



# **Scalix Installation Guide**

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## Scalix Installation Guide

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# Introduction To This Guide

## About This Guide

This guide outlines the preparation for, processes and procedures for installing the Scalix mail system. It covers only the installation of the core servers. For information on installation of the clients with which Scalix is compatible, see the *Scalix Client Deployment Guide*.

### Alert

Before beginning any upgrades, check your license. If you are upgrading to or from a Small Business Edition (SBE) or Enterprise Edition (EE) build, you MUST have a valid and current license. If your license is out of date, your installation could downgrade to Community Edition functionality, resulting in lost data. To check the LVID, use the Management Console or the `sxlicense` command.

## Contents of this Guide

Included in this guide are the following topics:

- "Introduction To Scalix" on page 9
- "Scalix Architecture" on page 14
- "Planning Your Installation" on page 20
- "System Requirements" on page 28
- "Pre-Installation Preparation" on page 34
- "Typical Installation" on page 39
- "Custom Installation" on page 52
- "Installing the Scalix Web Server" on page 97
- "Upgrading Scalix" on page 85
- "Reconfiguring Scalix Software" on page 100
- "Installing, Upgrading and Uninstalling with the CLI" on page 103
- "Uninstalling Scalix" on page 121

## How to Use This Guide

This guide uses the following typographical conventions:

Table 1: Typographical Explanations

Typographical Convention	Explanation
<Angle Brackets>	Values that you need to supply on your own are shown within angle brackets.
Numbered and alphabetized lists versus bullets	Numbered and alphabetized lists denote steps to be followed while bullets provide information.
<b>Buttons</b>	The larger boldface Verdana font indicates a button, a link, a field or any other UI element to click or press as well as a keyboard stroke. For example: Click <b>Finish</b> . Or In the <b>Username</b> field.
Code	This smaller Lucida font indicates a piece of code to write or run. For example: Launch <code>scalix-installer.sh</code>
<i>Document Names</i>	References to other documents appear in italic font.
<i>Italics</i>	Indicates a directory path, a file or the name of a window or dialog box. For example: Go to <code>/var/opt/scalix</code> . Or: You see the <i>Reply</i> screen.

## Using the CLI

As with any procedure done on the command line, there may be more than one way to accomplish many of the tasks outlined in this manual. In many cases, these procedures are intended only as examples of how to complete a setup or configuration. If another method is more comfortable or more in keeping with your unique setup, it may be the best approach.

In addition, Scalix offers complete man pages for all commands. Please consult them whenever needed.

## Identifying the Home Directory

Throughout the various setup procedures, there are repeated references to the instance's home directory, known as "~". The location of this directory varies depending on how you ran your initial setup. For example, if you named the instance when you created it, the home directory becomes `/var/opt/scalix/<instance>`, where `<instance>` is a two-letter code created from the first and last letter of the instance name. If the instance is unnamed, the home directory becomes `/var/opt/scalix/<nn>` where `<nn>` is the first and last letter of the host name for that instance.

To determine the home directory for a particular instance, look in `/etc/opt/scalix/instance.cfg`.

## ***Related Documentation***

Other Scalix product manuals include:

- Scalix Migration Guide
- Scalix Server Setup Guide
- Scalix Administration Guide
- Scalix Client Deployment Guide
- Scalix API Guide
- Scalix Evaluation Guide

In addition, there are online help systems in:

- Scalix Management Console
- Scalix Web Access
- Outlook (if enabled for the Scalix connector)

# *Introduction To Scalix*

This chapter introduces the Scalix system: Its different editions, access levels and licensing system.

## **Contents**

This chapter includes the following information:

- “About the Scalix System” on page 9
- “About Scalix Product Editions” on page 10
- “About Scalix User Types” on page 12
- “Required Licenses” on page 12

## ***About the Scalix System***

Capitalizing on a proven technology foundation and the openness of Linux, Scalix gives enterprise customers a simple to manage, highly reliable, and feature-rich Linux email and calendaring platform. This offers superior price and performance advantages with greater security, reliability, performance, openness and flexibility, when compared to other operating and messaging systems.

Based on open standards and a proven email server technology foundation, Scalix enables customers to create a robust and scalable environment that is flexible enough to adapt to their changing needs over time. The Scalix platform scales up to support organizations with hundreds of thousands of users and scales down for offices with fewer than one hundred users, making it a viable alternative for a broad range of organizations.

The Scalix architecture supports virtually any email client and device, without loss of functionality or data integrity. This means full-function support for popular clients like Microsoft Outlook and Novell Evolution, as well as the broad range of POP or IMAP clients available. Users can count on advanced features like enterprise calendaring and scheduling with real-time free/busy lookup, contact and task management, public folders, rich text formatting, offline folder synchronization, secure delegate access to calendar and email, email rules, resource booking and more.

## About Scalix Product Editions

Scalix offers three editions of its powerful email and calendaring platform based on Linux and open systems: Scalix *Enterprise Edition*, Scalix *Small Business Edition* and Scalix *Community Edition*.

**Scalix Enterprise Edition** is the company's flagship product and is ideal for organizations that demand the full range of functionality in a commercial email and calendaring system. It includes multi-server support, unlimited number of *Standard* users, any number of *Premium* users, the full complement of Scalix advanced capabilities, and a wide variety of technical support options.

**Scalix Small Business Edition** targets organizations getting started with a commercial version of Scalix that do not have the higher end requirements of Enterprise Edition. It is functionally equivalent to Enterprise Edition except that it allows only single-server installations instead of multi-server, and does not include the capabilities for high availability and multi-instance support.

**Scalix Community Edition** is the free, single-server, unlimited-use version of the Scalix product and is great for cost-conscious organizations that desire a modern email and calendaring system but do not require advanced groupware and collaboration functionality for their entire user population. It includes unlimited Standard users, twenty-five free Premium users, a subset of Scalix functionality, and fee-based, incident-based technical support.

The following table compares the Scalix product editions in greater detail:

**Table 1: Product Editions and their Features**

Product Feature	Community Edition	Small Business Edition	Enterprise Edition
User Types			
Standard Users	Free, unlimited	Free, unlimited	Free, unlimited
Premium Users	Included: 25 Max: 25	Included: 50 Max: Unlimited	Min Purchase: 25 Max: Unlimited
Core Functionality			
Email & calendaring Server	Single-server	Single-server	Multi-server
Internal user directory	[X]	[X]	[X]
Choice of GUI-based or command line installation and administration	[X]	[X]	[X]
Unlimited POP/IMAP email client access	[X]	[X]	[X]
Native MS Outlook support (via MAPI)	Premium users only (max 25)	Premium users only	Premium users only
Fully functional AJAX web client (Scalix Web Access)	[X] (group scheduling in calendar for 25 premium users only)	[X] (group scheduling in calendar for all premium users)	[X] (group scheduling in calendar for all premium users)

**Table 1: Product Editions and their Features**

Native Novell Evolution support	[X] (group scheduling in calendar for 25 premium users only)	[X] (group scheduling in calendar for all premium users)	[X] (group scheduling in calendar for all premium users)
Public folders	Premium users only (max 25)	Premium users only	Premium users only
High availability	Not available	Not available	[X]
Multiple instances per server	Not available	Not available	[X]
Migration tools	Not available	[X]	[X]
Upgrade To Enterprise Edition	Via license key. Re-installation not required	Via license key. Re-installation not required	Not applicable
Mobile Access	[X]	[X]	[X]
<b>Ecosystem Support</b>			
Meta-directory support via LDAP	[X]	[X]	[X]
iCal support	[X]	[X]	[X]
Native Exchange Interoperability (via TNEF)	Not available	[X]	[X]
Active Directory integration with MMC plug-in	Not available	[X]	[X]
Anti-virus	Via flexible 3rd party interface	Via flexible 3rd party interface	Via flexible 3rd party interface
Anti-spam	Via flexible 3rd party interface	Via flexible 3rd party interface	Via flexible 3rd party interface
Archiving	Via flexible 3rd party interface	Via flexible 3rd party interface	Via flexible 3rd party interface
Wireless email & PIM	Email-only via POP/IMAP	Email & PIM via Notify	Email & PIM via Notify
<b>Technical Support</b>			
Community Forum	Free	Free	Free
Knowledgebase, Tech notes	Free	Free	Free
Incident-based Support	Fee-based	Fee-based	Fee-based
Software subscription	Not available	[X]	[X]
Premium 7x24 Support	Not available	[X]	[X]
<b>Cost</b>			
Licensing	Free, unlimited use	\$995 for First 50 Premium Users	Per-user License; No Per-server Fees

## ***About Scalix User Types***

Scalix users can be defined as *Standard* or *Premium* users, as defined in the following:

### **Standard Users**

Standard users gain access to a subset of Scalix functionality including email, personal calendar and contacts through Scalix Web Access and Novell Evolution as well as email access using POP/IMAP clients. The ability to deploy standard users is ideal for cost-conscious organizations with users who do not have high-end groupware and collaboration requirements. An unlimited number of standard users may be deployed with any Scalix edition for free.

### **Premium Users**

Premium users have access to the full benefits and functionality of the Scalix email and calendaring system. The following Scalix product capabilities are available only to premium users:

- Native MS Outlook support (via MAPI)
- Group scheduling functionality including free/busy lookup in Outlook, Scalix Web Access and Evolution clients
- Access to public folders
- Wireless email and PIM

Any number of licensed premium users may be deployed with Scalix Enterprise Edition. Scalix Community Edition is limited to a maximum of twenty-five (25) free premium users, who enjoy many of the features available to Enterprise Edition premium users.

## **Flexible, Cost-Effective Email For Everyone**

The distinction between standard and premium users provides organizations with the flexibility to cost-effectively provide email for all users. For example, manufacturers and retailers may desire headquarters staff to be designated as premium users as they require advanced groupware capabilities, while less demanding users, such as shop floor or store personnel, would be satisfied as standard users with only email and personal calendaring capabilities. Similarly, educational institutions may decide that faculty and staff are premium users that need advanced collaboration capabilities while students are standard users that just need email and personal calendaring. There is no cost for deploying standard users with either Scalix Community Edition or Scalix Enterprise Edition.

## ***Required Licenses***

Scalix *Community Edition*, *Small Business Edition* and *Enterprise Edition* use the same installer. The main difference is that Small Business Edition and Enterprise Edition require a license key while Community Edition does not. Additionally, if you are a Scalix Community Edition customer, you can only perform the "typical" installation, in which all the Scalix components are stored on a single host computer.

To activate your Scalix system as either a Small Business or Enterprise Edition system, you must enter a license key at a strategic point in the installation process. Please obtain your Scalix license key and have it ready for use before installing.

You may proceed with the installation without a license key, however, your system is treated as a Community Edition system and your users as Standard users until the correct license key is entered by means of the *Scalix Management Console*.

Additionally, you can install Scalix Enterprise Edition onto a single host, or distribute the primary components onto separate hosts—both of which are detailed fully in this guide.

# Scalix Architecture

This chapter introduces the Scalix architecture: Its components, ecosystem, clients and more.

## Contents

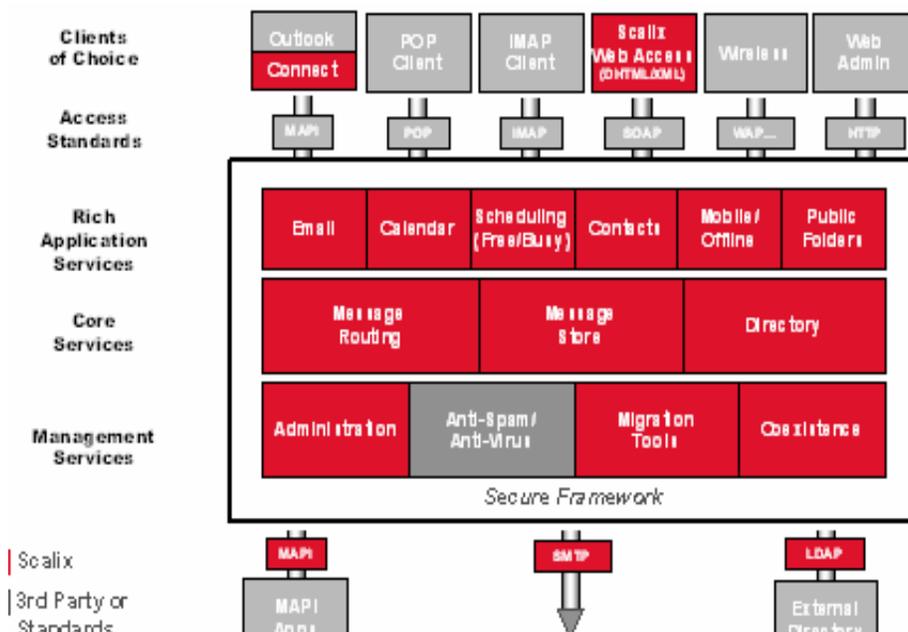
This chapter includes the following information:

- “About Scalix Architecture” on page 14
- “Scalix Components” on page 15

## About Scalix Architecture

The Scalix mail system is a client-server architecture based upon international standards and an open architecture that allows the flexibility to use many different client and third-party applications to send and receive messages between multiple Scalix servers, either inside or outside a company’s network.

A Linux operating system environment establishes the base for the actual Scalix platform.



## Scalix Components

Scalix has two main components, the server and its clients:

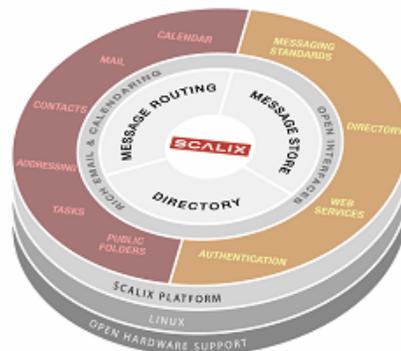
### The Scalix Server(s)

The Scalix server provides message storage, collection, dispatch, routing and delivery. It not only contains eMail messages, but also PIM/Groupware information such as calendaring data, contacts and task lists. In addition, it manages message delivery and provides or integrates with add-on services such as virus scanning, anti-spam or content-type conversion.

Server management is done in two places:

- Through the Scalix Management Console (aka SAC or Scalix Management Console), an easy-to-use GUI for frequently-undertaken, day-to-day tasks such as creating users, managing public distribution lists, assigning permissions and more.
- On the command line for more advanced configurations such as backups, integration of anti-virus and anti-spam applications, setting up authentication, etc.

### Scalix Open Architecture - Server



### Clients

The clients are applications that allow users to create, view and manipulate messages, notify users when new mail arrives, access address directories, track the progress of message delivery, configure auto actions and more. They use the IMAP, POP and UAL (User Access Layer) protocols to connect into the Scalix server, where they access the message store, directory and personal folders. They are handled by remote client interfaces.

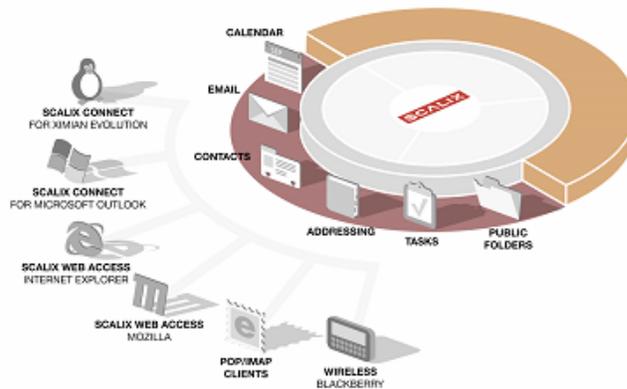
Scalix operates seamlessly and transparently with many different clients, including:

- Microsoft Outlook
- Novell Evolution
- IMAP and POP clients such as Mozilla Thunderbird, Outlook Express and Eudora
- Its own native client, Scalix Web Access (SWA).

Client management is done in five places:

- The Management Console to set access levels, global server properties and more
- CLI to set access levels and more
- Configuration files to set properties, logging customizations and more
- Scalix Connectors to enable the use of the Scalix server with clients such as Microsoft Outlook and Novell Evolution
- 3rd Party Administration Interfaces

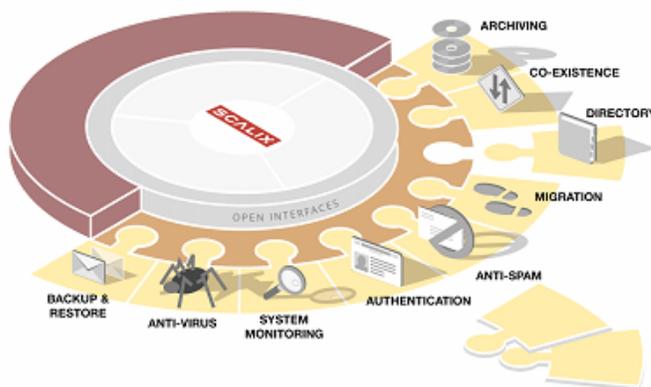
## Scalix Open Architecture - Clients



## The Ecosystem

The ecosystem surrounding the Scalix server places a strong emphasis on open interfaces. This provides flexibility for integrating with a variety of best-of-breed solutions in important areas such as anti-virus protection, authentication, backup and recovery tools. The system broadly complies with messaging standards ranging from RFC 822 and continues to include MAPI, POP3, IMAP4, MIME, SMTP, and LDAP.

## Scalix Open Architecture - Ecosystem



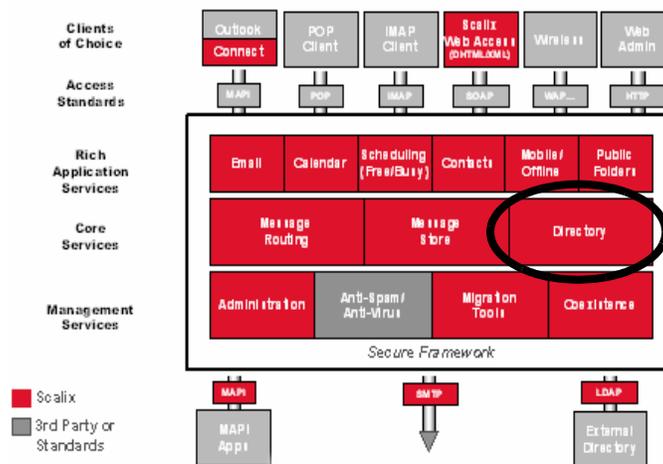
## Directories

Scalix also holds a directory of known users that enables auto-finishing features for addressing of email messages.

The address directories are databases that clients use to look up names and addresses. The Scalix address directories can contain Scalix and non-Scalix users, other administrator-configurable information such as job titles and phone numbers, and can be shared with other Scalix directories or synchronized with MS Exchange servers.

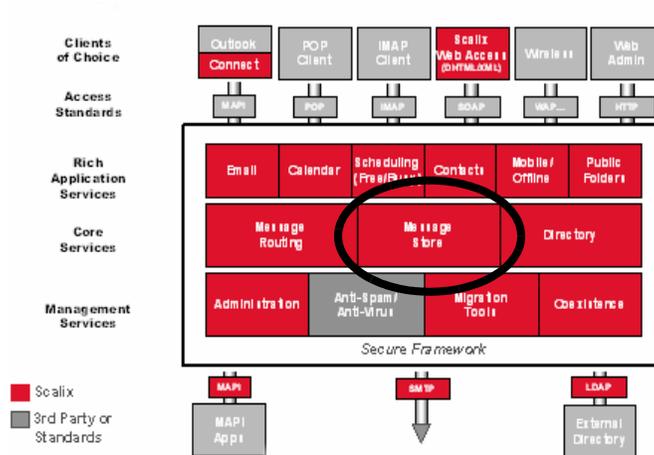
Directories are searchable by any number of attributes. They contain many standard attributes and also some that are rarely used.

**Note** Scalix is a system that has grown up over time and it's good to note that it used to be (and still is to some respect) based on X.400. Addresses are still based on X.400 OR names and the X.400 nomenclature.



## The Message Store

The message store is not a database. It's a collection of flat Linux files, held in file system directories on the Scalix server. It holds new messages received as well as messages in transit For clients that use the message store (server-based clients), it also holds old messages that are files for reference in folders, copies of outgoing messages, draft messages, in preparation, private distribution lists, personal information such as calendaring, tasks and journaling information and Bulletin Boards, or public folders, which are accessible to multiple users.



## Routing and Local Delivery

The Service Router is the process on the Scalix Server that decides (or routes) where a message is supposed to go.

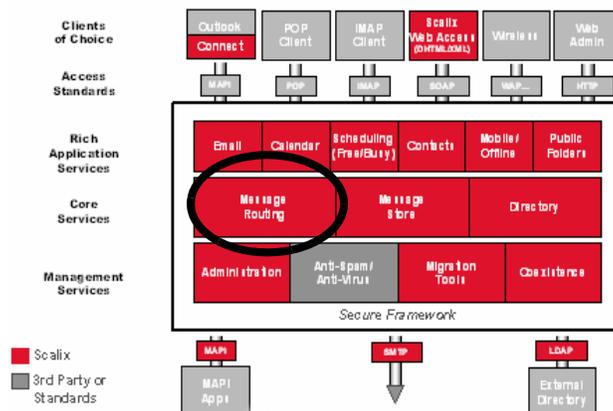
The Local Delivery process is the process on the Scalix Server that determines where a message ends up in the message store on the local machine for a local user.

Scalix’s routing services check the recipients in a message, and then send it on to be either delivered locally to another Scalix system, or to leave Scalix entirely via a gateway. These routing services also create NDNs, or Non Delivery Notifications, when a message cannot be delivered due to an addressing fault. These NDNs go to the originator of the message as well as to the configured error manager.

Once the message has arrived at its destination, the local delivery process places it in the recipient’s in tray.

Local Delivery and Service Router, together, also handle Public Distribution List Expansion and address resolution, up to the point where they can try to correct misspelled email addresses by phonetic matching.

As all messages in the system must pass through the Service Router, this also becomes the preferred point of integration for virus scanners, filtering rules and message archiving.

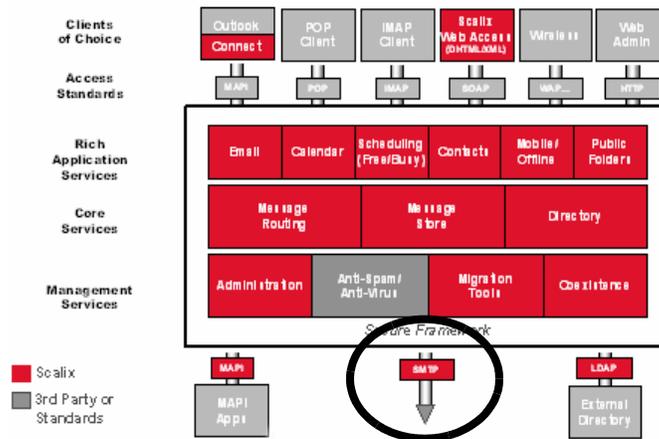


## Gateways

Gateways are a way of passing messages out of the Scalix network to different mail environments. The gateway must convert the outgoing message from a Scalix format to one that an external service can send, and then convert the addresses into a format that the target environment can handle, such as an SMTP address.

Scalix comes with a standard SMTP gateway that converts Scalix formatted messages to SMTP formatted messages and vice-versa. This gateway is called the “Unix Mail Gateway” or “Internet Mail Gateway” on Scalix, but, because SMTP is the most important standard in messaging interoperability, it also connects to almost any other messaging system.

Other gateways can be written for connection to other mailing systems.



## Transports

The Transport Service on the Scalix server is called the “Sendmail Interface”.

Transports are services that Scalix uses to pass Scalix-formatted messages to other Scalix services. Scalix uses Sendmail and SMTP format to send messages between servers in the Scalix network, but other connections can be written.

## Search and Index Service

The Scalix Search and Index Service provides realtime indexing of all private and public folder messages. Built on the open-source Lucene technology, it enables sub-second, mailbox-wide message retrieval. It is localizable, and its Web services interface is available.

## Messaging Service

Scalix Messaging Services are server-based REST APIs for email and calendaring application integration. They enable integration of Linux messaging with critical applications such as content management, mobile solutions, customer relationship management (CRM) software, or enterprise resource planning (ERP) packages. Calendaring functions and data can be integrated directly into other applications, or the data from other applications can be directly integrated into email and calendaring.

# *Planning Your Installation*

This chapter introduces some concepts for planning an installation: Which packages or installation mode to use, where to install the different components, how to install them and more.

## **Contents**

This chapter includes the following information:

- “Some Thoughts on Planning Your Installation” on page 20
- “Installation Packages” on page 21
- “Installation Mode” on page 21
- “Working with Multi-Server Installations” on page 22
- “Some Sample Installation Scenarios” on page 23
- “GUI Vs. CLI Installation” on page 26
- “Some Deployment Best Practices” on page 26
- “Debugging During Installation” on page 27

## ***Some Thoughts on Planning Your Installation***

There are many different ways to install Scalix. You can install it on a single server or multiple servers, in one location or distributed across many, with multiple instances per server, and clustered for failover protection. In addition, you can install via a graphical user interface (GUI) or on the command line (CLI).

Before starting the actual installation of the Scalix software packages, carefully plan the deployment. We suggest you draw a map of all servers with appropriate identifying information, packages to be installed, and other pertinent details. Have this map by your side before beginning installation to aid you through the prompts.

Before beginning installation, you also should determine the security requirements for your deployment, as the Scalix Installer enables you to configure Kerberos for secure communication between the Management Agent and the Scalix Management Console—if these components are installed on separate servers. For more on that, see “Working with Multi-Server Installations” on page 22.

## ***Installation Packages***

Scalix has nine distinct installation packages that you can install on one server or more, or mixed and matched in any combination. Some of these installation packages are mandatory under all installation scenarios. Some are required for other packages to function. Others are purely optional. The installation packages are:

- **Scalix Server** - Contains the installation files for the central component that stores mail and calendar items, routes messages, establishes protocols for accessing mail and manages all connections in a distributed server arrangement. (Mandatory and must be accompanied by the Scalix Management Agent package)
- **Scalix PostgreSQL Database Integration:** Configures the server to communicate with the Postgres database, which should already be installed. (Mandatory if using the Scalix Messaging Services)
- **Scalix Apache/Tomcat Connector:** Contains the software for a bridge between the Apache server and the Tomcat installed on the Scalix server. (Mandatory on all servers)
- **Scalix Tomcat:** Contains the installation files for a version of Tomcat that is specially configured for use with Scalix. (Mandatory on all servers)
- **Scalix Messaging Services** - Contains the installation files for the Web-based application that provides access to mailbox services. (Mandatory if either SWA, SIS or the Mobile Web Client are installed. Otherwise optional)
- **Scalix Management Agent** - Contains the installation files for the service that manages calls between the Scalix Management Console (SAC) and its associated servers. Must be installed on the same machine as the Scalix server. If you do not intend to use the Management Console to manage users, you need not install the Management Agent. (Mandatory if the Management Console is used)
- **Scalix Web Access (SWA)** - Contains the files to install the Web-based client through which users can send and retrieve email, calendar items and more. (Optional if you're working with clients other than SWA. Mandatory if you intend to use SWA)
- **Scalix Management Services (aka SAC)** - Contains the installation files for the Web-based administration GUI through which the system administrator can manage users, groups, distribution lists, servers and more. (Optional)
- **Scalix Search and Index (SIS)** - Contains the installation files for the Web-based application that accesses Scalix Web Access' search indexes. (Optional)
- **Scalix Mobile Client** - Contains the installation files for the Web-based application that provides mobile access to mailbox services. (Optional)

## ***Installation Mode***

There are two distinct modes of installation:

- **Typical:** In which all components are installed on a single host computer.
- **Custom:** In which the various components can be installed on separate host computers in a variety of different combinations.

**Typical** mode on a single server is best used for smaller companies or organizations with fewer users, especially those located in one small geographic region. Its advantage is ease of installation and administration. Its drawback is that it does not provide failover service or data backup.

Typical mode can be used in multi-server installations, too. For example, you may have one centralized server with all components on it, then additional servers with duplicated services such as distributed Web applications.

**Custom** installations are better suited for bigger companies with a larger user base, or organizations spread over a large geographical territory where distributed servers are advantageous or required.

## ***Working with Multi-Server Installations***

There are many different ways to set up a multi-server installation of the Scalix system and yours will be dictated by your organization's unique needs.

Multi-server or distributed setups are better for larger companies or organizations, especially those with offices in different geographical locations. Multiple servers are also recommended in companies where failover is required for uninterrupted service and data backup, or if load balancing is desired.

If you choose to do a multi-server environment, the installer handles some of the setup for you. The rest of the multi-server setup is covered in the *Scalix Server Setup and Configuration Guide*.

There are no firm guidelines on how many users to allow per server. This number varies with the type of server, the client, the level of usage, the amount of storage space allotted per account, etc.

Some factors to take into consideration when planning your setup:

- The number of users to be served and their usage patterns
- The number of sites covered and the distance between them
- The level of security required
- The firewall setup
- Do you want centralized or a distributed administration of the system?
- Network setup - Some scenarios work better with a LAN while others are preferable with a WAN
- Bandwidth available
- The client(s) you intend to use
- Do you need external directory integration?
- Where to route Internet service in or out
- Where to install anti-spam and anti-virus software

Before beginning your multi-server installation, consult Scalix Professional Services for some guidelines on how best to balance these considerations for an optimal experience.

## Some Rules about Multi-Server Installations

To enable and use a multi-server installation of Scalix:

- If you intend to use Kerberos for security (optional), create a Kerberos keytab for the Management Agent.
- Verify Scalix Server Directory Synchronization Agreements to ensure timely data synchronization between the servers in your environment. The default is 24 minutes.

See the *Scalix Server Setup and Configuration Guide* for more information about directory synchronization and Kerberos authentication.

## Security in Multi-Server Installation

In a multiple or remote server system, Scalix recommends you configure Kerberos authentication so that data transmitted between the management console and instances of the Management Agent is encrypted. Before doing this, make sure you create a keytab file for the Scalix Management Console service and all instances of the Management Agent. If necessary, securely copy the keytabs onto the respective systems hosting these services.

## *Some Sample Installation Scenarios*

There are many different ways to combine the different Scalix components on multiple servers to meet the needs of your unique business or organization. Two scenarios that are frequently used are pictured below to help shape your thinking about the best setup for your needs. These are only sample solutions and may not take into consideration some of the particulars of your setup. For that reason, we recommend you work with Scalix Professional Services to determine the best solution.

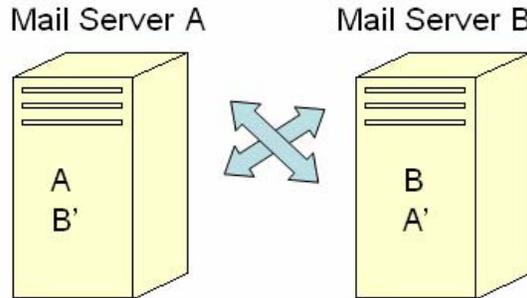
### Clustered for Multi-Server Failover

You can set up a dual-server failover system to ensure high availability. In this scenario, server A fails over to Server B and vice versa. Each machine has an active physical instance (A or B) and a virtual instance (A' or B') that takes the load if the other fails.

Special clustering software provided by Scalix at the time of installation is responsible for relocating the instances among the machines at the time of failure.

Each instance should be a complete vertical stack, with the Scalix Server, Postgres database, Management Agent, Tomcat and Search and Index Server packages installed. And each machine should be a mirror of the other with the same packages installed.

## Clustered for High Availability



A fails over to B' and B fails over to A'

To complete this setup, run the installation wizard twice on each machine, naming each of the two instances on Server A as <A> and <B'>, respectively, then on Server B, naming them <B> and <A'>, respectively.

In this setup, each server has three identifiers and three IP addresses:

- Hostname: This is the hostname of the physical box and it has a unique IP address associated with it.
- Instance A or B: This is a different IP address associated with the primary instance on the server.
- Instance A' or B': This is yet another IP address associated with the failover instance.

This enables the system to find the failover instance when needed.

For more information about setting up clustering for high availability and failover, contact Scalix Professional Services or see the *Scalix Setup and Configuration Guide*.

## Distributed for Load Balancing

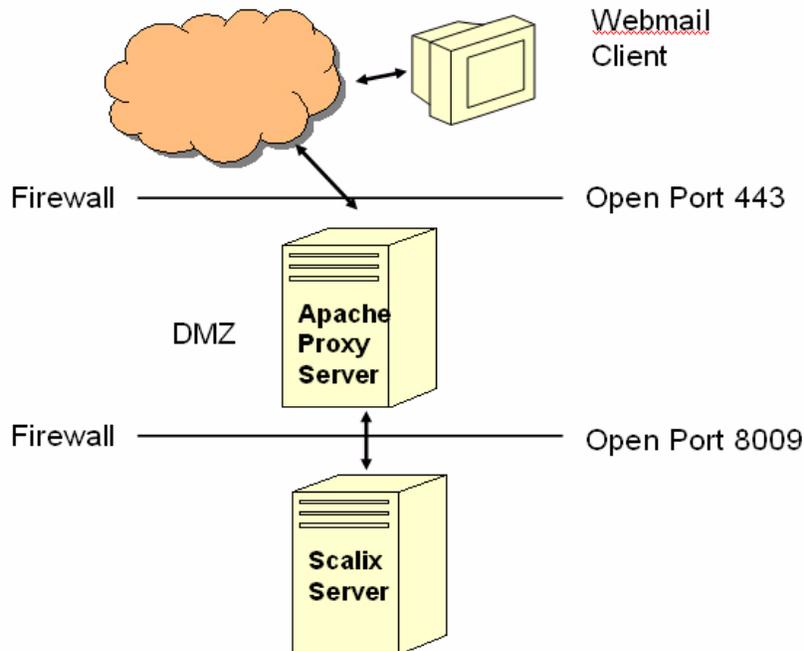
In this scenario, you split your user base among two or more platform servers, each server being a full vertical stack with the Scalix Server, Postgres database, Management Agent, Tomcat and Search and Index Server packages installed. Each server has an SWA installation. And the browser selects among the platform servers using a round robin DNS. One or all of



## Distributed for a DMZ

For reasons of security, you can put an Apache proxy server in the DMZ and designate it as the gateway to the Scalix system. For more on securing your Scalix system, see the Scalix Server Setup Guide.

### Apache Proxy Server DMZ Setup



## GUI Vs. CLI Installation

There are two methods of installation:

- GUI
- CLI

The GUI method is best used by those who do not have extensive experience with the Linux operating system.

The CLI is more suited for larger-scale, more complex multiple server installations run by administrators with extensive knowledge of Linux commands. They are also easier to run remotely.

Silent is for automated installation on many servers and automated disaster recovery such as scripted reinstallation with all choices predetermined.

## Some Deployment Best Practices

Some best practices to keep in mind when deploying Scalix:

- Plan and track your deployment in a project tool. Scalix can provide a template to serve as a starting point
- Set distinct milestones for a five-phase approach: Planning, building, validating, migration and final integration. Launch should consist of three phases: Pilot, production and steady state
- Carefully plan migration of existing data and minimize the amount of legacy data to move over. For more on migration see the Scalix Migration Guide.
- Avoid any single point of failure
- Use multiple instances for high availability
- Consider the amount of data to back up and reduce it as much as possible
- Understand scalability based upon the access protocols used
- Determine peak loads and user concurrency
- Use LDAP if possible to simplify directory provisioning and enable both SWA and Outlook to search directories
- Set the password so that the user must change it on first login. This setting is in the management console. For more information, see the Scalix Administration Guide.
- Establish firm policies on mailbox limits and sanctions such as limitations on mailbox size, message size, number of users and amount of time data is retained
- Simplify transition and co-existence by switching as many users over as quickly as possible. If you can, do a flash cut and avoid directory synchronization

Scalix offers a training course that delves into deployment, migration and planning at a deeper level. This course addresses the many issues that go into planning an installation and can help greatly with the deployment process.

## ***Debugging During Installation***

To more effectively track the installation procedure and in case of trouble, set the logging level on the server to debug before beginning installation.

If you run the Installer with the `--debug` switch, it outputs additional debugging information in the window in which the Installer launched.

# System Requirements

This chapter details the complete range of hardware and software requirements for a Scalix system, both general requirements and OS- or manufacturer-specific requirements.

## Contents

This chapter includes the following information:

- “Required Hardware/Network Setup” on page 28
- “Required Software for Intel or AMD Systems” on page 30
- “Approved Web Browsers, Email Clients and Mobile Platforms” on page 31
- “Storage Requirements” on page 32
- “Helpful Debugging Resources for Scalix” on page 32
- “What is on Your Scalix System” on page 33

Please note that (1) JSDK is no longer required, except on IBM Z-series computers, and (2) Java Runtime Environment and Tomcat (along with the JK Tomcat/Apache connector) install automatically as part of the Scalix system, even if pre-existing installations are present on the host.

## Required Hardware/Network Setup

Unlike previous versions of Scalix, you do not need to install any Java Software Development Kit packages (JSDK); instead, Scalix has bundled the *Java Runtime Environment (JRE)* version 1.5 to install on the host computer, if it is not already present.

Table 1: Required Hardware and Network Setup

Components	Requirements
Hardware / host computers	Any Intel x86 or x86_64 host computer that supports Linux Any AMD or AMD64 host computer that supports Linux <b>IMPORTANT:</b> The Scalix server can be installed on a 64-bit Intel or IBM computers, and in 64-bit Linux environments (as 32-bit applications).

Table 1: Required Hardware and Network Setup

Components	Requirements
Operating systems (Linux)	<p>You can install and run Scalix in any of the following versions of Linux: *</p> <ul style="list-style-type: none"> <li>• Red Hat Enterprise Linux 3.0 or 4.0*</li> <li>• SUSE Linux Enterprise Server 9.0 or 10.0</li> </ul> <p>Scalix can be installed on the following Linux operating systems (on Intel or AMD hosts), but should be done only for evaluation purposes:</p> <ul style="list-style-type: none"> <li>• Fedora Core 5</li> <li>• SUSE Linux Open Source Software (OSS) 10.1</li> </ul>
RAM	RAM space requirements can vary widely. Some factors that influence needs are the number of users, mailbox size, the client type and more. In general, a good place to begin is 1 GB RAM.
Disk space	<p>Disk space requirements can vary widely. Some factors that influence needs are the number of servers deployed, the number of users, mailbox size, and more. Some general guidelines to work from are:</p> <ul style="list-style-type: none"> <li>• Minimum Base Installation Requirements: 200 MB for each instance (~/&lt;instance name&gt;)</li> <li>• Plus User Mailbox Requirements: To calculate the disk space required for user mailboxes, multiply the maximum mailbox size limit by the number of users. (For example: 100 MB x 200 users = 20 GB)</li> <li>• Plus SWA and Mobile Caches: An additional 15% of data being indexed is needed for the application caches for Scalix Web Access, and Scalix Web Mobile</li> <li>• Plus LVM Snapshot: After adding the base installation requirements plus user mailbox requirements, add 30% more for the LVM snapshot</li> </ul>
	<p>For more information about creating a separate partition for the message store, see "Special Considerations for Red Hat Linux" on page 36.</p> <p><b>NOTE:</b> To check the amount of free disk space on the host computer, log in and run the <code>df -h</code> command.</p>
DNS	<p><b>IMPORTANT:</b> All Scalix servers in the network must be configured for reverse DNS lookup entry on the DNS server.</p> <p>Make sure that a DNS alias exists for <code>scalix-default-mail</code> and that the fully qualified domain name for the target host (for the <code>scalix-default-mail</code> alias) is set to any Scalix Server.</p>

\***Note:** Fedora Core 4 and SUSE Linux Professional 9.3 and 10 are no longer supported in Scalix 11.0.

## Required Software for Intel or AMD Systems

Any Intel-based or AMD64-based host computer has unique Linux installation requirements, as detailed in the following tables.

Table 2: Required Software for Intel or AMD Systems

Components	Requirements
<p>Intel x86— All Linux Operating Systems</p>	<p>All Intel x86-based hosts (running any Linux variation) require the following packages before installation:</p> <ul style="list-style-type: none"> <li>• glibc</li> <li>• bash</li> <li>• ncurses</li> <li>• libstdc++</li> <li>• coreutils</li> <li>• grep</li> <li>• diffutils</li> <li>• gawk</li> <li>• sed</li> <li>• util-linux</li> <li>• tcl</li> <li>• tk</li> <li>• cyrus-sasl-md5 (32-bit libs)*</li> <li>• cyrus-sasl-plain (32-bit libs)*</li> <li>• sendmail (v8.12 and above)</li> <li>• sendmail -cf</li> <li>• Python v2.2 through 2.4</li> <li>• openssl</li> <li>• which</li> </ul> <p>*Use the 32-bit libs on both 32-bit and 64-bit platforms ** For installation instructions, refer to the OS product documentation</p>
<p>Intel x86— Red Hat / Fedora Linux</p>	<p>In addition to the packages listed above, all Red Hat and Fedora Linux hosts require the following:</p> <ul style="list-style-type: none"> <li>• compat-libstdc++</li> <li>• procps</li> <li>• elinks</li> <li>• krb5-libs</li> <li>• httpd</li> <li>• libstdc++ (32-bit libs)*</li> <li>• libxml2 (32-bit libs)*</li> <li>• ncurses (32-bit libs)*</li> </ul> <p>*Use the 32-bit libs on both 32-bit and 64-bit platforms ** For installation instructions, refer to the OS product documentation</p>
<p>Intel x86— SUSE Linux</p>	<p>All SUSE Linux hosts require the following packages in addition to the default installation:</p> <ul style="list-style-type: none"> <li>• ps</li> <li>• compat</li> <li>• heimdal-lib</li> <li>• apache</li> <li>• python-gtk-2.0.0-215.3</li> <li>• glibc-locale (32-bit libs)*</li> </ul> <p>*Use the 32-bit libs on both 32-bit and 64-bit platforms ** Replaced in SLES 10 by krb5-libs</p>

**Table 2: Required Software for Intel or AMD Systems**

Components	Requirements
Database	<p>PostgreSQL 7.4.x, 8.0.x or 8.1.x, including the following packages:</p> <ul style="list-style-type: none"> <li>• postgresql-server</li> <li>• postgresql-libs</li> <li>• postgresql</li> </ul> <p>Note: In general, you can use the PostgreSQL version that comes with your operating system with the exception of RHEL3, for which you must upgrade. Remove the old 7.3.x version and replace it with the appropriate new one (32-bit i386 or 64-bit x86_64) BEFORE launching the Scalix Installer. PostgreSQL is available at <a href="http://www.postgresql.org/ftp/binary/">http://www.postgresql.org/ftp/binary/</a>.</p>

In addition, Scalix installs the following packages during the installation procedure. They are listed here so you know which versions Scalix is using. You cannot substitute any other versions.

- JRE v1.5
- Scalix Tomcat (based on Tomcat 5.5.16 )
- JK Apache/Tomcat Connector
- libical rpms
- lynx-2.8.5-27.i586.rpm

## ***Approved Web Browsers, Email Clients and Mobile Platforms***

Scalix is compatible with the following browsers, email clients and mobile platforms.

For more on the system requirements for each client, see the *Scalix Client Deployment Guide*.

**Table 3: Approved Web Browsers, Email Clients and Mobile Platforms**

Components	Requirements
<p><b>Web client software</b> (Scalix Web Access client browsers)</p>	<ul style="list-style-type: none"> <li>• Internet Explorer 5.5, 6.0 with SP3 and 7*</li> <li>• Mozilla 1.7 or higher</li> <li>• Firefox 1.0 and later</li> </ul> <p>*We do not currently support IE 6.0 in combination with Windows 98. In addition, we do not support IE 6.0.28 (SP1) in combination with NT4.0 server (SP6).</p>
<p><b>E-mail client software</b></p>	<ul style="list-style-type: none"> <li>• Microsoft Outlook versions 2000, XP, and 2003 and later (versions 9, 10, 11)</li> <li>• Novell Evolution, versions 2.4.x and 2.6.x</li> </ul>

Table 3: Approved Web Browsers, Email Clients and Mobile Platforms

Components	Requirements
Windows OS versions (for client workstations)	<ul style="list-style-type: none"> <li>Windows 2000 or XP</li> </ul> (All earlier versions of Windows are not supported, irrespective of which version of Outlook you have installed.)
Mobile Platforms	<ul style="list-style-type: none"> <li>Palm OS</li> <li>Windows Mobile</li> <li>Blackberry (with the exception of the Blackberry Desktop Redirector)</li> </ul>

## Storage Requirements

*Disks, HW/SW Raid, SAN.*

Table 4: Storage Requirements

Components	Requirements
RAID	1+0 (4 mirror sets that are striped)
I/O bound	4 multiple high-speed disks provide best performance

## Scalability Guidelines

Some general guidelines to keep in mind when planning for scalability:

- Increased Memory provides significant benefits
- Dual CPU's benefits are based on Linux utilization
- POP3 access is different: 5000 users per server is common
- IMAP and SWA
  - Can handle 850 concurrent logins on 4GB memory
  - Initial download of mail data is most intensive
  - Analysis required based on usage profiles on first server
- UAL (MAPI) access scales high (roughly 4000 users per server is attainable)
- Consider placing 1500 users on the first server, then measure and adjust accordingly

## Helpful Debugging Resources for Scalix

It is strongly recommended that you install the following binaries on your Scalix host(s) to assist you if you need to work with Scalix Support in resolving any problems.

- tcpdump
- ethereal
- lsof
- strace
- gdb

## ***What is on Your Scalix System***

To list all of the .rpm packages that are installed on the system, run this command:

```
rpm -qa
```

Use this to determine whether you have satisfied the Scalix package dependencies detailed later in this chapter. You can also determine the version number for a specific package (for example, *diffutils*) by adding the *-q* extension to this command:

```
rpm -q diffutils
```

# *Pre-Installation Preparation*

This chapter covers pre-installation preparation of your network, operating system, firewall and disks for optimal performance with the Scalix mail system.

## Contents

This chapter includes the following information:

- “Preparing the Network Setup” on page 34
- “Preparing the Operating System” on page 35
- “Preparing the Firewall” on page 37

## *Preparing the Network Setup*

Proper network setup makes installation much easier. Some things to do in advance:

- Give all servers static IP addresses, then connect and configure them into a proper DNS infrastructure. This ensures consistent client connectivity.
- Make sure the following ports are available: 25 (SMTP), 80 (Apache), 110 (POP), 143 (IMAP), 389 (LDAP), 5729 (Scalix-UAL), 5757 (Scalix UDP), and in some cases 8080 (Tomcat - see Note below).
- Remove or disable any firewall software on the server.
- Configure reverse DNS in which an IP address resolves to a hostname as well as vice versa. This is essential for integration of anti-spam and anti-virus software.
- Check all servers' *etc/hosts* files to make sure the localhost line does not include anything more than:

```
127.0.0.1 localhost.localdomain localhost
```

If the line does list additional servers, add a line below with:

```
aaa.xx.yy.zz server.domain.com server
```

Where *aaa.xx.yy.zz* is the actual server's IP address.

- Before beginning installation, make sure all hostnames on all servers are set. Once you've installed Scalix, you should not change them.

- If you are more comfortable working in a graphical environment, you can take one of two approaches:
  - a) Use a remote X-Windows desktop connection, which can result in better performance than running it on the server.
  - b) Run X-Windows directly on the sever, but when finished with installation, boot the server in run level 3.

**Note**

You don't need port 8080 if you have installed the Tomcat-Apache connector (also known as the JK connector). If you want to communicate directly with Tomcat, then 8080 is the correct port, but this isn't a recommend best practice.

## ***Preparing the Operating System***

If you are planning to install and run a Linux host as the Scalix Server, be aware of the following:

- Scalix Corporation recommends assigning a static IP address to the host. This minimizes problems with DNS.
- Performance of the Scalix Server can be modestly increased by operating the system in run level 3 (command line mode) instead of run level 5 (GUI mode).
- When installing RedHat Linux, do not install all packages. Use a server-type installation instead. The packages you need to install are listed below in the section titled, "Special Considerations for Red Hat Linux" on page 36.

### **Pre-installation Qualifications**

If you are starting with a new computer and performing a clean installation, review the following before installing Linux on the host computer.

- Scalix Corporation recommends installing Linux on a host computer that does not already have an operating system installed. This includes operating systems stored in separate partitions on a single host.
- If you are performing a clean installation of Linux on the host computer, you must choose the disk partitioning option during the installation. Partitioning the main drive ensures that Scalix Server operates properly.

The following section provides the needed partition specifics.

### **Partitioning a Linux Host**

For more help with planning and setting up Logical Volume Manager (LVM) and partitioning the host hard drive, see the Tech Notes in the Scalix Support Knowledgebase.

- Partitioning of the host can be accomplished during the installation of the Linux operating system, or can be retroactively applied by means of a disk partitioning utility.
- Required Linux-specific partitions include root (/), /boot, and /swap. See the following subsections for relevant instructions.

- A /var partition must be created for use as the destination directory for Scalix Server.

**Note**

For step-by-step assistance with installing a Linux operating system, see the appropriate installation documentation for the version of Linux you've acquired.

## Setting up a root (/) Partition

This is a required partition that must be assigned to a native Linux disk partition. Scalix Corporation recommends a root partition of approximately 6 GB. This enables you to install all of the required packages and software needed by the Linux server.

## Setting up a /boot Partition

The /boot partition stores the operating system kernel (which allows the system to load the Linux operating system), along with support files used during the bootstrap process. Because of the limitations inherent in the BIOS of most host computers, Scalix Corporation recommends creating a boot partition no larger than 75 MB to store these files.

## Setting up a /swap Partition

This partition must have a capacity at least equal to twice the amount of physical RAM on the host.

Swap partitions are used to support virtual memory. Data is written to a swap partition when there is not enough physical RAM to store the data the system is processing. For example, if you have 1 GB of physical RAM, the swap partition must have at least 2 GB capacity.

## Setting up the /var Partition

The Scalix Message Store, the configuration files, the logs, and any language files are installed in the /var partition, in the /var/opt/scalix directories created during the installation process. This partition must be large enough to accommodate the future requirements of the Scalix message store. For example, 100 users using an average of 100 MB for every mailbox requires setting the size of the /var partition to approximately 10 GB.

**Tip**

Some versions of Linux include a *Logical Volume Manager* (LVM). Scalix Corporation recommends using a LVM volume for the /var partition. This enables you to increase the size of the /var partition as needed, or to back up the Scalix Server, without having to shut down the system. For more on installing and using LVM, see the Scalix Support Knowledgebase, which includes a tech note on the subject.

## Special Considerations for Red Hat Linux

The system onto which you are installing Scalix Server is a dedicated messaging server. As a result, selecting **Everything** in the Package Group Selection window during the installation of Red Hat Linux can severely reduce overall system performance. Installing a large number of packages causes excessive use of disk space and results in a number of unnecessary processes running on the system that can interfere with the efficiency, security, and scalability of the e-mail server. Scalix Corporation recommends installing only the package groups listed below. With the exception of Tomcat and JRE, these package groups contain all the required packages (RPMs) along with their respective software dependencies.

*To install Red Hat Linux for the most efficient use with Scalix:*

- 1 During the installation of Red Hat Linux, select **Customize selection of packages to be installed** and click **Next**.
- 2 When the *Package Group Selection* pane appears, select only the following package groups:
  - X Window System
  - KDE Desktop Environment or GNOME Desktop Environment (or both)
  - Graphical Internet
  - Text-based Internet
  - Server Configurations Tools
  - Network Servers (also, select Details, then select krb5-server)
  - Web Server
  - Development Tools
  - Kernel Development
  - Legacy Software Tools
  - Administration Tools
  - System Tools
- 3 You can now complete the installation.

## ***Preparing the Firewall***

If possible, disable any existing firewall software on the server, especially before doing a default installation.

If more security is needed, though, you can use a firewall. Some suggestions on how to do this:

- Scalix Servers typically are set up behind a corporate Firewall (in the Intranet).
- If done this way, you can use VPN technology for remote access. No special provisions are needed on the Scalix side.
- Scalix components such as SWA are often deployed on the perimeter/DMZ systems.
- SME customers might want to put the Scalix server itself in the DMZ to make it remote-accessible. In this case, place strong security on the relevant network communication.

## ***Installing the Database***

The PostgreSQL database comes bundled on all Linux workstations that Scalix supports, but it is not always installed by default. If your server does not have Postgres installed, you must do that now.

The base installation is all you need to do before installation. During installation, the wizard configures the database for use with Scalix.

*To install the PostgreSQL database:*

- 1 Locate the PostgreSQL rpm installation packages on your installation CD or download them from one of the online repositories via yum (Fedora) or YaST (SuSE).
- 2 There are certain dependencies, so you must install the PGDG package before the server package.
- 3 When the basic packages are installed, you are ready to begin the Scalix installation. All further configurations are handled by the installation wizard.

Note

In some older versions, the rpms may be missing an mx package. If so, go to the PostgreSQL site at <http://www.postgresql.org/> to download it.

# Typical Installation

This chapter outlines installation of the complete package of Scalix components onto a single host computer. If you want to pick and choose among the components, go to the next chapter.

---

**Note** Read the Scalix Release Notes before beginning installation. There may be late changes, cautions, tips or qualifications that impact the installation procedure.

**Alert** Before beginning any upgrades, check your license. If you are upgrading to or from a Small Business Edition (SBE) or Enterprise Edition (EE) build, you **MUST** have a valid and current license. If your license is out of date, your installation could downgrade to Community Edition functionality, resulting in lost data. To check the LVID, use the Management Console or the `sxlicense` command.

## Contents

This chapter includes the following information:

- “Performing a “Typical” Installation” on page 39
- “Confirming the Success of Your Scalix Installation” on page 48
- “Getting Started with Scalix” on page 50

## Performing a “Typical” Installation

To install all Scalix components onto a prepared Linux host computer, start the Scalix Installer program and work through the Installation Wizard, as described in the following steps.

You will have an opportunity to install JRE, Tomcat, and the Tomcat-Apache connector during the Scalix installation as the installers are bundled with the Scalix package.

---

**Tip** The wizard prompts in this procedure can vary from one installation to another, depending on pre-existing environment or system conditions. So the screens you see may vary from the procedure outlined below.

*To perform a “typical” installation:*

- 1 Log in to the target host computer as root.

- 2 Download the Scalix .tar file, put it in a convenient directory on the host and untar it.
- 3 From the directory where the installation files are stored, run the following command.

```
./scalix-installer
```

- 4 This starts the Scalix Installation Wizard, which displays the *Welcome* screen.



- a After reading the “Welcome” text, click **Forward**.

- 5 The *License Agreement* screen appears. This screen presents the terms of the product’s internal licenses and use.



- a Read through the license agreement and accept the conditions by clicking the check box by, **I have read and accept the above License Agreement**.
- b When finished, click the now-active **Forward** button to proceed.

- 6 The *Wizard Mode* screen appears. This is where you select the type of installation you want to do: Typical, custom, reconfiguration of components, or uninstallation.



- a To initiate a typical installation in which all components are contained on a single server, select **Install all Scalix components (typical)**.
- b When finished, click the now-active **Forward** button to proceed.

- 7 The *Component List* window appears with all components selected by default.



- a Review the list to make sure you want to install everything on it. If you don't want to install all components, cancel out of this wizard, relaunch as a custom

installation and use the instructions in the chapter titled, “Custom Installation” on page 52.

- b When finished, click the now-active **Forward** button to proceed.
- 8 The *System Check* screen appears while the installation wizard verifies that all required software is installed and meets current requirements. If essential pieces are not present or are out of date, it installs or upgrades them automatically. This may take several minutes.



- Green check marks indicate the system is ready.
  - Caution symbols indicate that critical software is missing and the installer automatically adds them.
  - Stop signs indicate the absence of critical software that the installer can't add. You cannot proceed with installation in this state.
- a If a system or dependency check results in an alert, click **View Log**. A dialog box reports on which system components are missing.
  - b If the “caution” reports “selinuxenabled,” go to /etc/selinux/config and use your preferred editing command to change the SELinux setting to SELinux=Disabled or SELinux=Permissive. Then reboot and try the installation again.
  - c When finished, click the now-active **Forward** button to proceed.

- 9 The wizard begins installing the selected components and displays an *Installing (status)* screen.

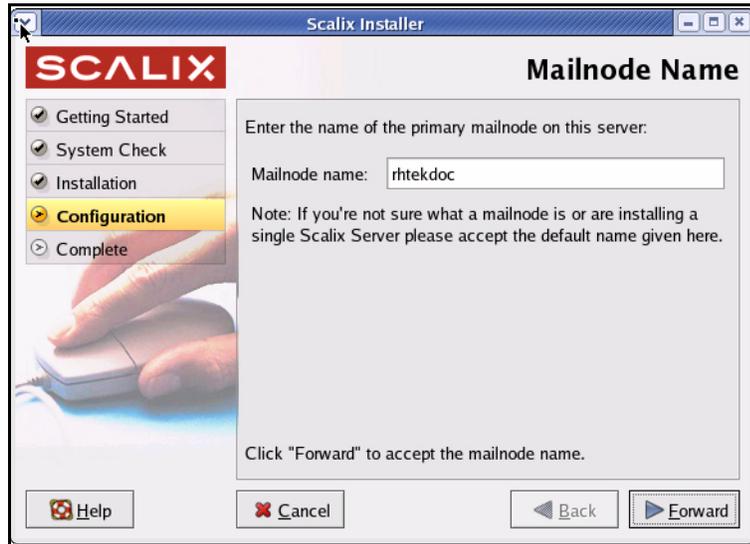


- a This process takes several minutes to complete. The wizard reports on which package is currently being installed. When the installation is complete, a “Done” message appears in the status list, and the **Forward** button becomes active.
- b When finished, click the now-active **Forward** button to proceed.

**Note** If this is a fresh installation, proceed to the next step. If a message store is already installed, the wizard skips ahead to the license activation screen.

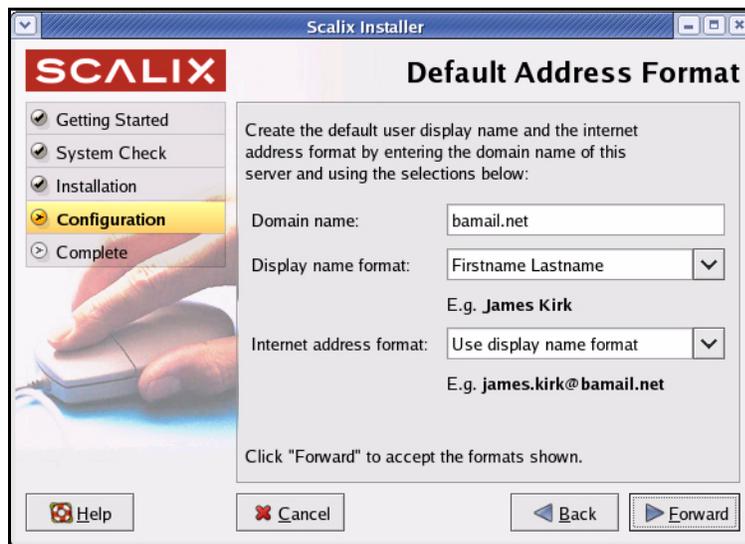
- 10 *The Mailnode Name* screen appears. Mailnodes, a unique Scalix feature, can organize a mail community into manageable groups. For example: You can organize users by work group, employment status, office location or more. The primary mailnode often has the same name as the server, so the installer offers that as the

default, but it can have any other name. If desired, you can create sub-mailnodes after installation.



- a Scalix recommends accepting the default entry, which is the hostname.
- b When finished, click the now-active **Forward** button to proceed.

11 The *Default Address Format* screen appears. Identify the domain name and select the format for all display names and emails generated by the server. For example: `FirstName.LastName@CompanyName.com`.

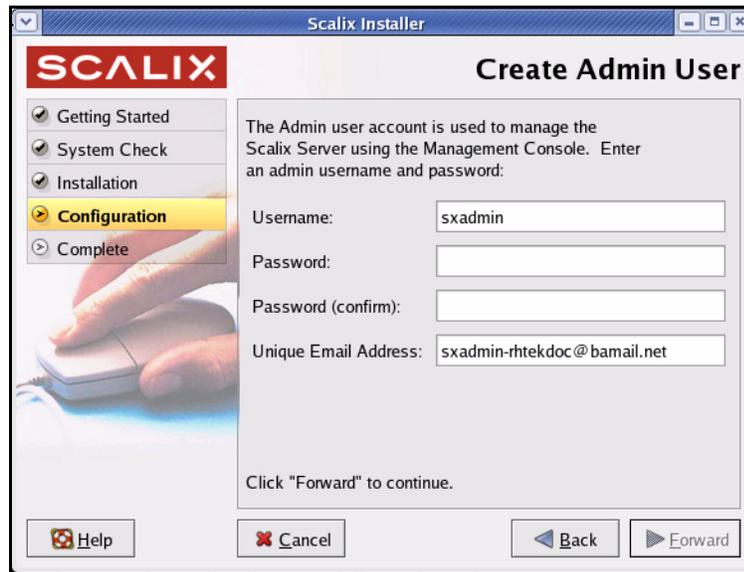


- a Use this screen to customize the following:
  - Domain name of this server
  - Display name format of all Scalix mail accounts
  - Internet address format of all Scalix accounts

Examples of a typical display name and Internet address formats are displayed in this window, depending on the selections you make in the pull-down menus.

b When finished, click the now-active **Forward** button to proceed.

- 12 The *Create Admin User* screen appears. This user manages the Scalix Server via the Management Console so it needs a name, password and email address.



- a Enter the primary administrator username and password used to manage the Scalix Server.
- b Either accept the default email address for this user in the **Unique Email Address** field, or change it accordingly.

**Tip** After installation, you can create additional administrator accounts in the Management Console.

c When finished, click the now-active **Forward** button to proceed.

- 13 The Scalix Installer begins creating the message store. A dialog box tracks the creation process, which can take several minutes.

**Alert** Do not close this dialog box (or any other in the installation wizard). Closing the box halts the installation process and requires a full uninstallation before attempting to install again.

a When finished, click the **Forward** button to proceed.

- 14 The *License Activation* screen appears. This prompts you for your company or organization's license to use the Scalix system. If you want to run Scalix as a Community Edition, you do not need a license. But you must have a license to proceed with an

Enterprise or Small Business Edition installation. If you don't have one, contact your Scalix representative.



- a If you have a license to run Scalix as an Enterprise Edition system, you have two options for entering the license.
    - Use a text editor to cut-and-paste the text from any text file containing the exact license text.
    - Click **Browse** to locate, open and import the contents of the file.
  - b When finished, click the now-active **Forward** button to proceed.
- 15 The *Third Party Components* screen appears. This screen verifies the existence of the Java Runtime Environment. If JRE is not properly installed, the installation wizard gives you an opportunity to complete it.



- a If Java is already installed, click the **Forward** button to proceed.
  - b If it is not, this screen notifies you that it is about to be installed. Status dialog boxes may appear and automatically close when finished.
  - c When finished, click the now-active **Forward** button to proceed.
- 16 If Java is not properly configured, the installer configures it now. If you have JRE installed and configured, skip this step.



- a Either select the default package by clicking **Install** or browse to the JRE you want to install.
  - b When installation is complete, click **Forward**.
- 17 The *Secure Communication* screen appears. This ensures secure data flow between the Management Console and the LDAP server.



- a Enter a password that the Scalix Management Console will use to authenticate against the LDAP server. This is a non-expiring password and is for a different

account than the administrative login. If you are building more than one Scalix Server, they must have the same authentication password.

Keep this password on file because you will need to enter it on each server if you upgrade to a multi-server setup at some point. If you lose the password, it is stored in the psdata file in Scalix's configuration folder.

- b When finished, click the now-active **Forward** button to proceed.
- 18 The Messaging Services (Database) screen appears. This screen prompts for the fully qualified host name of the machine where the messaging services' database (PostgreSQL) is installed as well as the password for the user accessing this database. This user is created during the Scalix Postgres integration process and is a full database user.



- a Enter the name of the database's host machine, then enter and confirm the password for the database.
  - b When finished, click the now-active **Forward** button to proceed.
- 19 The Installer displays a progress bar as it goes through assorted configurations and starts various services.
- 20 The *Done* screen. Your installation was successful.
- 21 Click **OK** to exit the installation wizard.

## ***Confirming the Success of Your Scalix Installation***

After successfully installing Scalix on the host computer, you can perform the following tasks to ensure that Scalix Server and other components installed correctly.

### **Verify that Apache has started**

*To verify that the Apache server has started:*

- 1 Log in to the Scalix host as root.
- 2 If this host runs Red Hat Linux, enter this command:

```
ps -ef | grep httpd
```

- 3 If this host runs SUSE Linux, enter this command:

```
ps -ef | grep apache
```

If Apache is running on the host, a list of Apache processes appears.

- 4 Open a web browser and connect to `http://<your_scalix_mailserver_FQDN>/`  
The Apache Test Page should appear, confirming your Apache server is working.

## Verifying Network Connections

*To verify that network protocol access and connectivity is sufficient:*

- 1 Log in to the Scalix host as root.
- 2 Open a command line window.
- 3 Ping any address outside the corporate firewall that returns ping requests.
- 4 Ping other messaging servers inside the corporate firewall.
- 5 From inside the firewall, ping the Scalix Server using the hostname.
- 6 From outside the firewall, ping the Scalix Server using the hostname.
- 7 Depending on the usage requirements for the Scalix Server, make sure the following ports (with port number) are open:
  - Scalix UAL (5729)
  - LDAP (389)
  - HTTP (80)
  - HTTPS (443)
  - SMTP (25)
  - POP (110)
  - IMAP (143)
  - UDP (5757)
  - Kerberos - Single Sign-on only (88 and 749)

## Testing Scalix Web Access installation

*To ensure that Scalix Web Access is installed correctly:*

- 1 Log in to the Scalix host as root.
- 2 Make sure the Tomcat service is started, by entering this command:

```
ps -ef | grep tomcat
```
- 3 In your web browser, enter this URL in the Location field:

```
http://<your_scalix_mailserver_FQDN>/webmail/
```

The Scalix Login page should appear in the browser window.
- 4 If the login page does not appear, open this Tomcat log file:

```
$TOMCAT_HOME/logs/catalina.date.log
```

- 5 Review this log file for any recorded errors.
- 6 Log in to Scalix Web Access using the administrator username and password you previously configured during installation.
- 7 Once these tests are successfully complete, you can proceed.

## Testing the Management Console Installation

*To ensure that the Management Console is installed correctly:*

- 1 Log in to the Scalix host as root.
- 2 Make sure the Tomcat service is started, by entering this command:  

```
ps -ef | grep tomcat
```
- 3 In your web browser, enter this URL in the Location field:  

```
http://<your_scalix_mail_server_FQDN>/sac/
```

The Scalix Management Console login page should appear.
- 4 If the login page does not appear, open this log file:  

```
~/tomcat/logs/scalix-caa.log
```
- 5 Review this log file for any recorded errors.
- 6 Log in to the Management Console using `admin_username@server.domain.ext` as the username.

The Management Console requires the Authentication ID value for the username field. The default Authentication ID for the administrator account is automatically created by the Scalix Installer during the installation of Scalix Server and is in this format:

```
admin_username@server.domain.ext
```

The `admin_username` is the name you specified during installation.

- 7 To view the Authentication ID for the administrator account, enter:  

```
omshowu -n admin_username
```
- 8 An additional option: You can modify the authentication ID for the administrator account and all other users using the Scalix Management Console or by executing the `ommodu` command on the Scalix Server as follows:

```
ommodu -o username --authid new_authid
```

## Getting Started with Scalix

Now that you've successfully installed and started up your new Scalix mail system, you can proceed to put it to work. This can be done with both of the following toolsets:

## Scalix Administrative Console

*To start the Scalix Administrative Console:*

- 1 Open a web browser and log in to this URL—  
[http://<your\\_scalix\\_mailserver\\_FQDN>/sac](http://<your_scalix_mailserver_FQDN>/sac)

### Alert

Do not try to log in as the user `sxqueryadmin` or change its settings in any way. It is a system user and should not be changed.

- 2 When the Scalix Management Console (aka SAC) appears, you can complete a wide range of tasks that fall into these categories:
  - Scalix user account management
  - Group (public distribution list) management
  - Starting and stopping server services and daemons
  - Monitoring queues
  - Changing some server configuration settings.

You can also perform system monitoring to assess the current state of processes and resources as well as any load being made on Scalix queues.

For more information on how to use the CLI to manage Scalix, see the *Scalix Administration Guide*. There also are man pages for all commands.

## Scalix CLI

If you choose not to use the Scalix Management Console, you can work with the system via the command line interface.

*To use Scalix via the CLI:*

Open a terminal window and use the complete set of CLI commands and extensions to configure and customize your system. For server setup tasks, or for high-end, advanced maintenance, you should use the extensive Linux-based command line interface. The CLI provides a full set of commands, or you can use the CLI to set up and run all needed administrative scripts.

For more information on how to use the Scalix Management Console, see the *Scalix Administration Guide*.

## Configuring Scalix

For information on system configurations such as anti-virus or anti-spam software, security setups, email routing and more, see the *Scalix Server Setup Guide*.

# Custom Installation

This chapter provides instructions for a variety of custom installation scenarios. If you performed a typical installation, skip this procedure.

## Contents

This chapter includes the following information:

- “Before You Begin” on page 52
- “Installing the Scalix Server and Management Agent” on page 53
- “Installing Other Scalix Components” on page 67
- “Installing the SWA Software” on page 71
- “Confirming the Success of Your Scalix Installation” on page 81
- “Getting Started with Scalix” on page 83

A reminder—installing Scalix components on separate hosts is not an option for Community Edition systems. Only Enterprise Edition system components can be distributed across several hosts.

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**Note**

Make sure you read the Scalix Release Notes (on the CD ROM or tar.gz file) before you begin installing Scalix. There may be late cautions, tips or qualifications you should know about.

## ***Before You Begin***

The Scalix software comes in 10 distinct packages of which you can install some or all on any number of hosts. You can mix and match these packages on separate servers in any way you choose, putting one, some or all on any combination of servers.

In any multi-server scenario, the Scalix Server and Scalix Management Agent packages must be installed on the same server **FIRST** (before installing any other packages). After that, the order in which the packages are installed does not matter.

You must manually run the installer wizard on each host on which you want components installed. If you want to install more than one component on a server, you can do them at

one time or run the entire installation procedure over again each time you add a new component.

**Alert**

These documented procedures are only samples of the particular types of installations you can do. The wizard screens you see in your installation procedure may vary from those pictured here, depending on the unique combination of components you are installing. In some cases, procedures will be combined so more screens appear than are documented. In other cases, some screens may not appear because you already have certain components installed or configured.

**Alert**

You must install Java and Tomcat on each host.

**Alert**

To prevent errors, remember to keep a map or drawing of your multi-server layout by your side before beginning any of these procedures. This map should show all servers to be installed with their host names and passwords as well as the installation packages to be installed on each. For more on planning your multi-server setup, see "Planning Your Installation" on page 20.

## ***Installing the Scalix Server and Management Agent***

Scalix Server and the Scalix Management Agent, though discreet components, must be installed on the same host computer and are best installed first. So the first step in setting up a custom or multi-server system is to install the Scalix Server with the Management Agent on one host machine. If desired, you can add other components to this machine at the same time. The installation scenario we cover here adds the Search and Index Service (SIS).

In a multi-server environment, the installation procedure must be done separately on each host machine, selecting to install only those components needed for that particular server. We recommend you keep a map of your system layout in front of you, listing all servers, their hostnames and passwords, and the components installed on each one.

We strongly recommend you verify the existence of all required software resources on the host computer before starting this installation. The complete list is printed in "System Requirements" on page 28.

**Note**

Make sure you read the Scalix Release Notes (on the CD ROM or tar.gz file) before you begin installing Scalix Server. There may be late cautions, tips or qualifications you should know about.

***To install the Scalix Server, the Management Agent and SIS on the first host machine:***

- 1 Log in to the target host computer as root.
- 2 Download the Scalix .tar file, put it in a convenient directory on the host and untar it.
- 3 From the directory where the installation files are stored, run the following command.

```
./scalix-install
```

- 4 This starts the Scalix Installation Wizard, which displays the *Welcome* screen.

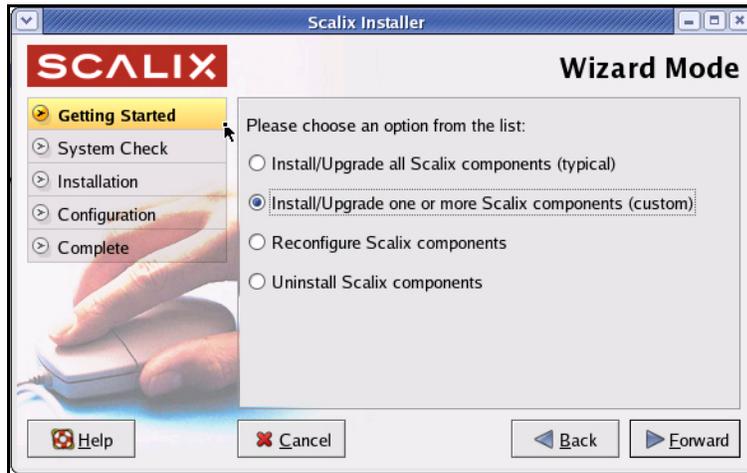


- a After reading the “Welcome” text, click the **Forward** button.
- 5 The *License Agreement* screen appears. This screen prompts you to accept all terms of the product’s internal licenses and use.



- a Read through the license agreement and accept the conditions by clicking the check box by, **I have read and accept the above License Agreement**.
  - b When finished, click the now-active **Forward** button to proceed.

- 6 The *Wizard Mode* screen appears. This is where you select the type of installation you want to do: Typical, custom, reconfiguration of components, or uninstallation.

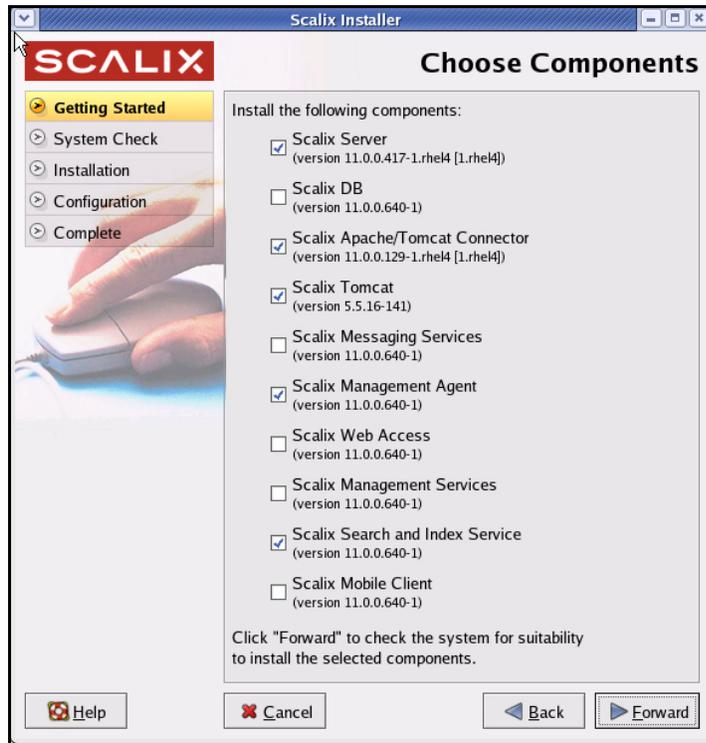


- a To initiate a custom installation, select **Install/upgrade one or more Scalix components (custom)**.
  - b When finished, click the now-active **Forward** button to proceed.
- 7 The *Installation Files* screen appears. This is where you guide the installer to the installation packages.



- a If the installer hasn't pre-populated the field with the correct path to the files, browse to the proper location yourself.
- b When finished, click the now-active **Forward** button to proceed.

- 8 The *Choose Components* screen appears. This is where you select which components you want to install on this server. Select only those components that apply to the server on which you are now installing.

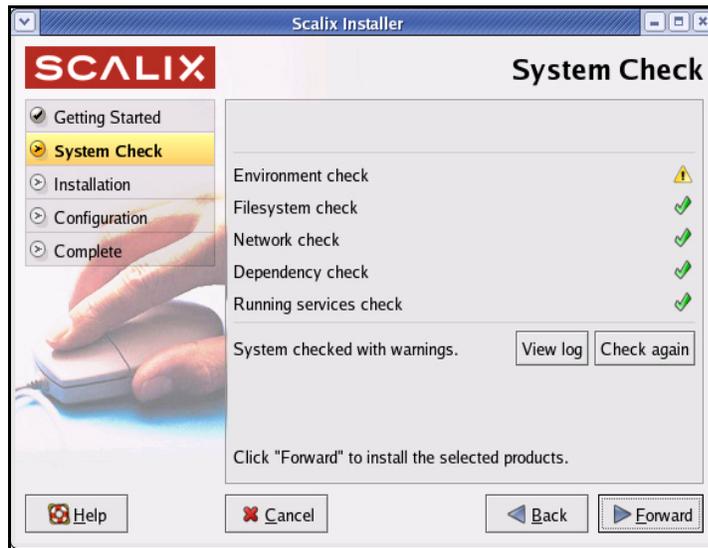


- a Because you only want the Scalix Server, Management Agent and SIS on this machine, and because all servers must have Tomcat and the Tomcat/Apache Connector on them, click the check boxes by **Scalix Server**, **Scalix Tomcat**, **Scalix Apache/Tomcat Connector**, **Scalix Management Agent** and **Scalix Search and Index Service**.

**Alert** Do **not** install the Scalix Server and Management Agent on separate host computers.

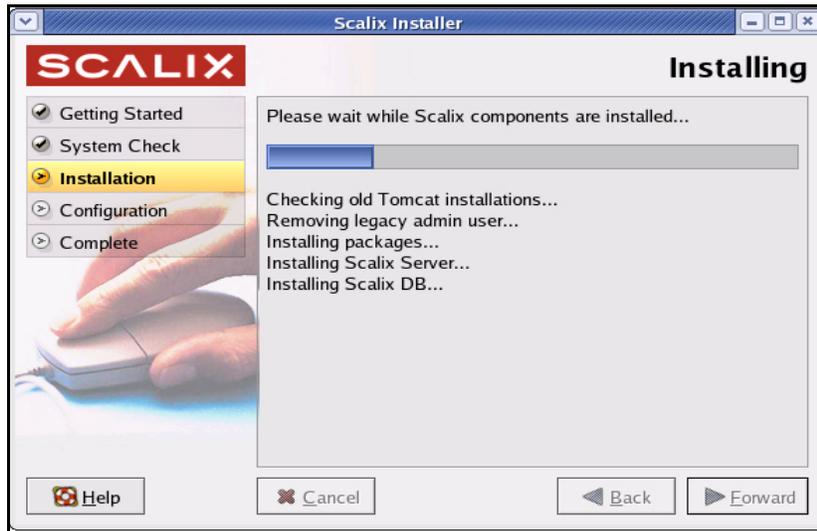
- b When finished, click the now-active **Forward** button to proceed.
- 9 The *System Check* screen appears while the installation wizard verifies that all required software is installed and meets current requirements. If essential pieces

are missing or are out of date, it installs or upgrades them automatically. This may take several minutes.



- Green check marks indicate the system is ready.
  - Caution symbols indicate that critical software is missing and the installer automatically adds them.
  - Stop signs indicate the absence of critical software that the installer can't add. You cannot proceed with installation in this state.
- a If a system or dependency check results in an alert, click **View Log**. A dialog box reports on which system components are missing.
  - b If the "caution" reports "selinuxenabled," go to /etc/selinux/config and use your preferred editing command to change the SELinux setting to SELinux=Disabled or SELinux=Permissive. Then reboot and try the installation again.
  - c When finished, click the now-active **Forward** button to proceed.

- 10 The wizard begins installing the selected components (and any missing packages) and displays an *Installing (status)* screen.



- a A series of Information/Status dialog boxes appear, and auto-close when finished.
- b When installation is complete, click the **Forward** button to proceed.



Once installation of the basic server packages is complete, the wizard begins the process of installing and configuring other components such as the Scalix Server, the Management Agent, the Management Console, the Scalix Web Access Server, the Messaging Services API, the Search and Index Server and the mobile access server. So if you opted to install any of those components along with the Scalix Server and Management Agent, their installation screens appear within the next few steps. For more information on those installation screens, see the associated subchapter below.

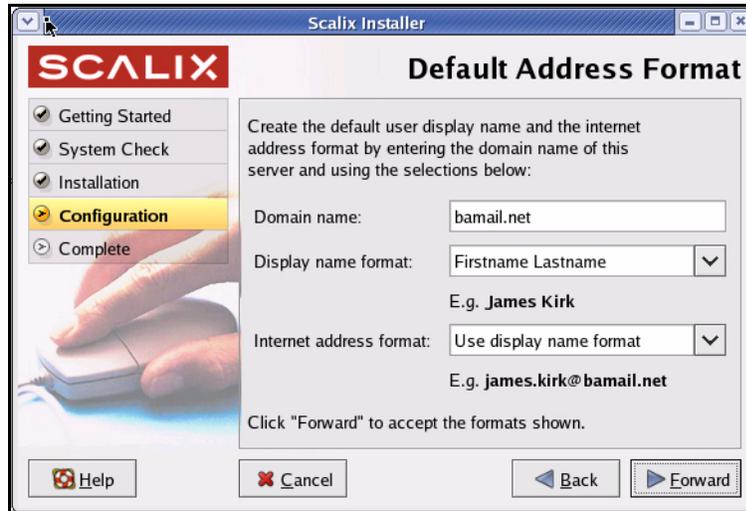
- 11 When installation of the files is done, the *Mailnode Name* screen appears. Mailnodes, a unique Scalix feature, can organize a mail community into manageable groups. For example: You can organize users by work group, employment status, office location or more. The primary mailnode often has the same name as the server, so the installer offers that as a default. You can give it another name if you want.



- a Scalix recommends that you accept the default value (hostname, domain of the host).
- b When finished, click the now-active **Forward** button to proceed.

**Alert** Changing the name of a mailnode requires several key changes to configuration files, and if this is done incorrectly, can cause severe problems with the Scalix Server.

- 12 The *Default Address Format* screen appears. This is where you select the default format for all emails generated by the server. For example: FirstName.Last-Name@CompanyName.com.

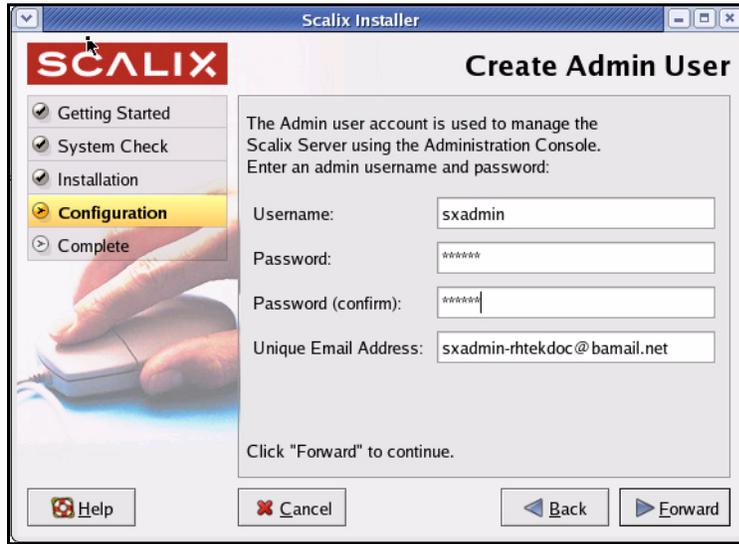


- a Use this screen to customize the following:
  - **Domain name** of this server
  - **Display name format** of Scalix mail accounts
  - **Internet address format** of Scalix accounts.

Examples of a typical display name and Internet address formats are displayed in this window, depending on the selections you make in the pull-down menus.

- b When finished, click the now-active **Forward** button to proceed.

- 13 The *Create Admin User* screen appears. This user manages the Scalix Server via the Management Console so you must give it a name and a password.



- a Enter the primary administrator username and password used to manage the Scalix Server.
- b Either accept the default email address for this user in the **Unique Email Address** field, or change it accordingly.

**Tip** Additional administrator accounts can be configured in Scalix after the installation process is complete. You can use Scalix Management Console or CLI to accomplish this.

- c When finished, click the now-active **Forward** button to proceed.

- 14 The Scalix Installer begins creating the message store. A dialog box tracks the creation process, which can take several minutes.

**Alert** Do not close this dialog box (or any other in the installation wizard). Closing the box halts the installation process and requires a full uninstallation before attempting to install again.

- a When finished, click the **Forward** button to proceed.

- 15 The *License Activation* screen appears. This prompts you for your company or organization's license to use the Scalix system. You must have a license to proceed with

an Enterprise Edition upgrade. If you don't have one, contact your Scalix representative.



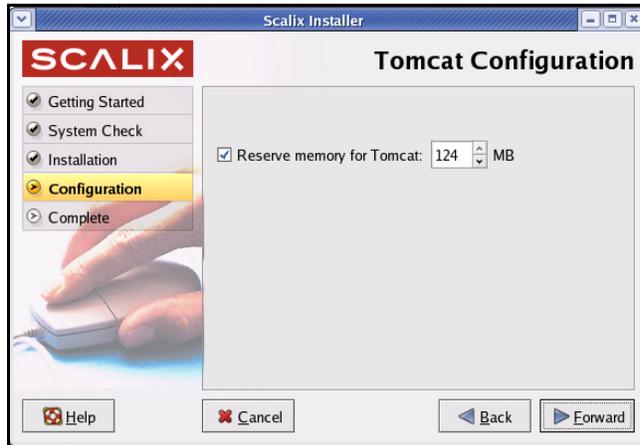
- a If you have a license to run Scalix as an Enterprise Edition system, you have two options for inputting the license at this time:
  - Use a text editor to cut-and-paste the text from any text file containing the exact license text.
  - Click **Browse** to locate, open and import the contents of the file.
- b When finished, click the now-active **Forward** button to proceed.

**Note** If you want to run Scalix as a *Community Edition* system, you do not need a license. You can click **Forward**. When a warning dialog box asks you to confirm that "no license was entered", click **OK**.

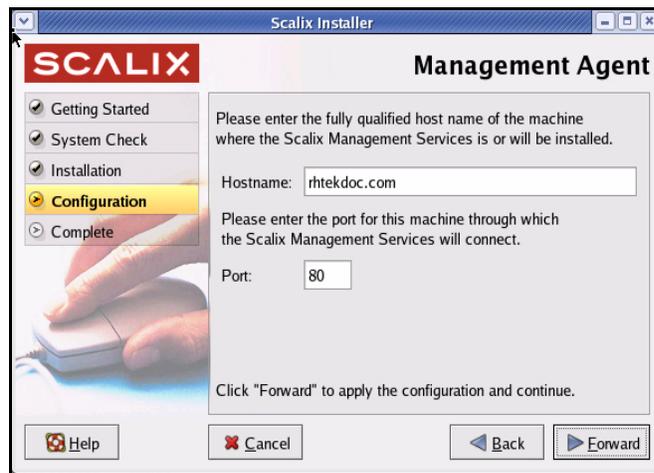
- 16 If Java is not properly configured, the installer configures it now. If you have JRE installed and configured, skip this step.



- a Either select the default package by clicking **Install** or browse to the JRE you want to install.
  - b When installation is complete, click **Forward**.
- 17 The *Tomcat Configuration* screen appears. This screen allows you to configure the amount of memory reserved for Tomcat and enable the Tomcat/Apache connector.



- a In the top field, click the check box to reserve memory for Tomcat and in the field, type the amount in MB. The amount of memory should range between 1/4 and 1/2 of total RAM but for performance reasons, should never exceed 768 MB.
  - b When finished, click the **Forward** button to proceed.
- 18 The *Management Agent Services* screen appears. This screen allows you to specify the hostname on which the Scalix Management Services are deployed and the port on which the Management Agent runs.



- a In the **Hostname** field, enter the hostname of the server on which you installed the Management Console (aka SAC). If you are installing the Management Console on this machine, do not change this entry.
- b In the **Port** field, enter the Tomcat port to be used for communications by the Management Console. This value defaults to port 80 when the Apache/Tomcat JK connector has been enabled on this machine, or port 8080 when JK is not

enabled. Please note that changing this value does not modify the value in the Tomcat file "server.xml".

c When finished, click the now-active **Forward** button to proceed.

- 19 The first of two *Secure Communication* screens appears. This ensures secure data flow between the Management Console and the LDAP server.

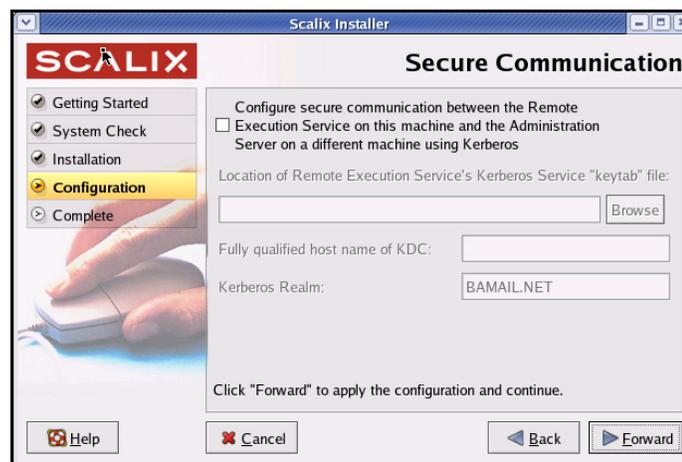


- a Enter a password that the Scalix Management Console will use to authenticate against the LDAP server. This is a non-expiring password and is for a different account than the administrative login. If you are building more than one Scalix Server, they must have the same authentication password.

Keep this password on file because you will need to enter it on each server if you upgrade to a multi-server setup at some point. If you lose the password, it is stored in `/etc/opt/scalix/caa/scalix.res/config/psdata`.

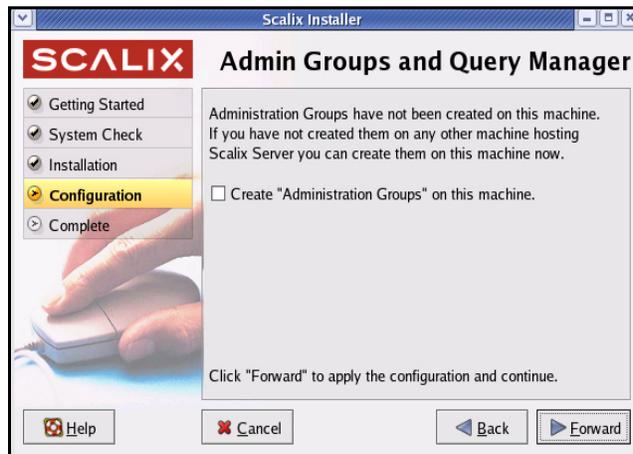
b When finished, click the now-active **Forward** button to proceed.

- 20 The second *Secure Communication* screen appears.



- a If you are not using Kerberos authentication between the Management Agent and Scalix Management Console, click **Forward** to bypass this screen.

- b If you are utilizing Kerberos authentication between the Management Agent and the Management Console, you can do the following:
    - Click the empty **Configure secure communications** checkbox.
    - Click **Browse** to open a dialog box in which you can find and open the keytab file.
    - Enter the fully qualified domain name of the KDC (Kerberos Distribution Center).
    - Enter the Kerberos realm of your Scalix system, in ALL-CAP letters.
  - c When finished, click the now-active **Forward** button to proceed.
- 21 The *Admin Groups and Query Manager* screen appears. If the Scalix Management Service is installed on a machine that is separate from the Scalix Server, the installer prompts you to enter the location of the Administration Groups and the `sxquerymgr` service (the server on which you installed the Management Services). You can use this screen to create these items on the server. You would select this option if you have not yet installed the Management Services, or if you simply want to create these items on the server.



If Administration Groups are already on this server, a list of group names appears here (for information only) instead of the data entry options.



- a To create your Scalix administrative groups on this server (and not on the Management Console host), click the check box by **Create Administrative Groups...**

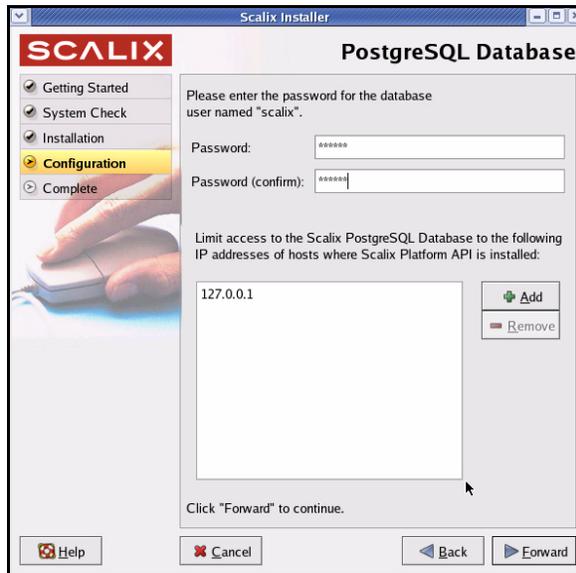
<b>Alert</b>	If you install the Scalix Management Console on a separate host from the Scalix Server and Management Agent, you need to create the Administration Groups on the Management Agent host. This can be done at this point during the Scalix/Agent installation.
--------------	--

- b When finished, click the now-active **Forward** button to proceed.
- 22 The *Search and Index Service* screen appears. This is where you set up your indexing service.



- a From the drop-down menu in the language field, select the language you want to use.

- b If you want to limit access to certain IP addresses, list them on the lower half of the screen using the **Add** and **Remove** functions.
  - c When finished, click the now-active **Forward** button to proceed.
- 23 The *PostgreSQL Database* screen appears. This screen asks you to supply the password for the user accessing this database. This user is created during the Scalix Postgres integration process and is a full database user. This screen also allows you to identify any host computers that have access to the database. You must identify the IP address or subnet for every server that will have access to the database.



- a Enter and confirm the password for the database.
- b To enter a new IP address or subnet, click the **Add** button, then type the address or subnet in the dialog box that appears. When finished, click **OK**. You can identify an entire subnet using the CIDR syntax: 10.17.64.0/24.
- c When finished, click the now-active **Forward** button to proceed.

24 The *Messaging Services* screen appears.



a Enter the hostname for the server where the Scalix Server is installed and the port used for LDAP.

25 When installation is finished, the *Done* screen appears. Your installation was successful.

26 Click **OK** to exit the installation wizard.

## ***Installing Other Scalix Components***

Because the wizard repeats many of the same steps in the installation procedures for other Scalix components, we only outline those steps that differ in the following procedures. For those that are the same, see the steps for installing the Scalix Server and Management Agent (above).

### **Installing the Management Services**

The Scalix Management Services (aka Scalix Management Console or SAC) component packages contain the installation files for the Web-based administration GUI through which the system's administrator can manage users, groups, distribution lists, servers and more.

To install the Management Console components onto a prepared Linux host computer, start the Scalix Installer program and work through the Installation Wizard.

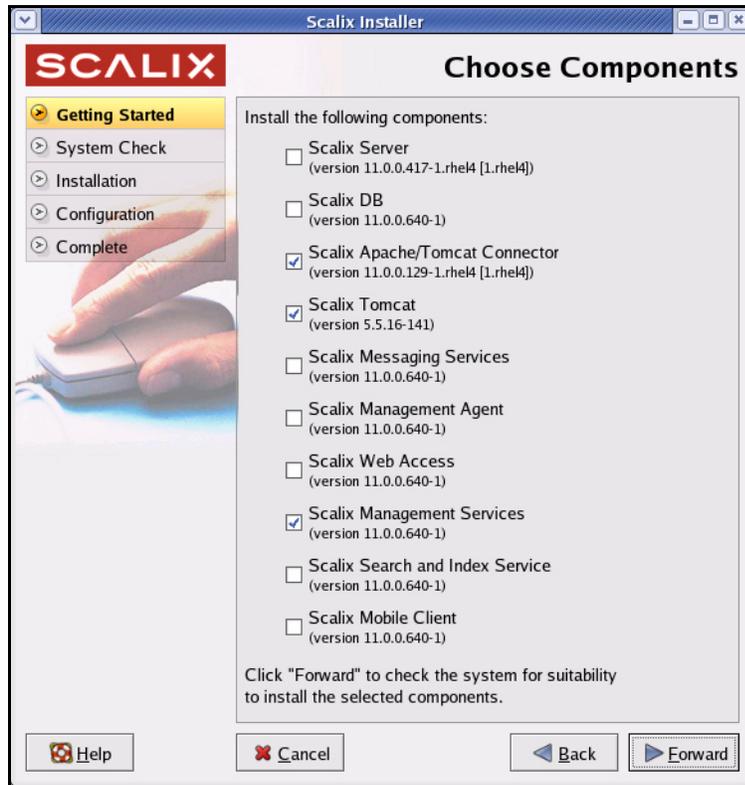
We strongly recommend that you verify the existence of all required software resources on the host computer before starting this installation. The complete list is printed in "System Requirements" on page 28.

#### **Tip**

You will have an opportunity to install Tomcat, JRE and the JK Apache/Tomcat connector during the Scalix installation as the installers are bundled into the Scalix package. Because the Scalix software is browser based, these packages are required for all hosts.

*To install the Scalix Management Console:*

- 1 Follow steps 1 through 8 as outlined above in the section titled, "Installing the Scalix Server and Management Agent" on page 53. These steps include starting the installation wizard, accepting the product license, choosing the custom installation mode and allowing the base packages to install.
- 2 The *Choose Components* screen appears. This is where you select which components you want to install on this server. Select only those components that apply to the server on which you are now installing.



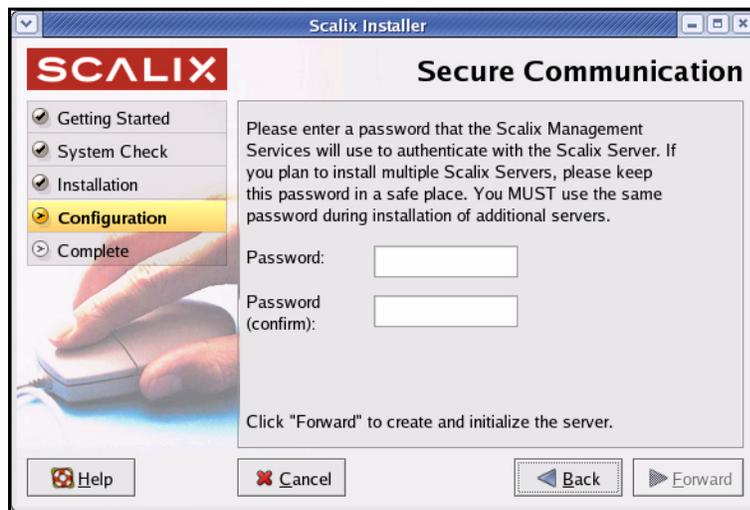
- a Click the check boxes by **Scalix Management Services**, **Scalix Tomcat**, and **Scalix Apache/Tomcat Connector** and, in some cases, **Scalix PostgreSQL Database Integration**.
- b When finished, click the now-active **Forward** button to proceed.
- 3 The *System Check* and *Scalix Installer* screens appear. To complete these screens, follow the instructions laid out in steps 10 and 11 of the section titled, "Installing the Scalix Server and "Installing the Scalix Server and Management Agent" on page 53".
- 4 If Java and Tomcat are not already installed, they install now. To complete these screens, follow the instructions in steps 17 and 18 in the section titled, "Installing the Scalix Server and Management Agent" on page 53.
- 5 The *Management Services* screen appears. Change the values in this screen only if you want to deploy (or have deployed) the Management Console (aka the Scalix

Administration Console) on a server that is different from the one on which the Scalix Server is installed.



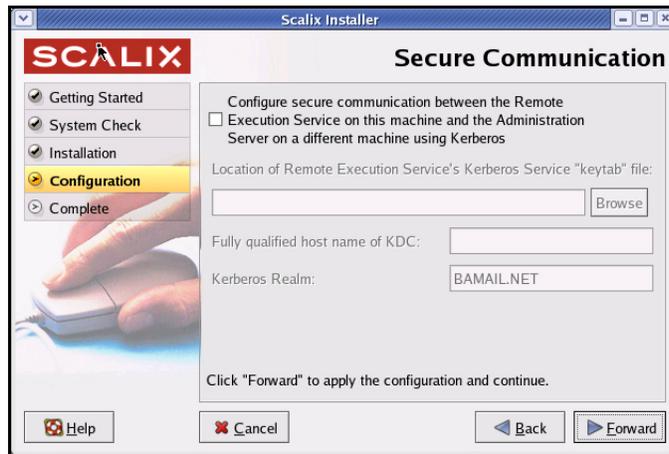
- a If you don't want to accept the default, provide the following information:
  - The default mail domain for the server on which you have or want to install the Management Console.
  - The server hostname for the server on which you have or want to install the Management Console.
- b When finished, click the now-active **Forward** button to proceed.

6 The first of two *Secure Communication* screens appear.



- a Enter a password that the Scalix Management Console will use to authenticate against the LDAP server. This is a non-expiring password and is for a different account than the administrative login. Keep this password on file because you must enter the same exact same password on each server. If you lose the password, it is stored in `/etc/opt/scalix/caa/scalix.res/config/psdata` on the machine with the Scalix Management Console.
- b When finished, click the now-active **Forward** button to proceed.

7 The second *Secure Communication* screen appears.



a Make these entries, if you are configuring Kerberos authenticated connections:

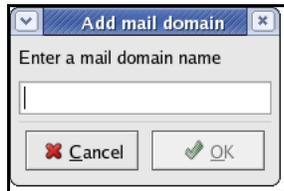
- Check the **Configure secure communication...** option to configure encrypted Kerberos communication between the Scalix Management Console and all instances of the Management Agent.
- Click **Browse** to locate the service keytab file for the Management Console.
- Enter the fully qualified host name of the KDC (Kerberos Distribution Center).
- Enter the Kerberos Realm (in UPPERCASE text).

b When finished, click the now-active **Forward** button to proceed.

8 The *Additional Mail Domains* screen appears. If you want multiple domains from which to create addresses in the Management Console (aka SAC), you can add other mail domains now. The domains you add now will be listed in a pull-down menu that you use when adding or modifying a user in the Management Console. Please note that if you are installing an Enterprise or Small Business Edition, only mail domains for which you are licensed may be added here.



- a To add any other usable domains (that will help you create different e-mail addresses in the Management Console), click **Add** and use the Add mail domains dialog box.




---

**Alert** You cannot add new mail domains at this time unless they have been included in your Scalix license key.

- b When finished, click the now-active **Forward** button to proceed.
- 9 The *Done* screen appears, if the installation was successful.
- 10 Click **OK** to exit the installation wizard.

## Installing the SWA Software

The Scalix Web Access Server (SWA) component packages contain the installation files for the Web-based client through which users can send and retrieve email, calendar items and more.

To install the SWA components onto a prepared Linux host computer, start the Scalix Installer program and work through the Installation Wizard.

We strongly recommend that you verify the existence of all required software resources on the host computer before starting this installation. The complete list is printed in “System Requirements” on page 28.

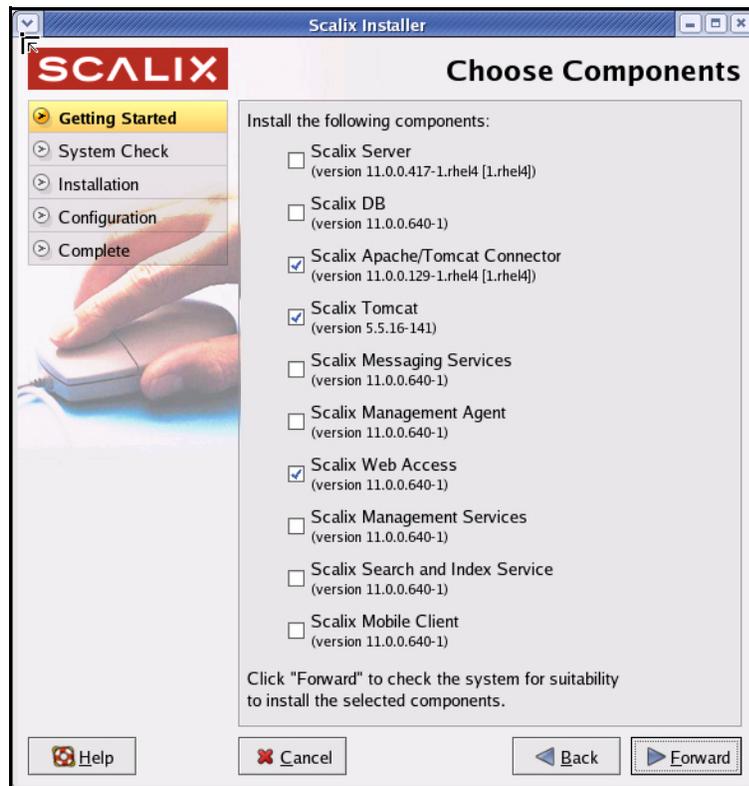
---

**Tip** You will have an opportunity to install Tomcat, JRE and the JK Apache/Tomcat connector during the Scalix installation as the installers are bundled into the Scalix package. Because the Scalix software is browser based, these packages are required for all hosts.

### *To install the Scalix Web Access server software:*

- 1 Follow steps 1 through 8 as outlined above in the section titled, “Installing the Scalix Server and Management Agent” on page 53. These steps include starting the installation wizard, accepting the product license, choosing the custom installation mode and allowing the base packages to install.

- 2 The *Choose Components* screen appears. This is where you select which components you want to install on this server. Select only those components that apply to the server on which you are now installing.



- a Because this is an SWA server only, click the check box by **Scalix Web Access**, and because all servers that communicate with Web applications must have Tomcat and its connector, also select **Scalix Tomcat** and **Scalix Apache/Tomcat Connector**.
- b When finished, click the now-active **Forward** button to proceed.

- 3 The *Resolve Components Dependencies* screen appears. This is where you inform the installer about where to find the messaging services database, which also is known as the PostgreSQL database.



- a Put a check mark by either **Install Scalix DB now** or **Use Scalix DB installed on another host**.
  - b When finished, click the now-active **Forward** button to proceed.
- 4 The *System Check* and *Scalix Installer* screens appear. To complete these screens, follow the instructions laid out in steps 10 and 11 of the section titled, "Installing the Scalix Server and Management Agent" on page 53.
  - 5 If Java and Tomcat are not already configured, you are prompted to configure them now. To complete the Java and Tomcat screens, follow the instructions in steps 17 and 18 in the section titled, "Installing the Scalix Server and Management Agent" on page 53.
  - 6 The *Web Access Server* screen appears. This screen allows you to specify the language locale in which to display the user interface, and whether you wish to enable the Rules Wizard interface and the Search and Index Service. The Rules Wizard

allows Web Access users to create mailbox rules (like Outlook) using a Web-based interface. The index service enables searching of mailboxes.



- a Open the **Locale** drop-down menu and choose the primary language used by the majority of your Scalix Web Access users.
  - b If you want the Scalix Rules Wizard active click the **Enable Scalix Rules Wizard** check box.
  - c If you want to enable the Search and Index Service, click the **Enable Search and Index Services** check box.
  - d When finished, click the now-active **Forward** button to proceed.
- 7 A second *Web Access Server* screen appears. If the Scalix Server is not installed on this machine, you are prompted for the mail domain, the Scalix Server hostname and the SMTP server hostname of the machine on which it is located. The default entries should be acceptable, but can be edited if you prefer other settings. NOTE:

These entries should be changed ONLY if you want to deploy (or have already deployed) SWA on a different machine from the Scalix server.



- 8 The Scalix Installer configures Scalix Web Access and when it is finished, displays the *Done* screen.
- 9 Click **OK** to exit the installation wizard.

## ***Installing the Messaging Services***

The Scalix Messaging Services component packages contain the installation files for the Web-based application that provides access to mailbox services.

To install the API components onto a prepared Linux host computer, start the Scalix Installer program and work through the Installation Wizard.

We strongly recommend that you verify the existence of all required software resources on the host computer before starting this installation. The complete list is printed in "System Requirements" on page 28.

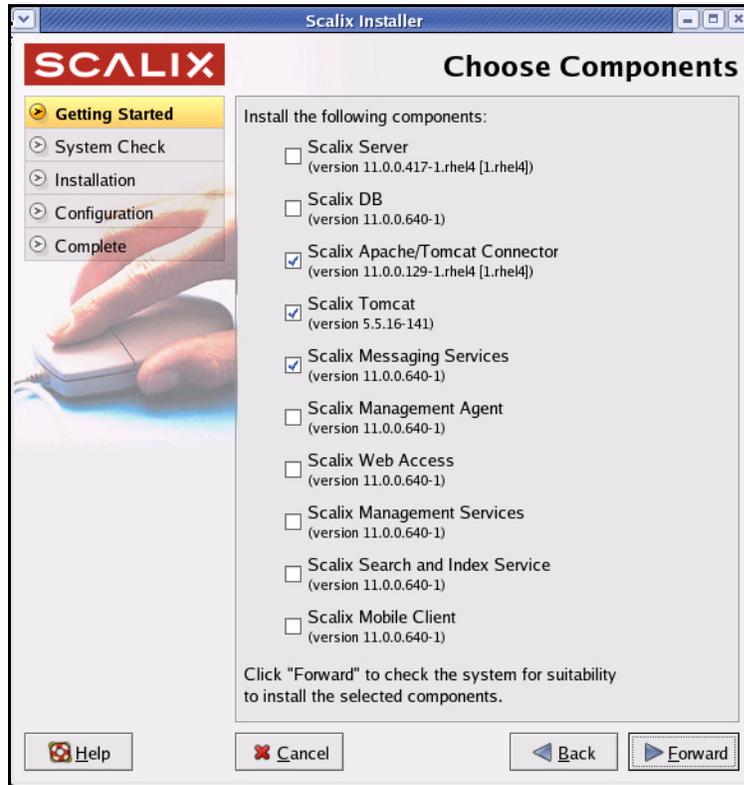
### **Tip**

You will have an opportunity to install Tomcat, JRE and the JK Apache/Tomcat connector during the Scalix installation as the installers are bundled into the Scalix package. Because the Scalix software is browser based, these packages are required for all hosts.

### ***To install the Messaging Services:***

- 1 Follow steps 1 through 8 as outlined above in the section titled, "Installing the Scalix Server and Management Agent" on page 53. These steps include starting the installation wizard, accepting the product license, choosing the custom installation mode and allowing the base packages to install.

- 2 The *Choose Components* screen appears. This is where you select which components you want to install on this server. Select only those components that apply to the server on which you are now installing.



- a Because this server is to have only the Messaging Services on it, click the check box by **Scalix Messaging Services**, and because all servers need Tomcat and its connector, also put check marks by **Scalix Tomcat** and **Scalix Apache/Tomcat Connector**.
- b When finished, click the now-active **Forward** button to proceed.

- 3 The *Resolve Components Dependencies* screen appears.



- a Put a check mark by either **Install Scalix DB now** or **Use Scalix DB installed on another host**.
  - b When finished, click the now-active **Forward** button to proceed.
- 4 The *System Check* and *Scalix Installer* screens appear. To complete these screens, follow the instructions laid out in steps 10 and 11 of the section titled, "Installing the Scalix Server and Management Agent" on page 53.
  - 5 If Java and Tomcat are not already configured, you are prompted to configure them now. To complete the Java and Tomcat screens, follow the instructions in steps 17 and 18 in the section titled, "Installing the Scalix Server and Management Agent" on page 53.
  - 6 The *Messaging Services* screen appears.



- a Enter the fully qualified host name for the machine where the Scalix Server is installed.

- b Enter the SMTP server hostname.
  - c Enter the port through which the LDAP server connects.
  - d When finished, click the now-active **Forward** button to proceed.
- 7 The *Messaging Services (Database)* screen appears. The Messaging Services use this database to store mailbox headers and other metadata. The database can be installed on this machine or another, and more than one platform installation can point to the same database.



- a Enter the fully qualified host name for the machine where the database is installed.
  - b Enter and confirm the password for the user named "scalix."
  - c When finished, click the now-active **Forward** button to proceed.
- 8 The Scalix Installer configures the Scalix Messaging Services and when it is finished, displays the *Done* screen.
- 9 Click **OK** to exit the installation wizard.

## ***Installing the Mobile Web Client***

The Scalix Mobile Web Client installation package contains the installation files for the Web-based application that provides mobile access to mailbox services.

To install the mobile components onto a prepared Linux host computer, start the Scalix Installer program and work through the Installation Wizard.

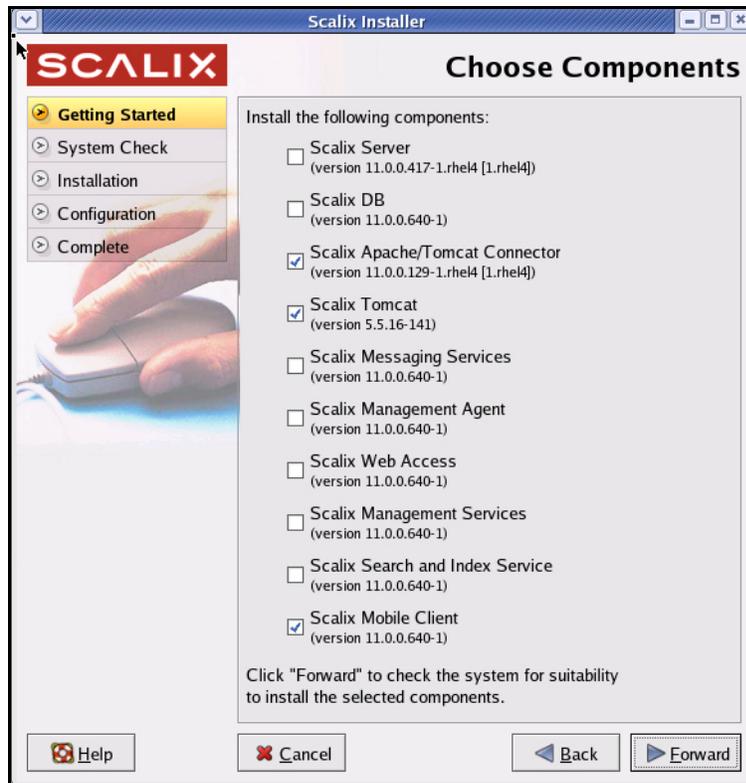
We strongly recommend that you verify the existence of all required software resources on the host computer before starting this installation. The complete list is printed in "System Requirements" on page 28.

### **Tip**

You will have an opportunity to install Tomcat, JRE and the JK Apache/Tomcat connector during the Scalix installation as the installers are bundled into the Scalix package. Because the Scalix software is browser based, these packages are required for all hosts.

*To install the Mobile Web Client:*

- 1 Follow steps 1 through 8 as outlined above in the section titled, "Installing the Scalix Server and Management Agent" on page 53. These steps include starting the installation wizard, accepting the product license, choosing the custom installation mode and allowing the base packages to install.
- 2 The *Choose Components* screen appears. This is where you select which components you want to install on this server. Select only those components that apply to the server on which you are now installing.



- a Because this server is to have only the mobile client, tick the check boxes by **Scalix Mobile Client**, and because it needs Tomcat to communicate with the Web application, also put check marks by **Scalix Tomcat** and **Scalix Apache/Tomcat Connector**.
- b When finished, click the now-active **Forward** button to proceed.

- 3 The *Resolve Components Dependencies* screen appears.



- a Put a check mark by either **Install Scalix DB now** or **Use Scalix DB installed on another host**.
- a When finished, click the now-active **Forward** button to proceed.
- 4 The *System Check* and *Scalix Installer* screens appear. To complete these screens, follow the instructions laid out in steps 10 and 11 of the section titled, "Installing the Scalix Server and Management Agent" on page 53.
- 5 If Java and Tomcat are not already configured, you are prompted to configure them now. To complete the Java and Tomcat screens, follow the instructions in steps 17 and 18 in the section titled, "Installing the Scalix Server and Management Agent" on page 53.
- 6 The *Messaging Services Host* screen appears. This is where you enter the FQDN of the server on which the Messaging Services are or will be installed.



- a Enter the fully qualified hostname of the machine where the messaging services are or will be installed, optionally followed by a colon and the port where the messaging services are listening.
- b When finished, click the now-active **Forward** button to proceed.

- 7 The Scalix Installer configures the Scalix Messaging Services and when it is finished, displays the *Done* screen.
- 8 Click **OK** to exit the installation wizard.

## ***Confirming the Success of Your Scalix Installation***

After successfully installing Scalix on the host computer, you can perform the following tasks to ensure that Scalix Server and other components installed correctly.

### **Verify that Apache Has Started**

*To verify that the Apache server has started:*

- 1 Log in to the Scalix host as root.
- 2 If this host runs Red Hat Linux, enter this command:  

```
ps -ef | grep httpd
```
- 3 If this host runs SUSE Linux, enter this command:  

```
ps -ef | grep apache
```

If Apache is running on the host, a list of Apache processes appears.
- 4 Open a web browser and connect to `http://<your_scalix_mailserver_FQDN>/`  
The Apache Test Page should appear, confirming your Apache server is working.

### **Verifying Network Connections**

*To verify that network protocol access and connectivity is sufficient:*

- 1 Log in to the Scalix host as root.
- 2 Open a command line window.
- 3 Ping any address outside the corporate firewall that returns ping requests.
- 4 Ping other messaging servers inside the corporate firewall.
- 5 From inside the firewall, ping the Scalix Server using the hostname.
- 6 From outside the firewall, ping the Scalix Server using the hostname.
- 7 Depending on the usage requirements for the Scalix Server, make sure the following ports (with port number) are open:
  - Scalix UAL (5729)
  - LDAP (389)
  - HTTP (80)
  - HTTPS (443)
  - SMTP (25)
  - POP (110)
  - IMAP (143)

- UDP (5757)
- Kerberos - Single Sign-on only (88 and 749)

### 3: Testing Scalix Web Access Installation

*To ensure that Scalix Web Access is installed correctly:*

- 1 Log in to the Scalix host as root.
- 2 Open a command line window.
- 3 Make sure the Tomcat service is started, by entering this command:  

```
ps -ef | grep tomcat
```
- 4 In your web browser, enter this URL in the Location field:  

```
http://<your_scalix_mailserver_FQDN>/webmail/
```

The Scalix Login page should appear in the browser window.
- 5 If the Login page does not appear, open this Tomcat log file:  

```
$TOMCAT_HOME/logs/catalina_date.log
```
- 6 Review this log file for any recorded errors.
- 7 Log in to Scalix Web Access using the administrator username and password you previously configured during installation.
- 8 Once these tests are successfully complete, you can proceed.

### 4: Testing the Management Console Installation

*To ensure that the Management Console is installed correctly:*

- 1 Log in to the Scalix host as root and open a command line window.
- 2 Make sure the Tomcat service is started, by entering this command:  

```
ps -ef | grep tomcat
```
- 3 In your web browser, enter this URL in the Location field:  

```
http://<your_scalix_mailserver_FQDN>/sac/
```

The Scalix Management Console login page should appear.
- 4 If the login page does not appear, open this log file:  

```
~/tomcat/logs/scalix-aaa.log
```
- 5 Review this log file for any recorded errors.
- 6 Log in to the Management Console using `admin_username@server.domain.ext` as the username.

The Management Console requires the Authentication ID value for the username field. The default Authentication ID for the administrator account is automatically created by the Scalix Installer during the installation of Scalix Server and is in this format:

```
admin_username@server.domain.ext
```

The `administrator_username` is the name you specified during installation.

- 7 To view the Authentication ID for the administrator account, enter:

```
omshowu -n admin_username
```

- 8 An additional option: You can modify the authentication ID for the administrator account and all other users using the Scalix Management Console or by executing the `ommodu` command on the Scalix Server as follows:

```
ommodu -o username --authid new_authid
```

## Getting Started with Scalix

Now that you've successfully installed and started up your new Scalix mail system, you can proceed to put it to work. This can be done with both of the following toolsets:

### Scalix Management Console

*To start the Scalix Management Console (aka SAC):*

- 1 Open a web browser and log in to this URL—  
`http://<your_scalix_mailserver_FQDN>/sac`

#### Alert

Do not try to log in as the user `sxqueryadmin` or change its settings in any way. It is a system user and should not be changed.

- 2 When the Scalix Administrative Console (SAC) appears, you can complete a wide range of tasks that fall into these categories:
  - Scalix user account management
  - Group (public distribution list) management
  - Starting and stopping server services and daemons
  - Monitoring queues
  - Changing a limited set of server configuration settings.

You can also perform system monitoring to assess the current state of processes and resources as well as any load being made on Scalix queues.

For more information on how to use the Scalix Management Console, see the *Scalix Administrative Guide*.

The Scalix Management Console can be used for most day-to-day system administration tasks.

### Scalix CLI

If you choose not to use the Scalix Management Console, you can work with the system via the command line interface.

*To use Scalix via the CLI:*

Open a terminal window and use the complete set of CLI commands and extensions to configure and customize your system. For server setup tasks, or for high-end, advanced maintenance, you should use the extensive Linux-based command line interface. The CLI provides a full set of commands, or you can use the CLI to set up and run all needed administrative scripts.

For more information on how to use the CLI to manage Scalix, see the *Scalix Administration Guide*. There also are man pages for all commands.

## ***Configuring Scalix***

For information on system configurations such as anti-virus or anti-spam software, security setups, email routing and more, see the *Scalix Server Setup Guide*.

# *Upgrading Scalix*

This chapter covers upgrading of Scalix.

## **Contents**

This chapter includes the following information:

- “Before You Start” on page 85
- “Upgrading Scalix” on page 87
- “Upgrading in a High-Availability Environment” on page 96
- “Upgrading to SmartCache” on page 96
- “Upgrading to the Search and Index Service” on page 98

## ***Before You Start***

There are several important things to keep in mind before beginning the upgrade to Scalix 11.0:

- You must have a valid Scalix license to proceed with an upgrade. If you are currently on Enterprise Edition and do not have a valid license, proceeding with an upgrade could convert your installation to Community Edition, which results in the loss of functionality and data.
- After you upgrade to 11.0, you cannot downgrade to a previous version because of permanent changes to the structure of the message store.
- Upgrading from 9.x versions is not supported. First upgrade to 10.0, then upgrade again to 11.0.
- The upgrade from Scalix 10.x to 11.0 involves the building of caches and indexes, rearranging of directory structures and installation of new features, so it is a time consuming and load-intensive process that can take between several hours and several days, depending on the size of your server, the number of users and the size of their mailboxes. Plan the timing of your upgrade so that it allows all procedures to complete without interfering with the normal flow of business.

Some of the upgrade procedures, such as the building of indexes, can be done manually at a later date to reduce load on the system. For more about that, see “Upgrading to the Search and Index Service” on page 98.

- This release changes the file structure significantly from previous versions. If you have customizations stored in any files under the home directory, back them up before upgrading and reapply them after.
- Any custom scripts with hard-coded references to /var/opt/scalix (such as ommaint or ombackup) must be updated because they point to a file structure that has been changed. For more on this issue, see the workaround for updating custom scripts in the release notes.
- This release requires the packages sendmail -cf, which must be installed manually.
- You must create new profiles for any clients using SmartCache.
- If you are using SSL for Scalix applications, you must remove the SSL key file password before starting the Scalix Installer. The password must be blank (no password).
- If you are upgrading from a 9.x installation, the Scalix Installer might replace some configuration files in the directory ~/sys if the default settings for the new version of Scalix Server have changed. If you previously made changes to any of these configuration files, the Scalix Installer will archive them, after renaming these files as noted here:
  - By adding the letter "O" to the filename (for example, Osmtpd.cfg)
  - By adding "save" to the filename (for example, general.confsave)
  - By appending a number to the filename (for example, sendmail.cf.1)

Regardless of their current state, Scalix Corporation recommends that you back up the following files in a separate directory:

- /etc/opt/scalix/webmail/partner.xml (Scalix Web Access)  
Note that "partner.xml" is renamed to "swa.properties" in version 10.x of Scalix
- ~/sys/smtpd.cfg
- /etc/mail/sendmail.cf
- /~/sys/general.cfg
- Any mail address rules (if applicable)
- If you customized the Scalix Web Access logon page with your own artwork, back up that file (and related resources) before upgrading your Scalix system.
- If upgrading to v10 of Scalix, do not run 'omtidyu' and 'omtidyallu' after the upgrade is complete because that removes all messages stored in users' Deleted Items folders.
- If you are upgrading Scalix Tomcat and/or the Scalix PostgreSQL Database Integration packages from version 11.0's Beta1 or Beta2, you must run the following commands after finishing installation:

```
chkconfig --add scalix-tomcat
```

```
chkconfig --add scalix-postgres
```

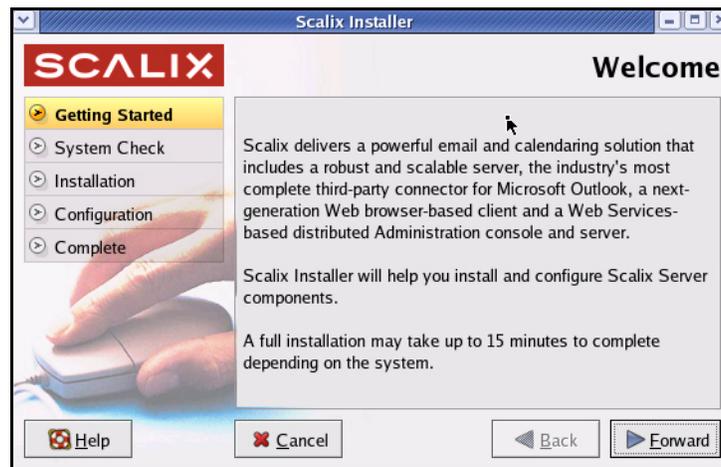
## Upgrading Scalix

The upgrade procedure outlined here assumes all components are installed on a server in a “typical” installation. If there are only a subset of components on the server being upgraded, you may not see all of the wizard screens documented below. Skip over those that don’t apply to your unique upgrade scenario.

### To upgrade Scalix:

- 1 Log in to the target host computer as root.
- 2 Download the Scalix .tar file, put it in a convenient directory on the host and untar it.
- 3 From the directory where the installation files are stored, run the following command.  

```
./scalix-installer
```
- 4 This starts the Scalix Installation Wizard, which displays the *Welcome* screen.



- a After reading the “Welcome” text, click the **Forward** button.

- 5 The *License Agreement* screen appears. This screen prompts you to accept all terms of the product’s internal licenses, installation and use.



- a Read through the license agreement.
  - b If you accept the conditions of installation and use, click the check box by **I have read and accept the above License Agreement.**
  - c When finished, click the now-active **Forward** button to proceed.
- 6 The *Wizard Mode* screen appears. This is where you select the type of upgrade you want to do: Single server, multi-server or reconfiguration.



- a For a single-server upgrade, click the option **Upgrade all Scalix Components.**
- b When finished, click the now-active **Forward** button to proceed.

- 7 The *Installation Files* screen appears. This is where you guide the installer to the installation packages.



- 8 The *Choose Components* window appears with all components selected by default. The screen you see may vary, depending upon which components are currently installed on this server.



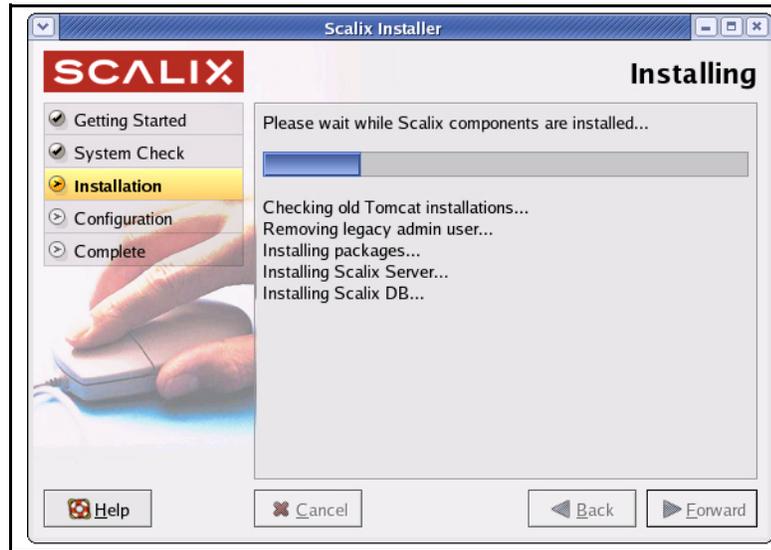
- a Review the list to make sure you want to upgrade everything on it.
- b When finished, click the now-active **Forward** button to proceed.

- 9 The *System Check* screen appears as the installer assesses the current software resources on this host to ensure that they all meet system requirements and that it can successfully complete the installation. This may take several minutes.



- Green check marks indicate the system is ready.
  - Caution symbols indicate that critical software is missing and the installer automatically adds them.
  - Stop signs indicate the absence of critical software that the installer can't add. You cannot proceed with installation in this state.
- a If a system or dependency check results in an alert, click **View Log**. A dialog box reports on which system components are missing.
  - b If the "caution" reports "selinuxenabled," go to /etc/selinux/config and use your preferred editing command to change the SELinux setting to SELinux=Disabled or SELinux=Permissive. Then reboot and try the installation again.
  - c When finished, click the now-active **Forward** button to proceed.

- 10 The installation wizard begins installing the selected components (and any missing packages) and displays an *Installing (status)* screen.



- a When installation is finished, click the now-active **Forward** button to proceed.
- 11 The *License Activation* screen appears. This prompts you for your company or organization's license to use the Scalix system. You must have a license to proceed with an Enterprise Edition upgrade. If you don't have one, contact your Scalix representative.

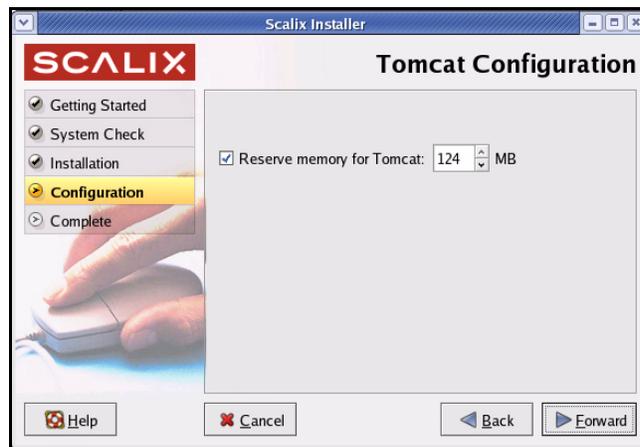


- a Either paste the license text in to the window or browse to it.
  - b When finished, click the now-active **Forward** button to proceed.

- 12 If Java is not properly configured, the installer configures it now. If you have JRE installed and configured, skip this step.



- a Either select the default package by clicking **Install** or browse to the JRE you want to install.
  - b When installation is complete, click **Forward**.
- 13 The *Tomcat Configuration* screen appears. This screen allows you to configure the amount of memory reserved for Tomcat and enable the Tomcat/Apache connector.



- a In the top field, click the check box to reserve memory for Tomcat and in the field, type the amount in MB. The amount of memory should range between 1/4 and 1/2 of total RAM but for performance reasons, should never exceed 768 MB.
  - b When finished, click the **Forward** button to proceed.
- 14 The *Management Services* screen appears. Change the values in this screen only if you want to deploy (or have deployed) the Management Console (aka the Scalix

Administration Console) on a server that is different from the one on which the Scalix Server is installed.



- a If you don't want to accept the default, provide the following information:
  - The default mail domain for the server on which you have or want to install the Management Console.
  - The server hostname for the server on which you have or want to install the Management Console.
- b When finished, click the now-active **Forward** button to proceed.

15 The first of two *Secure Communication* screens appears. This ensures secure data flow between the Management Console and the LDAP server.



- a Enter a password that the Scalix Management Console will use to authenticate against the LDAP server. This is a non-expiring password and is for a different account than the administrative login. If you are building more than one Scalix Server, they must have the same authentication password.

Keep this password on file because you will need to enter it on each server if you upgrade to a multi-server setup at some point. If you lose the password, it is stored in `/etc/opt/scalix/caa/scalix.res/config/psdata`.

b When finished, click the now-active **Forward** button to proceed.

16 The second *Secure Communication* screen appears.



a If you are not using Kerberos authentication between the Management Agent and Scalix Management Console, click **Forward** to bypass this screen.

b If you are utilizing Kerberos authentication between the Management Agent and the Management Console, you can do the following:

- Click the empty **Configure secure communications** checkbox.
- Click **Browse** to open a dialog box in which you can find and open the keytab file.
- Enter the fully qualified domain name of the KDC (Kerberos Distribution Center).
- Enter the Kerberos realm of your Scalix system, in ALL-CAP letters.

c When finished, click the now-active **Forward** button to proceed.

17 The *Additional Mail Domains* screen appears. If you want multiple domains from which to create addresses in the Management Console (aka SAC), you can add other mail domains now. The domains you add now will be listed in a pull-down menu that you use when adding or modifying a user in the Management Console. Please

note that if you are installing an Enterprise or Small Business Edition, only mail domains for which you are licensed may be added here.



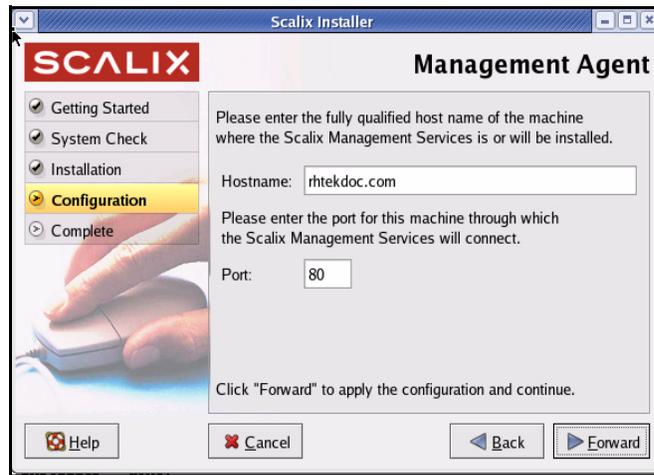
- a To add any other usable domains (that will help you create different e-mail addresses in the Management Console), click **Add** and use the Add mail domains dialog box.



**Alert** You cannot add new mail domains at this time unless they have been included in your Scalix license key.

- b When finished, click the now-active **Forward** button to proceed.

- 18 The *Management Agent Services* screen appears. This screen allows you to specify the hostname on which the Scalix Management Services are deployed and the port on which the Management Agent runs.



- a In the **Hostname** field, enter the hostname of the server on which you installed the Management Console (aka SAC). If you are installing the Management Console on this machine, do not change this entry.
  - b In the **Port** field, enter the Tomcat port to be used for communications by the Management Console. This value defaults to port 80 when the Apache/Tomcat JK connector has been enabled on this machine, or port 8080 when JK is not enabled. Please note that changing this value does not modify the value in the Tomcat file "server.xml".
  - c When finished, click the now-active **Forward** button to proceed.
- 19 The installation completes and the *Done* screen appears.
- 20 Click **OK** to complete the upgrade and exit the installer.

## ***Upgrading in a High-Availability Environment***

In a clustered, high-availability environment, there are special considerations for upgrading Scalix. For more on how to upgrade in a clustered environment, see the *Scalix Server Setup and Configuration Guide*.

## ***Upgrading to SmartCache***

If you are upgrading any or all of your users to the new SmartCache feature, you should prepare the client and you **MUST** create new profiles for any users that will have SmartCache enabled.

For more on SmartCache and how to enable it, see the *Scalix Client Deployment Guide* chapter titled, "Deploying Scalix Connect for Microsoft Outlook."

## Preparing the Client

When upgrading to 11.0, you should prepare users' mailboxes for SmartCache if you intend to use the new SmartCache feature. This procedure speeds synchronization by creating an image file that is downloaded the first time Outlook launches, rather than having the client do a message-by-message synchronization.

This command should be run shortly before creating/initializing the SmartCache profile and is not required, but performance of initial synchronization is greatly improved by it. You can re-run the command at any time before profile creation. The client only keeps the latest set of initialization files.

One preparation is good for one cache initialization and setup. The single-file image is automatically deleted on the server once a SmartCache profile is created on a client. If you want to have several clients configured with SmartCache running against the same mailbox, you must re-run mailbox preparation between client profile creations and initializations.

The option to use SmartCache is available at profile creation and also via the Advanced tab of Tools/Scalix Properties when using Outlook.

### *To configure clients for SmartCache:*

- 1 Run the following command.

```
/opt/scalix/bin/sxmbcprep -u <First Last>
```

Where <First Last> is the first and last names of the user whose mailbox you wish to prepare. Mailbox preparation creates a single-file image of the user's mailbox for the SmartCache client to download. This greatly speeds up cache initialization.

- 2 On each client system, create a new profile. This new profile may use SmartCache or not, but going back and forth between SmartCache and non-SmartCache mode is not supported for this release. As an alternative, you can set up two profiles: One with SmartCache and one without. Do not convert or re-use old profiles.
- 3 Log in using the newly created profile. You can resume normal mailbox use while the cache is building. Once the cache is sufficiently built, you get a completion message.
- 4 Restart Outlook.
- 5 Further cache initialization completes in the background.

## Creating New Profiles

### *To create new profiles:*

- 1 From the **Start** menu, go into the **Control Panel** and double click **Mail**.
- 2 At the Mail Setup window, click **Show Profiles**.
- 3 You get the Mail window. Click **Add**, give the new profile a name, then click **OK**.
- 4 This launches the Microsoft Email Accounts wizard. Select the radio button by **Add a new email account**.
- 5 At the Email Accounts window, select **Additional Server Types**, then click **Next**.
- 6 In the next screen, the field pre-populates with the Scalix server. Select that and click **Next**.

- 7 At the next Email Accounts screen, make sure the **User name** field has the Scalix username, and type in the Scalix user's password. If desired, you can click the advanced button to verify the mail server. When finished, click **OK**.
- 8 Two additional check boxes appear. Check the box next to **Use SmartCache** and **Optimize for Mobile Use** if desired. The **Optimize for Mobile Use** button sets the cache to populate with header information only, so that minimal data about each email is synchronized.
- 9 At the Local Storage screen, select the desired location of your cache, if different from the default, then click **OK**.
- 10 Back at the Mail window, select which profile you want to use (click the radio dial by **Always use this profile**), or whether you want to select each time you sign on (**Prompt for a profile to be used**).
- 11 Continue profile installation as usual.

## *Upgrading to the Search and Index Service*

If you chose not to create search indexes for existing users during the upgrade procedure, you must later create them manually for the search feature to work. You can create indexes one at a time or batch several together with a script. And if the process becomes too load intensive, you can throttle it back so as not to put a drain on other system resources.

Note that new users created on the 11.0 server automatically get a search index, so this procedure should only be done on existing users.

Also note that the `sxmindex` command used here does not start the actual indexing process. It merely queues up messages for indexing, while the actual indexing is done in the background by the indexer service.

### *To manually create indexes for users:*

- 1 During upgrade, put SIS on either the same machine as the Scalix Server or a different one.
- 2 If SIS is installed on a different machine, edit the following lines in the file, `-sys/general.cfg`.

```
USRL_SIS_URL=sxi dx: //<FQDN: port>/%u
```

```
USRL_BB_SIS_URL=sxi dx: //<FQDN: port>/BB@<fqdn>
```

Where FQDN is the host that SIS is install on, and the port is optional, but almost always is 80.

- 3 Start SIS Tomcat and make sure it's initialized.
- 4 Create the indexes using one of the following commands:

To create all indexes at once

```
sxmindex
```

To create the index for one or more users at a time

```
sxmindex <username>
```

Where <username> is the user's common name or login name and you can list more than one. To list more than one name, separate each name by one space and no comma.

To create more than one index at a time, provide a list of names in the username variable.

- 5 Allow the indexes to create, which may take quite some time depending on the number of users and the size of their mailboxes.

## Controlling System Resources During Index Creation

Because building an index can be a resource-intensive process, you may want to limit the amount of CPU this procedure takes.

*To control the system resources used for index creation:*

- 1 Go to the following file.  
~/sys/general.cfg
- 2 Look for the following lines. If they do not exist in the file, add them and change the values to a lower number that you feel will allow your system to function efficiently while indexing goes on in the background.  
IDX\_MAXLOAD (default 8.0)  
IDX\_MINLOAD (default 4.0)
- 3 When the system load average goes above IDX\_MAXLOAD per CPU, the indexer stops processing until the average falls below IDX\_MINLOAD per CPU.
- 4 Restart the Scalix Server.

# Reconfiguring Scalix Software

This chapter covers the use of the Scalix Installation wizard to reconfigure a Scalix system.

## Contents

This chapter includes the following information:

- “Reconfiguring Components” on page 100

### Alert

You must have a valid Scalix license to proceed with an upgrade. If you are currently on Enterprise Edition and do not have a valid license, proceeding with an upgrade could convert your installation to Community Edition, which results in the loss of functionality.

## Reconfiguring Components

If you mistakenly typed in incorrect values during the installation procedure, or if your setup has changed since then, you can use the installer to reconfigure many of the settings on all components except the Scalix Server. That includes host names, port numbers and more.

The procedure and the values exposed during reconfiguration are essentially the same as for installation, so consult the procedures above for more information about any individual prompt.

As with the installer, the reconfiguration procedure must be run on every server. The installer does not automatically broadcast changes to other servers on the network.

### Tip

Before beginning this task, have a .txt file containing the Scalix license key text stored in a convenient directory.

### Note

When prompted for a hostname, you must provide the fully qualified domain name of the server, not just “localhost,” even if the installer provides localhost as default. In addition, for any prompts that request IP addresses, respond with the IP address of the server, not 127.0.0.1, even if that is provided by default.

To reconfigure values that were not exposed during installation, see the *Scalix Administration Guide*.

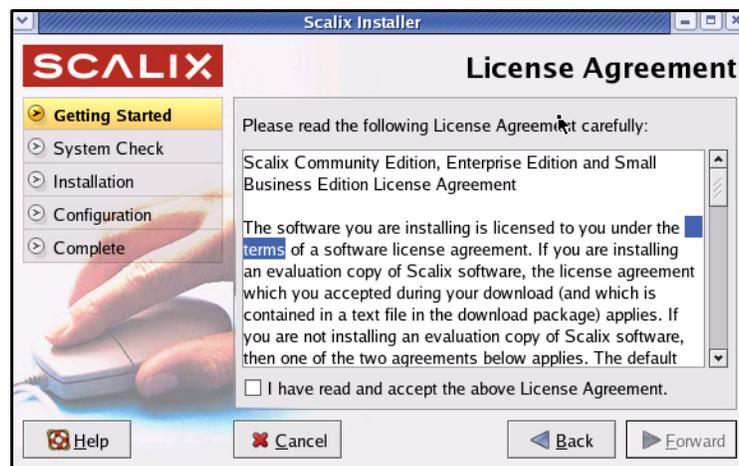
*To reconfigure your Scalix installation:*

- 1 Log in to the target host computer as root.
- 2 Download the Scalix .tar file, put it in a convenient directory on the host and untar it.
- 3 From the directory where the installation files are stored, run the following command.  

```
./scalix-installer
```
- 4 This starts the Scalix Installation Wizard, which displays the *Welcome* screen.



- a After reading the “Welcome” text, click the **Forward** button.
- 5 The *License Agreement* screen appears. This screen prompts you to accept all terms of the product’s internal licenses, installation and use.

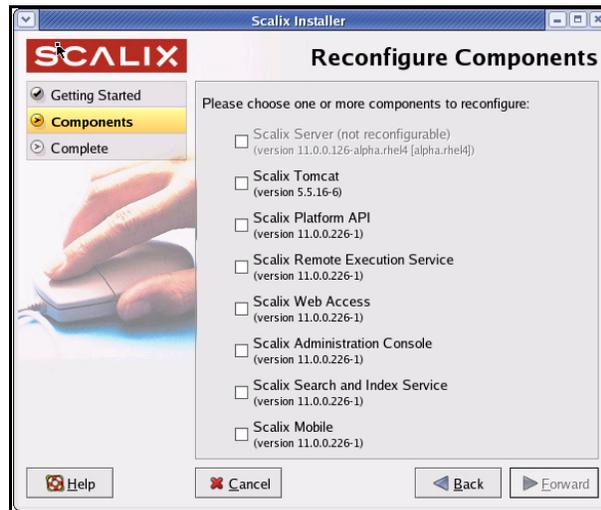


- a Read through the license agreement.
- b If you accept the conditions of installation and use, click the check box by **I have read and accept the above License Agreement.**
- c When finished, click the now-active **Forward** button to proceed.

- 6 The *Wizard Mode screen* appears. This is where you select the type of upgrade you want to do: Single server, multi-server or reconfiguration.



- a For a single-server upgrade, click the option **Upgrade all Scalix Components**.
  - b When finished, click the now-active **Forward** button to proceed.
- 7 The *Reconfigure Components window* appears.



- a Select any components you want to reconfigure.
  - b When finished, click the now-active **Forward** button to proceed.
- 8 Run through the remaining wizard screens and change only those needed. For more information about each one, consult the related prompts in the chapters, "Typical Installation" on page 39 and "Custom Installation" on page 52.

# *Installing, Upgrading and Uninstalling with the CLI*

This chapter describes the use of command line interface (CLI) for installing, upgrading, reconfiguring and uninstalling Scalix.

## Contents

This chapter includes the following information:

- “Before You Begin” on page 103
- “Installing Components on Separate Servers” on page 106
- “Getting Started with Scalix” on page 115
- “Reconfiguring Components” on page 116
- “Uninstalling Scalix Components” on page 119
- “Uninstalling Scalix Components” on page 119
- “Uninstalling Scalix Components” on page 119

## ***Before You Begin***

Before beginning this procedure, plan your installation carefully and test all hardware and software to ensure they meet system requirements. For more information on system requirements, pre-installation procedures and proper planning for a single- or multiple-server setup, please read the following chapters:

- “Planning Your Installation” on page 20
- “Pre-Installation Preparation” on page 34
- “System Requirements” on page 28
- “Before You Begin” on page 52

If you obtained a copy of the Scalix installation package from another source (other than Scalix or the Scalix CD), make sure it is stored in `/usr/src` before starting.

---

**Tip**

Before you begin this task, have a .txt file containing the Scalix license key text stored in a convenient directory.

**Tip**

If you enter an incorrect value during the CLI installation, quit the procedure by using the Cntrl+c command, uninstall, and then begin again.

## *Installing Scalix onto a Single Server*

To install Scalix components onto a prepared Linux host computer, start the Scalix Installer program as described in the following steps.

**Tip**

You will have an opportunity to install JRE, Tomcat, and the Tomcat-Apache connector (aka the JK Connector) during the Scalix installation as the installers are bundled with the Scalix package.

**Alert**

Before beginning any upgrades, check your license. If you are upgrading to or from a Small Business Edition (SBE) or Enterprise Edition (EE) build, you **MUST** have a valid and current license. If your license is out of date, your installation could downgrade to Community Edition functionality, resulting in lost data. To check the LVID, use the Management Console or the `sxlicense` command.

### *To install on a single server:*

- 1 Log in to the target host computer as root.
- 2 Download the Scalix .tar file, put it in a convenient directory on the host and untar it.
- 3 From the directory where the installation files are stored, run the following command.
 

```
./scalix-installer --cli
```
- 4 The Scalix License Agreement scrolls on-screen in readable portions. When you have read the entire agreement, you are prompted to accept it. Type "Yes" and press **Enter**, to proceed with installation.
- 5 The actions menu appears. At the prompt:
 

```
Please choose an action from the list:
[1] Install/Upgrade all Scalix components (typical)
[2] Install/Upgrade one or more Scalix components (custom)
[3] Reconfigure Scalix components
[4] Uninstall Scalix components
-> Please enter your choice [1]:
```

 Because this is a single-server installation, type "1" and press **Enter**.
- 6 After the installation components are located and listed, you are prompted:
 

```
-> Do you want to continue installing the packages? (yes/no) [yes]:
```

 As "Yes" is the default, press **Enter**.
- 7 After a series of system checks, you may see this question:

-> There were warnings during the system checks, are you sure you want to continue with installation? (yes/no/check again) [no]:

As this most likely is a "dependency warning", you can type "Yes" and press **Enter**.

---

**Tip** Typing "Yes" will permit the installer to add missing accessory software (the "dependencies" needed by Scalix) that are not present on this host.

- 8 Installation begins, and status messages record the progress.
- 9 When installation of the files is done, the *Mailnode Name* screen appears. Mailnodes, a unique Scalix feature, can organize a mail community into manageable groups. For example: You can organize users by work group, employment status, office location or more. The primary mailnode often has the same name as the server, so the installer offers that as a default. You can give it another name if you want. At the prompt:

-> Enter the name of the primary mailnode on this server  
[<server\_name>, scalix]:

Press **Enter** to accept the default entry or rename the mailnode as desired.

---

**Note** You will be given the chance later to add more mailnodes.

- 10 At this prompt:
 

-> Domain name [scalix.admin]:

If the default entry is acceptable, press **Enter**. If the default is wrong, type the domain name in the suggested format and press **Enter**.
- 11 A list of four display name formats appears. Review the list, and at this prompt:
 

-> Please enter your choice [1]:

Type the number that represents the preferred display name format and press **Enter**.
- 12 A list of email (Internet) address formats appears. Review this list, and at the prompt:
 

-> Please enter your choice [1]:

Type the number that represents the preferred email address format and press **Enter**.
- 13 You are now prompted for information about the primary administrative account for Scalix. This account, "sadmin@[fqdn]", is the default user name which you can edit or replace with a login ID of your choosing. At this prompt:
 

-> Username [sxadmin@<fqdn>]:

Press **Enter** to accept the default user name.
- 14 You are prompted for that user's password. At this prompt:
 

-> Enter password:

Type a password for the admin user account and press **Enter**, then re-type it to confirm.

- 15 You are prompted to create an email address for this user. At this prompt:

-> Unique Email Address [sxadmin-postoffice@scalix.admin]:

Press **Enter** to accept the default email address, which automatically applies the domain name, admin user name, and display name format.

- 16 The installer configures the server.

- 17 After the server starts, you are prompted for the location of the Scalix license text file:

-> Enter the location of your license key file or enter "None" to run the server without a license []:

Type the full directory path and file name at the prompt and press **Enter**.

- If the path or file name are wrong, you are warned and prompted again for the correct one.

- 18 After the license is imported and validated, the installer separately installs the Java Runtime Environment and Tomcat (including the JK Tomcat/Apache connector), then finishes the configuration of Scalix. If the two are already installed, it skips this step.

- 19 Now the installer prompts for a non-expiring password that the Scalix Management Console can use to authenticate against the LDAP server. This password must be different from the administration login.

Please enter a password that will be used by the Scalix Management Console to authenticate against Scalix Server. Please retain this password in a safe place if you plan to install multiple Scalix Servers. The same password **MUST** be used during installation of the additional servers.

-> Enter password:

-> Confirm password:

- 20 When the "Scalix Installer - stopped" message appears, you can exit the installer.

You can now proceed to testing of your new installation, or further customization of Scalix or to the entry of user accounts.

## ***Installing Components on Separate Servers***

Because there are so many different ways to set up a multi-server environment, this manual cannot document every single scenario. Instead, we provide one procedure that is common to all - the installation of the Scalix Server and Management Agent - then an abbreviated version for each of the other components.

As noted in the GUI installation procedure, the Scalix Server and Management Agent, though discreet components, must be installed on the same host computer and are best installed first. So the first step in setting up a multi-server system is to install the Scalix Server with the Management Agent on one host machine. If desired, you can add other components to this machine at the same time.

After that, install as many other components as needed on any other servers as planned for.

In a multi-server environment, the installation procedure must be done separately on each host machine, selecting to install only those components needed for that particular server. We recommend you keep a map of your system layout in front of you, listing all servers, their hostnames and passwords, and the components installed on each one.

We strongly recommend you verify the existence of all required software resources on the host computer before starting this installation. The complete list is printed in “System Requirements” on page 28.

---

<b>Note</b>	Make sure you read the Scalix Release Notes (on the CD ROM or tar.gz file) before you begin installing Scalix Server. There may be late cautions, tips or qualifications you should know about.
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<b>Note</b>	The prompts you see in your installation procedure may vary from those documented here, depending on the unique combination of components you are installing. This documented procedure is only an example.
-------------	---

If you obtained a copy of the Scalix installation package from another source (other than Scalix or the Scalix CD), make sure it is stored in /usr/src before starting.

---

<b>Tip</b>	Before you begin this task, have a .txt file containing the Scalix license key text stored in a convenient directory
------------	--

## Installing the Scalix Server and Management Agent

As noted above, the Scalix Server and Management Agent must be installed on the same host computer and are best installed first. If desired, you can add other components to this machine at this time.

*To install the Scalix Server and the Management Agent on one host machine:*

- 1 Log in to the host computer as root.
- 2 Open a terminal window.
- 3 To start the installer, enter:
 

```
[directory_path]/scalix-installer --cli
```
- 4 The Scalix License Agreement scrolls on-screen in readable portions. When you have read the entire agreement, you are prompted to accept it. Type “Yes” and press **Enter**, to proceed with installation.
- 5 The actions menu appears. At the prompt:
 

```
Please choose an action from the list:
[1] Install/Upgrade all Scalix components (typical)
[2] Install/Upgrade one or more Scalix components (custom)
[3] Reconfigure Scalix components
[4] Uninstall Scalix components
-> Please enter your choice [1]:
```

Because this is a multi-server installation, type “2” and press **Enter**.

## Packages Installation

- 6 The installation of the software packages begins. You are prompted for the location of the installer files:

Choose the directory where the Scalix packages you intend to install reside [/root/scalix-intel-suse-11.0.x/software/scalix\_server]:

To accept the default, press **Enter**.

If the installer files are in another directory, type the path and press **Enter**.

- 7 When the list of eight Scalix components displays, a prompt appears:

-> Please enter comma-separated list of numbers [1, 2, 3, 4, 5, 6, 7, 8]:

Type the number(s) of the component(s) to be installed on this host and press **Enter**. If you are installing Scalix Server, [4], you must also install Management Agent [5] on this host. If Tomcat is not already installed, you must install that, too. Because the Search and Index Service (SIS) interacts closely with the server, you might want also want to install that package on this host machine.

### Note

If you type two or more numbers, separate them with commas, and do not enter spaces.

- 8 After a series of checks complete, you may see this question:

-> There were warnings during the system checks, are you sure you want to continue with installation? (yes/no/check again) [no]:

Because this most likely is due to a “dependency warning”, you can type “Yes” and press **Enter**.

### Tip

Typing “Yes” permits the installer to add missing accessory software (the “dependencies”) needed by Scalix that are not present on this host.

- 9 The installation begins and status messages record the progress.

## Options

At this point the installation process changes, depending on which Scalix components you are installing. The steps below are geared toward the Scalix Server, Tomcat and Management Agent. If you are installing other components on this server at this time, their prompts may appear during the following steps. For explanations of those values, see the appropriate installation scenarios listed after this procedure:

- “Installing the Scalix Management Console” on page 112
- “Installing Scalix Web Access” on page 112
- “Installing the Scalix Messaging Services” on page 114
- “Installing the Search and Index Service (SIS)” on page 114
- “Installing the Scalix Mobile Web Client” on page 115

## Server Configuration

- 10 When installation is done, configuration of the Scalix Server begins. You are prompted for the name of the primary mailnode on this server. Mailnodes, a unique Scalix feature, can be used to organize your mail user community into manageable groups; for example, by work group, employment status or net worth. The primary mailnode is usually given the same name as the server so the installer offers that as a default. You can give it another name if you want. At the prompt:

```
-> Enter the name of the primary mailnode on this server
[<server_name>, scalix]:
```

Press **Enter** to accept the default entry or rename the mailnode as desired.

---

<b>Note</b>	You will be given the chance later to add more mailnodes.
-------------	---

---

<b>Note</b>	Your Scalix license is keyed to the default mailnode name. If you change it at this prompt, you'll need to replace and reinstall your license before you can run Scalix.
-------------	--

## Default Address Format

- 11 Configuration of the default address format begins. At the prompt:

```
-> Domain name [scalix.admin]:
```

- Either accept the default entry (in brackets) by pressing **Enter**.
- Or if the default entry is wrong, type the domain name in the suggested format and press **Enter**.

- 12 A numbered list of four display name formats appears. Review the list, and at this prompt:

```
-> Please enter your choice [1]:
```

Type the number that represents the preferred display name format and press **Enter**.

- 13 A numbered list of email (Internet) address formats appears. Review this list, and at the prompt:

```
-> Please enter your choice [1]:
```

Type the number that represents the preferred email address format and press **Enter**.

- 14 You are prompted for information about the primary administrative account for Scalix. "sxadmin@[fqdn]" is the default user name, which you can edit or replace with a login ID of your choosing. At this prompt:

```
-> Username [sxadmin@<qdn>]:
```

Press **Enter** to accept the default user name. (Or type a name of your choosing and press **Enter**.)

- 15 You are prompted for a password for this account. At this prompt:

```
-> Enter password:
```

Type and confirm a password for the admin user account and press **Enter**.

- 16 You are prompted for an email address for this account. At this prompt:

-> Unique Email Address [sxadmin-postoffice@scalix.admin]:

Press **Enter** to accept the default email address, which automatically applies the domain name, admin user name, and display name format.

## Configuring the Server

- 17 The installer configures the components. A series of status messages appears.

## Licensing

- 18 After the server starts, you are prompted for the location of the Scalix license text file:

-> Enter the location of your license key file or enter "None" to run the server without a license []:

Type the full directory path and file name at the prompt and press **Enter**.

If the path or file name are wrong, you are warned and prompted again for the information.

## Java Installation

- 19 If they aren't already on this host machine, you are prompted to either install or use the existing Java Runtime Environment, Tomcat, or Tomcat-Apache connector.

Do you want to use your existing JRE installation or do you want to install a new JRE? (existing/install)

If you want to install at this time, type **Install** and press **Enter**.

If there already is an installation of JRE on this computer, you are asked to confirm its location.

## Tomcat Configuration

- 20 You are asked for the amount of memory reserved for Tomcat. At the prompt:

Enter the amount of memory reserved for Tomcat, or 0 for no limit [124]:

Type the size in MB and then press **Enter**.

- 21 You are asked for the amount of memory reserved for Tomcat At the prompt:

Do you want to integrate Tomcat with Apache using the Scalix JK connector? (yes/no)

Type yes or no, then press **Enter**.

## Management Agent Configuration

- 22 Configuration of the Management Agent begins. You are prompted for the host-name and port of the machine on which the Scalix Management Console is installed. Type them at the prompts:

Hostname []:

Port []:

## Secure Communication

- 23 The Secure Communication configuration begins. This ensures secure data flow between the Management Console and the LDAP server. At the prompt:

Please enter a password that will be used by the Scalix Management Console to authenticate against Scalix Server. If you plan to use multiple servers, please keep this password in a safe place. The same password **MUST** be used during installation of the additional servers.

-> Enter password:

-> Confirm password:

Enter a non-expiring password that the Scalix Management Console can use to authenticate against the LDAP server. This password must be different from the administrative login. Keep this password on file because you must enter the same exact same password on each server. If you lose the password, it is stored in */etc/opt/scalix/caa/scalix.res/config/psdata* on the machine with the Scalix Management Console.

When finished, press **Enter**.

## Configuring Kerberos

- 24 You are asked if you want to use Kerberos to secure communication between this machine and the Management Console.

Do you want to use secure communication between this machine and the Scalix Management Console using Kerberos? (yes/no)

Type yes or no at the prompt and press **Enter**.

- 25 If you entered "yes" at the previous prompt, agreeing to establish secure communications between this component and other Scalix components on separate hosts, a series of prompts appear, asking for the following:

- The directory location of the Kerberos keytab file
- The fully qualified domain name of the Kerberos host
- The NAME (in all caps) of the relevant Kerberos realm

Make the appropriate entries at the prompts to complete this phase of Management Console configuration.

## Creating Administration Groups

- 26 If you have not already created administration groups on this machine, do that now. Administration Groups are special public distribution lists that the Management Console uses. At the prompt:

-> Create "Administration Groups" on this machine? (yes/no) [yes]

Press **Enter** to accept the default "Yes."

- 27 The installer configures the Web applications, Tomcat and Management Agent, sending out status messages with each, then completes. Installation is finished when you get the prompt:

Scalix Installer - stopped

## Installing the Scalix Management Console

The Management Console is best installed on its own, separate server but can be combined with other components if necessary.

### *To install the Scalix Management Console:*

- 1 Follow the steps 1-9 as outlined in the procedure above.
- 2 When prompted for the mail domain:

-> Please enter the default mail domain [scalix.admin]:

Either press **Enter** to accept the default mail domain (noted in brackets) or type the correct domain and press **Enter**.

- 3 When prompted for the host name:

-> Please enter fully qualified host name of the Scalix Server where the "Administration Groups" have been (or will be) created [postoffice.scalix.admin]:

Either press **Enter** to accept the default Scalix Server host (noted in brackets) or type the correct host name and press **Enter**.

#### Note

Administration Groups are special public distribution lists that the Management Console uses.

- 4 When prompted about secure communication:  
-> Do you want to use secure communication between this machine and Scalix Management Agent using Kerberos? (yes/no) [no]  
Type the answer (Yes or No) and press **Enter**.
- 5 If you answered Yes, proceed to the section titled, "Configuring Kerberos" on page 111 to complete this portion of the installation.
- 6 If you answered No or after configuring Kerberos, you are prompted for additional mail domains. Additional domains can help with creation of different e-mail addresses in the Management Console. At the prompt:  
Enter comma-separated list of additional mail domains (optional):  
Type in any new domains you want to include. These may take the form of <companyname.com> or <companyname.net>. You cannot add new mail domains unless they have been included in your Scalix license key.
- 7 The installer displays a series of status reports as it completes the Management Console installation, configuration and initialization.

## Installing Scalix Web Access

Scalix Web Access (SWA) can be installed on any server in tandem with other Scalix components, but is often installed on its own.

### *To install SWA:*

- 1 Follow the steps 1-9 as outlined in the procedure above.

- 2 You are prompted to install the Scalix Messaging Services because of internal dependencies:

Component Scalix Messaging Services is needed by Scalix Web Access. Do you want to install it now or will it be installed on another host. (install/another).

If you type **Install**, the system installs the API. Press **Enter** to confirm installation.

- 3 When the "local language" prompt appears, three numbered options are listed:

Please select the language locale for Scalix Web Access running on this host:

[1] US English

[2] UK English

[3] German

Type the number of your choice and press **Enter**.

- 4 You are asked if you want to install the Rules Wizard, which enables server-side email filtering rules. At the prompt:

-> Do you want to enable Scalix Rules Wizard? (yes/no) [yes]:

Either press **Enter** to enable it or type **No** and press **Enter** if you do not want the Rules Wizard activated on the SWA server.

---

Note

"No" simply disables the inclusion and use of Rules Wizard in SWA. it remains installed in Scalix, and can be enabled in the future.

- 5 You are asked if you want to enable the search and index service. This service creates an index that enables server-side searching of email boxes.

Do you want to enable Search and Index Services (requires Scalix Messaging Services)? (yes/no)

- 6 You are asked for the mail domain and hostname of the machine on which the Scalix Server is installed. This opens communication between the search index and the server. At the prompts:

Default mail domain:

Server hostname:

Enter the domain name and the hostname and press **Enter**.

- 7 You are prompted for the port of the server on which the Scalix Messaging Services is installed. At the prompt:

Please enter the port (or host:port) where Scalix Messaging Services is running:

Either press **Enter** to accept the default or enter the proper port number.

- 8 The installer displays a series of status reports as it completes the SWA installation, configuration and initialization.

## Installing the Scalix Messaging Services

The Scalix Messaging Services can be installed on any server, but must be installed for the Search and Index Service (SIS) to function. It can be installed on the same server as the SIS or a different one.

### *To install the Search and Index Server:*

- 1 Follow the steps 1-9 as outlined in the procedure above.
- 2 You are prompted for the host name of the Scalix server. At the prompt:  

```
Scalix server hostname:
```

Type in the name of the server on which you installed the Scalix Server and Management Agent packages and press **Enter**.
- 3 You are prompted for the port number on the server on which the LDAP directory is installed. At the prompt:  

```
Enter LDAP port number:
```

Type in the number of the port through which the Messaging Services can communicate with the LDAP directory and press **Enter**.
- 4 At the prompts:  

```
Enter the hostname of the machine where the PostgreSQL database is installed:
```

```
Enter database password:
```

Type in the hostname and password of the computer on which the database is installed, then confirm the password. When finished, press **Enter**.
- 5 The installer displays a series of status reports as it completes the API installation, configuration and initialization.

## Installing the Search and Index Service (SIS)

The Search and Index Service can be installed on any server, but is often installed on the same one as the Scalix Server and Management Agent.

### *To install the Search and Index Service:*

- 1 Follow the steps 1-9 as outlined in the procedure above.
- 2 You are prompted to select a language. At the prompt:  

```
[1] English:
```

Press **Enter** to accept the default.
- 3 You are prompted to list all IP addresses allowed to connect to the Search and Index Service. At the prompt:  

```
Please specify comma-separated list of IP addresses allowed to connect to Scalix Search and Index Service.
```

Type in a comma-separated list of IP addresses or use the wildcard symbol (\*) to denote any host and press **Enter**.

- 4 The installer displays a series of status reports as it completes the API installation, configuration and initialization.

## Installing the Scalix Mobile Web Client

The Scalix Mobile Web Client can be installed on any server.

### *To install the Mobile Web Client:*

- 1 Follow the steps 1-9 as outlined in the procedure above.
- 2 Because the mobile software requires the Scalix Messaging Services to function, you are prompted to install it now or on another host machine. At the prompt:  

```
Component Scalix Messaging Services is needed by Scalix Mobile. Do you want to install it now or will it be installed on another host? (install/another)
```

Either type **install** and then press **Enter** to confirm the installation or type **another** and then press **Enter** to move on to the next step.
- 3 You are asked for the hostname of the server where the Messaging Services is installed. At the prompt:  

```
Please enter the host (or host:port) where Scalix Messaging Services is running:
```

Type the hostname or port of the server on which the Messaging Services is installed and then press **Enter**.
- 4 The installer displays a series of status reports as it completes the API installation, configuration and initialization.

## Getting Started with Scalix

Now that you've successfully installed and started up your new Scalix mail system, you can proceed to put it to work. This can be done with both of the following toolsets:

### Scalix Management Console

#### *To start the Management Console:*

- 1 Open a Web browser and log in to this URL—  
`http://<your_scalix_mailserver_FQDN>/sac`

#### Alert

Do not try to log in as the user `sxqueryadmin` or change its settings in any way. It is a system user and should not be changed.

- 2 When the Scalix Management Console (aka SAC) appears, you can complete a wide range of tasks that fall into these categories:
  - Scalix user account management
  - Group (public distribution list) management

- Starting and stopping server services and daemons
- Monitoring queues
- Changing a limited set of server configuration settings.

You can also perform some level of system monitoring, to assess the current state of processes and resources as well as any load being made on Scalix queues.

The Scalix Management Console can be used for most day-to-day system administration tasks.

See the separate publication, *Scalix Administrative Console Guide*, for more information.

## Reconfiguring Components

If you mistakenly typed in incorrect values during the installation procedure, or if your setup has changed since then, you can use the installer to reconfigure many of the settings on all components except the Scalix Server. That includes host names, port numbers and more.

The procedure and the values exposed during reconfiguration are essentially the same as for installation, so consult the procedures above for more information about any individual prompt.

As with the installer, the reconfiguration procedure must be run on every server. The installer does not automatically broadcast changes to other servers on the network.

### Tip

Before you begin this task, have a .txt file containing the Scalix license key text stored in a convenient directory

To reconfigure values that were not exposed during installation, see the *Scalix Administration Guide*.

### To reconfigure your Scalix installation:

- 1 Log in to the host computer as root.
- 2 Open a terminal window.
- 3 To start the Scalix installer, enter:
 

```
[directory_path]/scalix-installer --cli
```
- 4 The Scalix License Agreement scrolls on-screen in readable portions. When you have read the entire agreement, you are prompted to accept the agreement. Type "Yes" and press **Enter**, to proceed.
- 5 The actions menu appears. At the prompt:
 

```
[1] Upgrade all Scalix components (typical)
[2] Upgrade one or more Scalix components (custom)
[3] Reconfigure Scalix components
[4] Uninstall Scalix components
-> Please enter your choice [1]:
```

 Type "3" and press **Enter** to proceed.
- 6 A numbered list of configurable components appears. At the prompt:

- [1] Scalix Web Access  
(version 11.0.x.x)
- [2] Scalix Management Console  
(version 11.0.x.x)
- [3] Scalix Management Agent  
(version 11.0.x.x)

-> Please enter comma-separated list of numbers:

Type one or more component numbers separated by commas, and press **Enter**.

- 7 Run through the prompts and change only those needed. For more information about each one, consult the related prompts in the procedures above, "Installing Scalix onto a Single Server" on page 104 and "Installing Components on Separate Servers" on page 106.

## Upgrading Scalix

The upgrade procedure is similar to installation in that the prompts are mostly the same and you must run it on each server, separately.

When instructed to upgrade, the installer detects which packages you have installed and offers up prompts only for those that need updating. The other prompts are suppressed.

### Tip

Before you begin this task, have a .txt file containing the Scalix license key text stored in a convenient directory

### Tip

If you got your copy of the Scalix installation/upgrade package from any source other than Scalix or the Scalix CD, make sure it is stored in /usr/src before starting.

### To upgrade:

- 1 Log in to the host computer as root.
- 2 Open a terminal window.
- 3 To start the installer, enter:
 

```
[directory_path]/scalix-installer --cli
```
- 4 The Scalix License Agreement scrolls on-screen in readable portions. When you have read the entire agreement, you are prompted to accept the agreement. Type "Yes" and press **Enter**, to proceed with installation.
- 5 The actions menu appears. At the prompt:
 

Please choose an action from the list:

  - [1] Upgrade all Scalix components (typical)
  - [2] Upgrade one or more Scalix components (custom)
  - [3] Reconfigure Scalix components

[4] Uninstall Scalix components

-> Please enter your choice [1]:

Depending on whether you are upgrading a single- or multi-server setup, type "1" or "2" and press **Enter**.

- 6 Run through the prompts and answer only those needed. For more information about each one, consult the related prompts in the procedures above, "Installing Scalix onto a Single Server" on page 104 and "Installing Components on Separate Servers" on page 106.

## Getting Started with Scalix

Now that you've successfully installed and started up your new Scalix mail system, you can proceed to put it to work. This can be done with both of the following toolsets:

### Scalix Administrative Console

*To start the Scalix Administrative Console:*

- 1 Open a web browser and log in to this URL—  
`http://<your_scalix_mailserver_FQDN>/sac`

#### Alert

Do not try to log in as the user `sxqueryadmin` or change its settings in any way. It is a system user and should not be changed.

- 2 When the Scalix Management Console (aka SAC) appears, you can complete a wide range of tasks that fall into these categories:
  - Scalix user account management
  - Group (public distribution list) management
  - Starting and stopping server services and daemons
  - Monitoring queues
  - Changing some server configuration settings.

You can also perform system monitoring to assess the current state of processes and resources as well as any load being made on Scalix queues.

For more information on how to use the Scalix Management Console, see the *Scalix Administration Guide*.

### Scalix CLI

If you choose not to use the Scalix Management Console, you can work with the system via the command line interface.

*To use Scalix via the CLI:*

Open a terminal window and use the complete set of CLI commands and extensions to configure and customize your system. For server setup tasks, or for high-end, advanced maintenance, you should use the extensive Linux-based command line interface. The CLI provides a

full set of commands, or you can use the CLI to set up and run all needed administrative scripts.

For more information on how to use the CLI to manage Scalix, see the *Scalix Administration Guide*. There also are man pages for all commands.

## Uninstalling Scalix Components

You can re-use the Scalix installer to remove one or more components or to uninstall the entire Scalix package, if you prefer. To do either task, follow these steps:

### To uninstall one or more components:

- 1 Log in to the host computer as root.
- 2 Open a terminal window.
- 3 To start the installer, enter:  

```
[directory_path]/scalix-installer --cli
```
- 4 The Scalix License Agreement scrolls on-screen in readable portions. When you have read the entire agreement, you are prompted to accept the agreement. Type "Yes" and press **Enter**, to proceed with installation.
- 5 The actions menu appears. At the prompt:  
Please choose an action from the list:  
[1] Upgrade all Scalix components (typical)  
[2] Upgrade one or more Scalix components (custom)  
[3] Reconfigure Scalix components  
[4] Uninstall Scalix components  
-> Please enter your choice [1]:  
Type "4" and press **Enter**.
- 6 Review the numbered list of installed Scalix components that now appears. If you have installed Scalix components on separate hosts, the current host's component(s) are listed
- 7 At this prompt:  
-> Please enter comma-separated list of numbers:  
Type the component number(s) separated by commas and press **Enter**.
- 8 At this prompt:  
-> Do you want to remove Tomcat (version 5.0.28 in  
~/tomcat? (yes/no) [no]:
- 9 Type "Yes" (or "No") and press **Enter**.
- 10 At this prompt:  
-> Are you sure you want to uninstall the selected components?  
(yes/no) [no]:

Type "Yes" and press **Enter**.

11 At this prompt:

-> After un installing Scalix Server do you want to remove the Scalix message store?

-> WARNING: Removing the message store will delete all existing Scalix mailboxes on this machine. (yes/no) [no]:

Type "Yes" if you want to erase the message store and all its contents, and press **Enter**.

---

Note

You can choose to leave the message store intact (with all the records and data), then, later, reinstall Scalix "around" the existing store.

12 At this prompt:

-> Are you sure you want to remove the message store? (yes/no) [no]:

---

Alert

This is your last chance to cancel the erasure of the message store, if you have any doubts or concerns.

Type "Yes" (or "No") and press **Enter**.

A series of messages reports on the removal of Scalix components and software resources.

13 When the "Scalix Installer - stopped" message appears, you can exit the installer.

You can leave the installer on this host or manually delete it.

# Uninstalling Scalix

This chapter covers the uninstalls of Scalix server software.

## Contents

This chapter includes the following information:

- “About Uninstalling Scalix” on page 121
- “Uninstalling” on page 121

## About Uninstalling Scalix

The uninstallation process for Scalix server software does not remove any files modified by an administrator. These files are saved as filename.rpm.save. If required, you can remove these files manually.

## Uninstalling

*To uninstall Scalix, either the entire server package or individual Scalix components:*

- 1 Log in to the target host computer as root.
- 2 Download the Scalix .tar file, put it in a convenient directory on the host and untar it.
- 3 From the directory where the installation files are stored, run the following command.  

```
./scalix-installer
```
- 4 This starts the Scalix Installation Wizard, which displays the *Welcome* screen.
- 5 The *License Agreement* Screen appears. Accept the agreement and click **Forward** to proceed.
- 6 The *Wizard Mode* screen appears. Select **Uninstall Scalix Components** and click **Forward** to proceed.
- 7 The *Uninstall Components* screen appears. This pane lists the components on the server, and allows you to select specific components to be removed. Select the components you want to remove, then click **Forward** to continue.

- 8 You are asked if you want to delete the message store. Unless you want to wipe out all mailboxes and data, click **No** to leave the message store intact. This approach allows you to later perform a clean reinstallation that incorporates the existing store, ready for use.

**Alert**

If you remove the message store, you will lose all of your user data. DO NOT say YES to this option unless you have carefully backed it up.

- 9 You are asked if you want to remove the cache data. Clicking Yes to this prompt removes the database that holds the MIME headers, which can slow performance on SWA and the Scalix Mobile Web Client. If you remove the cache data during uninstillation, you can build the cache again during reinstallation by installing the Postgres database.
- 10 You are asked if you want to remove the search indexes. Clicking Yes removes the indexes used for searching. If you remove them now, you can reinstall them by selecting to install the Search and Index Service.
- 11 As the Scalix Installer begins uninstalling Scalix components, it displays an *Uninstalling* status pane that dynamically reports which components are being deleted.
- 12 When the uninstallation is complete, you are prompted (at the end of the status messages) to click **Forward**.
- 13 Click **OK** to exit the Installer.

# Glossary

Some terms and acronyms in this manual may be unfamiliar to users. Here are some terms and definitions that are specific to the Scalix product and the Linux platform.

**Table 1: Glossary**

Address Directories	In Scalix terminology, the address directories are databases that clients use to look up names and addresses. Scalix directories can hold addresses of both Scalix and non-Scalix users, and other information that an administrator can configure such as job titles and phone numbers. Directories can be searched by any number of attributes.
Management Console, Management Console or SAC	The Scalix Management Console (aka SAC) is a browser-based application that enables most day-to-day system administration tasks on a Scalix messaging system through an easy-to-use GUI. It is a separate component of Scalix that users can access with any approved browser on either Microsoft Windows or Linux workstations. SAC provides efficient access to a wide range of Scalix server options, including user account management, starting and stopping server services, administering queues, public distribution list or group management, and changing low-level server configuration settings. It also provides system monitoring to assess the status of processes and resources.
ADUC	(Active Directory Users and Computers).
Authentication Identifier	The Scalix system has several ways of identifying users for different purposes: Display names, personal names, authentication IDs and Internet addresses. The display name (also known as a "common name") is used in Outlook and other clients as the "displayed" address. It can serve authentication purposes and determines the sort order in the Outlook address book. Authentication IDs support the concept of a separate login name and allow for integration with external authentication systems that may have their own naming rules. Internet addresses are SMTP addresses of the form name@domain. Personal names are used for internal addressing of email and are sometimes referred to as "X.400 addresses," "OpenMail addresses" or "ORN (originator Recipient name.)"
Bulletin Board	In Scalix terminology, a bulletin board is a set of public folders where members can share files, ideas, documents and more. They are a shared area in the Scalix message store.
Clam AV	An open source freeware program that protects against viruses.
Community Edition	The free, single-server, unlimited-use version of the Scalix product. Does not include advanced groupware and collaboration functionality.

Table 1: Glossary

DDR	
Display Names vs User Names vs Personal Names vs authentication ID vs Internet address	The Scalix system has several ways of identifying users for different purposes: Display names, personal names, authentication IDs and Internet addresses. The display name (also known as a "common name") is used in Outlook and other clients as the "displayed" address. It can be used for authentication purposes and determines the sort order in the Outlook address book. Authentication IDs support the concept of a separate login name and allow for integration with external authentication systems that may have their own naming rules. Internet addresses are SMTP addresses of the form name@domain. Personal names are used for internal addressing of email and are sometimes referred to as "X.400 addresses," "OpenMail addresses" or "ORN (originator Recipient name.)"
Enterprise Edition	The company's flagship product, which includes multi-server support, unlimited number of Standard users, any number of Premium users, the full complement of Scalix advanced capabilities, and a wide variety of technical support options.
Gateway	Gateways are a way of passing messages out of the Scalix network to different mail environments. The gateway converts outgoing messages from a Scalix format to a format that external services can use to do send processes, and later to a format that target environments can receive such as an SMTP address. Scalix comes with a standard SMTP gateway that converts Scalix-formatted messages to SMTP and vice-versa. This SMTP gateway is called the Unix Mail Gateway or Internet Mail Gateway.
Groups and PDLs	In Scalix terminology, the terms "group" and "PDL" are used interchangeably to mean a group of people organized into a mailing list. PDLs can contain both local and remote users, and can contain nested PDLs.
IMAP	(Internet Message Access Protocol) A standard interface between an e-mail client program and the mail server. In Scalix, the iMAP4 server enables a client to: Access, list, read, and delete items from inboxes, filing cabinets and public folders; read parts of a message without downloading the entire thing, keep a record of which messages have been read, and update messages on the server from a client. IMAP extensions also provide for calendaring and contact management.
Internet Domains vs mailnodes	Mailnodes have no direct relationship to Internet domains. However, you can set up rules so that when a user is created on a mailnode, Internet address generation kicks in and creates an Internet address for the user. You can map multiple mailnodes to the same Internet domain name.
LDAP	(Lightweight Directory Access Protocol) A protocol used to access a directory listing. In Scalix, the LDAP server is a daemon process based on a client/server model that provides an interface to enable LDAP clients to store and retrieve data from a Scalix directory without any information about the operation of Scalix. It provides LDAP clients access to shared Scalix directories that do not have an associated password.
LVM	(Logical Volume Manager) Used for backing up Scalix directories.

**Table 1: Glossary**

Mail Nodes	A logical structure used to organize users into administrative groupings. For example, some companies organize their email users by work group whereas others break their users down by employment status. Each Scalix server is associated with a single mail node created during installation. After installation, you can use the Management Console to create additional mail nodes on a server, including customizing any new mail nodes with a specific Internet address or domain name.
MAPI	(Mail API) A programming interface from Microsoft that enables a client application to send to and receive mail from Exchange Server or a Microsoft Mail (MS Mail) messaging system. Microsoft applications such as Outlook, the Exchange client and Microsoft Schedule use MAPI.
Message Store	The message store is a collection of flat Linux files held in file system directories on the Scalix server. It holds new messages received as well as messages in transit. For clients that use the message store (server-based clients), it also holds old messages that are files for reference in folders, copies of outgoing messages, draft messages, private distribution lists, personal information such as calendaring, tasks, bulletin boards, public folders and more.
Mx Records	Mail exchanger records inside DNS servers. These decide which server is responsible for dealing with mail or domain DNS actions.
OpenMail	The original technology, licensed from Hewlett Packard, upon which the Scalix system is based.
O/R or Originator/Recipient Address	An attribute list that distinguishes one user, or distribution list, from another and defines the user's point of access to the message handling system or the distribution list's location.
PAM	(Pluggable Authentication Modules). A standard library in Linux that connects applications that require authentication with shared library modules interfacing with authentication mechanisms.
PDL	In Scalix terminology, the terms "group" and "PDL" are used interchangeably to mean a group of people organized into a mailing list. PDLs can contain both local and remote users, and can contain nested PDLs.
Personal Name	The Scalix system has several ways of identifying users for different purposes: Display names, personal names, authentication IDs and Internet addresses. The display name (also known as a "common name") is used in Outlook and other clients as the "displayed" address. It can be used for authentication purposes and determines the sort order in the Outlook address book. Authentication IDs support the concept of a separate login name and allow for integration with external authentication systems that may have their own naming rules. Internet addresses are SMTP addresses of the form name@domain. Personal names are used for internal addressing of email and are sometimes referred to as "X.400 addresses," "OpenMail addresses" or "ORN (originator Recipient name)."
POP	(Post Office Protocol) A standard interface between an e-mail client program and the mail server. The Scalix POP3 server enables clients to list, read and delete items from the inbox area of the Scalix message store. The Scalix POP3 server does not provide access to any other areas of the message store such as public folders.

**Table 1: Glossary**

Premium Users	Scalix has two levels of access and usage: Premium and Standard. Premium users have access to the full benefits and functionality of the Scalix email and calendaring system. Standard users gain access to a subset of Scalix functionality including email, personal calendar and contacts through Scalix Web Access and Novell Evolution as well as email access using POP/IMAP clients.
SAC or Scalix Management Console	The Scalix Management Console (aka SAC) is a browser-based application that enables most day-to-day system administration tasks on a Scalix messaging system through an easy-to-use GUI. It is a separate component of Scalix that users can access with any approved browser on either Microsoft Windows or Linux workstations. SAC provides efficient access to a wide range of Scalix server options, including user account management, starting and stopping server services, administering queues, public distribution list or group management, and changing low-level server configuration settings. It also provides system monitoring to assess the status of processes and resources.
Scalix Connect	A MAPI application that enables the use of the Outlook client interface and all of its functionality.
Sendmail	An SMTP-based message transfer agent (MTA) that runs under Unix and Linux. It is the mail transfer process used inside the Scalix system.
SSL	
Small Business Edition	A version of the Scalix system that targets organizations getting started with a commercial version of Scalix that do not have the higher end requirements of Enterprise Edition. It is functionally equivalent to Enterprise Edition except that it allows only single-server installations
Spam Assassin	An open source freeware program that filters spam.
Standard Users	Scalix has two levels of access and usage: Premium and Standard. Premium users have access to the full benefits and functionality of the Scalix email and calendaring system. Standard users gain access to a subset of Scalix functionality including email, personal calendar and contacts through Scalix Web Access and Novell Evolution as well as email access using POP/IMAP clients.
SWA	Scalix Web Access, the browser-based email, calendar, contacts and public folders client that comes with any Scalix installation.
Transports	Transports are services that Scalix uses to pass Scalix format messages to other Scalix services. Scalix uses Sendmail and SMTP formatted messages to send messages between servers in the Scalix network, but other connections can be written. The transport service on the Scalix server is called the Sendmail Interface.
UAL	(User Access Layer) A proprietary Scalix protocol that enables communication between clients and the Scalix server.
WAP	(Wireless Application Protocol) A standard for providing cellular phones, pagers and other handheld devices with secure access to e-mail and text-based Web pages.