Up Data on a Linux Server" on page 41.

Upgrading Using a Graphical Interface

Complete the following steps to graphically upgrade your server. Close all applications before upgrading your server.

To use a graphical upgrade

1. Change the directory to the installation folder on the server, and run the following command:

   `./ims.bin`

   The Introduction dialog box appears.

2. Click Next.

   The "Enter the Database Password to Continue the Upgrade" dialog box appears.

3. Enter your database password and click Next.

   The Upgrade Summary dialog box appears.

4. Click Install to begin installing the software.

   When the installer finishes processing the files, the Install Next Steps dialog box appears.

5. Review the information and note the server address. This is the server address for launching and accessing Nokia Intellisync Mobile Suite.

6. Click Next.

    When the installation completes, the Install Complete dialog box appears.

7. Click Done.

8. Open a Web browser and type http://<*serveraddress*>/admin to access WebAdmin Console.

Upgrading Using Silent Mode

You can configure and run a silent upgrade if you want to automate the upgrade or you do not
have an X server running. Close all applications before upgrading your server.

To use a silent upgrade

1. From the installation folder on the server, open the following file:

    silent/upgrade.properties

2. For the PT_PASSWORD parameter, type your current database administrative user
    password.

3. Open a terminal window.

4. Change the directory to the installation folder on the server, and run the following command:

    ./ims.bin -f ./silent/upgrade.properties

    The installation process starts.

5. Open a Web browser and type http://<*serveraddress*>/admin to access WebAdmin Console.

Upgrading Using the Console Mode

Complete the following steps to run the installation in console mode. Close all applications
before upgrading your server.

To install using the console mode

1. Change the directory to the installation folder on the server, and run the following command:

    ./ims.bin -i console

    The Introduction message appears.

2. Press Enter.

    The Enter the Database Password message appears.

3. Enter your database password and press Enter.

    The Upgrade Summary message appears.

4. Press Enter to begin installing the software.

    When the installer finishes processing the files, the Install Next Steps message appears.

5. Review the information and confirm the server address. This server address is for launching
    and accessing the Nokia Intellisync Web site.

6. Press Enter.

When the installation completes, the Install Complete message appears.

7. Press Enter.

8. Open a Web browser and type http://<*serveraddress*>/admin to access WebAdmin Console.

5 Post-Installation Testing

The following sections provide instructions for testing the system after installation.

End User Web Site

Users can use the Web site to log in, configure their account settings, and install software on their device.

On the server, open a Web browser and type http://<*serveraddress*>/. This step validates that the server is operational and the Web site is available.

If you receive an HTTP error, try the following solutions:

- Check the default Web site port and confirm the port is set to 80.
- Restart the server.

Administrator Web Site

On the server, open a Web browser and type http://<*serveraddress*>/admin/. This step validates that the server is operational and the Web site is available.

If you receive an HTTP error, try the following solutions:

- Check the default Web site port and confirm the port is set to 80.
- Restart the server.

After you complete these initial tests, the system is ready for user access.

Troubleshooting Logon Issues

If the server does not recognize the account or password, then the logon fails. Make sure you typed the correct user name (including the domain name) and password, and then try again.

If the user name and password are correct but you still cannot log on, ensure that all Nokia Intellisync services are started. For instructions to start Nokia Intellisync services, refer to "Starting and Stopping Services" on page 27.

A   Configuring a GroupWise Mobile Server

This chapter contains information for configuring a Novell GroupWise Mobile Server in a Nokia Intellisync Wireless Email installation.

Verifying the GroupWise Post Office Agent

For the GroupWise Mobile Server to run properly, the GroupWise Post Office Agent must be installed on the GroupWise server, as it is needed by the SOAP interface used by the GroupWise translator. Refer to your Novell GroupWise documentation for more information about installing the GroupWise Post Office Agent.

Configuring the GroupWise Mobile Server

There are several configuration changes that must be made to synchronize successfully with a GroupWise account.

- External server names must be set correctly. For example, Web Site Server, Sync Server, and Network Push Server. Using the WebAdmin Console, go to System Settings > Server Names and verify the external server names are set correctly to your external IP address/DNS names.

- You can create authentication sources using the WebAdmin Console. Go to System Settings > Authentication > Sources > New GroupWise.

  Note: If you are using a GroupWise authentication source and your GroupWise server requires Secure Sockets Layer (SSL) for SOAP access, select the "Use SSL" option. Afterward, go to User Settings > Wireless Email > Novell GroupWise. From the Novell GroupWise Access tab, click Edit, and then select the "Use SSL" option.

- To manage and add the GroupWise server that your users will use, go to User Settings > Wireless Email > Novell GroupWise. From the Novell GroupWise Access tab, click Edit and enter the server address.

- To allow end users to add or remove GroupWise connections, go to User Settings > Wireless Email > Novel GroupWise. From the Novell GroupWise User Settings tab, click Edit and select the first three options.

■ To allow end users to access their information from the Web PIM, go to User Settings > Wireless Email > Wireless Email User. Click "Default Profile," and then click Edit. From the Settings tab, select the "Enable Web Email And PIM Functionality On The Web" option.

Verifying Successful Authentication

For GroupWise users, the system queries the GroupWise server and gathers user information. Depending on the access type, the system may automatically discover the mailbox server and mailbox name. If not, manually specify a valid GroupWise user name. To manage Novell GroupWise Access settings, log on to WebAdmin Console and select User Settings > Wireless Email > Novell GroupWise. Click the Novell GroupWise tab, and then click Edit.

B   Backing Up Data on a Linux Server

This chapter provides basic instructions for backing up and restoring the Nokia Intellisync directory structure, files, and data on a Linux server that uses a Sybase SQL Anywhere database.

Note
The following backup instructions are written for the most common Nokia Intellisync Mobile Suite configuration on a Linux server. Because your server configuration may be different, Nokia recommends that you adapt these general instructions to your existing backup policies and procedures.

Backing Up the Nokia Intellisync Server

Nokia recommends that you back up your Nokia Intellisync Mobile Suite data on a regular basis. In addition, it is important that you follow the backup procedure *in the order outlined* in this section to ensure that various parts of your system remain synchronized.

Always back up your file system and databases at the same time. The file system keeps track of data going in and out of the database. If you need to restore the Nokia Intellisync Mobile Suite server data, be sure to use the database backup and file system backup from the same date and time.

Backing Up a Server with a Sybase Database

Use the following procedure to back up a Nokia Intellisync Linux server that uses a Sybase SQL Anywhere database.

To back up a Nokia Intellisync server by using a Sybase database

1. From the server running the database service, open a terminal window and stop the following services:

```
/etc/init.d/mobilesuite stop
/etc/init.d/securegateway stop
/etc/init.d/asadb stop
```

If you have multiple servers in a clustered environment, stop the "mobilesuite" and "securegateway" services on each server in the cluster.

2. From the server running the database service, use the following commands to copy the data folders to a backup location:

```
cp -pr /opt/ims/db/data /backup
cp -pr /opt/ims/in /backup
cp -pr /opt/ims/out /backup
cp -pr /opt/ims/content /backup
cp -pr /opt/ims/PIM/SharedFileSystem /backup
cp -pr /opt/ims/clientinstalls /backup
cp -pr /opt/ims/commsvr/filestore /backup
```

Note
The source folder path may be different than the default path shown above. To locate the path on your server, go to WebAdmin Console and click System Settings > Directories.

3. From the server running the database service, open a terminal window and start the following services:

```
/etc/init.d/asadb start
/etc/init.d/securegateway start
/etc/init.d/mobilesuite start
```

If you are operating in a clustered server environment, start the "mobilesuite" and "securegateway" services on each server in the cluster.

The backup is complete.

Restoring Nokia Intellisync Server Data from a Backup

Nokia recommends that you follow the restore procedure *in the order outlined* in this section to ensure that various parts of your system remain synchronized. When restoring Nokia Intellisync Mobile Suite data, be sure to use the database backup and file system backup from the same date and time. The following section provide instructions for restoring data on a Nokia Intellisync Linux server that uses a Sybase SQL Anywhere database.

Note
The following data restoration instructions are written based on the backup instructions in this chapter. Because your server configuration may be different, Nokia recommends that you adapt these general instructions to your existing policies and procedures.

Restoring Data to a Server with a Sybase Database

Use the following procedure to restore Nokia Intellisync data from a backup location to a Linux server that uses a Sybase SQL Anywhere database.

To restore data to a Nokia Intellisync server that uses a Sybase database

1. From the server running the database service, open a terminal window and stop the following services:

   /etc/init.d/mobilesuite stop

   /etc/init.d/securegateway stop

   /etc/init.d/asadb stop

   If you have multiple servers in a clustered environment, stop the "mobilesuite" and "securegateway" services on each server in the cluster.

2. From the server running the database service, use the following commands to copy the data folders from the backup location to the Nokia Intellisync server:

   cp -pr /backup/data /opt/ims/db/

   cp -pr /backup/in /opt/ims/

   cp -pr /backup/out /opt/ims/

   cp -pr /backup/content /opt/ims/

   cp -pr /backup/PIM/SharedFileSystem /opt/ims/PIM/

   cp -pr /backup/clientinstalls /opt/ims/

   cp -pr /backup/commsvr/filestore /opt/ims/commsvr/

   Note

   The destination folder path may be different than the default path shown. To locate the path on your server, go to WebAdmin Console and click System Settings > Directories.

   ---

3. From the server running the database service, open a terminal window and start the following services. If you are operating in a clustered server environment, start the mobilesuite and securegateway services on each server in the cluster.

   /etc/init.d/asadb start

   /etc/init.d/securegateway start

   /etc/init.d/mobilesuite start

   The data restoration process is complete.

Index

Intellisync Mobile Suite, permissions 15

L

latency requirement 15
license key 13, 21
license server port 15
Linux server configuration 26
log on troubleshooting 37

M

minimal console output 21
mirroring system 29
multiple server installation 25

N

network file sharing 32
Nokia Intellisync Mobile Suite, starting and stopping
 services 27
Nokia Intellisync Wireless Email
  upgrading server 33
Novell GroupWise server 13

O

operating system requirement 15
operational servers or partners 29

P

parameters, installation 20
password 24, 25
  Secure Gateway 21
password, characters in 20
permissions for Intellisync Mobile Suite 15
personal information manager 13
PIM 13
post office agent 39
post-installation testing 37
prerequisites
  hardware 14, 15
  software 14, 15
product evaluation 13
production environment, upgrading to 13

R

RAM requirement 15
related documentation 10
release notes 17
requirements

client 14
hardware 14
important notes 14
permissions 15
server 15
software 14
temp directory 16
restoring
a backup 42
Linux server 41

S

Secure Gateway Server
  installing 24
  username and password 21
secure sockets layer 39
secure Web access (HTTPS), port 15
server
  configuration 13
  dedicated 13
  general guidelines for configuration 13
  installing on clustered servers 25
  SQL Anywhere database 29
server configuration, recommended 13
server documentation, accessing 10
server requirements 15
services, starting and stopping 27
shared file system 25, 32
silent installation 20
silent upgrade 34
small installations 13
SMS push port 15
software
  evaluation 13
  requirements 14
SQL Anywhere database installation 29
SSL 39
standalone installation 21
starting and stopping services 27
supported databases 15
Sybase SQL Anywhere database 41
Sybase, remote database 29
synchronization request port 15
system requirements
  important notes 14
  minimum/maximum 14

T

temp directory, requirements 16
testing after installation 37

transaction log files 29
troubleshooting, log on 37

U
uninstall links, directory for 21
uninstalling Intellisync Mobile Suite 27
upgrading
  console 34
  Nokia Intellisync Server 33
  using a graphical interface 33
  using console mode 34
  using silent mode 34
user information, accessing 40

W
Web access port 15
Web site
  administrator 37
  user 37
WebAdmin Console 39
Windows Mobile provisioning port 15