

Installation Guide

Forum Product Documentation

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Forum Installation Guide

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Preface

This document provides information about installing and upgrading Novell Forum products, configuring your web server to enable Forum use, and installing and configuring the database. Novell Forum is referred to as Novell Forum or Forum throughout this document. This document is written for system and Forum administrators who install and maintain Novell Forum, configure web servers, and configure and maintain databases.

This manual provides the following chapters:

Chapter	Description
Chapter 1: Preparing to Install Novell Forum	Instructions for configuring your database (required if you are not using the built-in database)
Chapter 2: Installing Novell Forum	Instructions for installing Forum on Windows and Linux platforms
Chapter 3: Upgrading Novell Forum	Summary of upgrade procedures and steps for upgrading on Windows and Linux
Chapter 4: Configuring Web Servers	Instructions for configuring your IIS or Apache web server (required after installing Forum)
Chapter 5: Accessing Forum and Getting Started	Instructions for accessing Forum from your web browser and finding supporting information
Chapter 6: Performance Optimization	Tips for improving Forum performance

Appendixes at the end of the manual provide details about browser compatibility, license key management, and running multiple installations.

Chapter 1: Preparing For Novell Forum

You can install Novell Forum on several types of operating systems, using any one of several types of databases, web servers, and web browsers.

Novell Forum System and Software Requirements

Operating System	<ul style="list-style-type: none">• Red Hat Enterprise Linux Version 3.x and 4.x*• Novell SUSE Linux 10.1• Windows 2000 Server Family• Windows 2003 Server Family <p>* with X-Windows installed (recommended)</p>
System Requirements	<ul style="list-style-type: none">• 1 GB RAM minimum. For optimal performance, at least 2 GB is recommended. Larger installations may require more memory.• A CPU speed of 1 GHz is functional for small groups.• 1 GB disk space minimum.• Upgrades from versions prior to 7.0 require a larger amount of disk space. See the “Reclaiming disk space...” section in Chapter 3 for more information.• If you choose Oracle or Microsoft SQL server, we recommend that the database server be located on a different system for optimum performance.• A CD-ROM drive.
HTTP (World Wide Web) Server	<ul style="list-style-type: none">• Apache Version 1.3.X and 2.X• Microsoft Internet Information Server Versions 5.0 and 6.0
SQL Databases	<ul style="list-style-type: none">• FrontBase (installed and configured automatically during Forum installation).• Microsoft SQL Server Database 2000 or 2005 (purchased separately and configured before Forum installation); Windows platforms only.• Oracle 8i, 9i, or 10g (purchased separately and configured before Forum installation).

Web Browser
(installed on client
system)

- We test on Microsoft Internet Explorer and Firefox. For details about browsers and browser versions that support Forum 8.1 features, see Appendix A.
- Java Plug-in 1.4.2_06 or newer (included in the kit and installed automatically). To run the various Java-based applets such as the editing applet, the Java Plug-in must be installed on the client machine.

Configure Your Database

Version 8.1 offers you a choice of several databases:

- FrontBase (built-in)

Forum includes a built-in SQL92-compliant database from FrontBase, Inc. Forum handles the basic installation and setup of the database during the installation process; so, if you choose this database, you can proceed to [Chapter 2](#).

- Microsoft SQL 2000 or Microsoft SQL 2005
- Oracle 8i, 9i, or 10g

Note: If you choose Oracle or Microsoft SQL server, we recommend that the database server be located on a different system than Forum to achieve optimum performance.

The Oracle configuration procedures assume a UTF-8 character set database.

For details about your database configuration, consult your database administrator.

If you are installing for the first time and you are not using the built-in FrontBase component, you must configure the database.

Configure the Microsoft SQL Database

To configure the Microsoft SQL database:

Step	Action
1	Using a tool such as the Microsoft SQL Server Enterprise Manager, create a database (for example, SITESCAPE).
2	Set the collation sequence to: <code>Latin1_General_CS_AS</code>
3	Set other management functions, such as location and growth, according to your needs.

- 4 Use the database Security menus to establish a username and password, and associate them with the `SITESCAPE` database created.
The database user should have `public` and `db_owner` roles selected.
-

Configure the Datasource for Microsoft SQL Server 2000 and 2005

To configure the datasource, use the ODBC Data Sources control panel. Create and test a system datasource name (DSN) that accesses the database you already created. SiteScape recommends using the name `SITESCAPE` and testing the datasource before installing.

Configure the Datasource for Microsoft SQL Server 2005 64-bit

If you are using the 64-bit version of Windows, note that the Windows 2003 Server has a default 64-bit ODBC connection-management interface. Because SiteScape Forum is a 32-bit application, you need to use a different ODBC connection-management interface. In our testing, a suitable utility is provided by Microsoft and is located here:

```
C:\windows\syswow64\odbccad32.exe
```

Note the Connect String

During the Forum installation process, the installer prompts you for the connect string for the database. The connect string consists of the DSN name, the database user, and the password. For example:

```
SITESCAPE SITESCAPE password
```

Configure the Oracle Database

The Oracle configuration procedures assume a UTF-8 character set database.

To configure the Oracle database:

Step	Action
1	Create a database, and select “UTF8” for both “Character Set” and “National Character Set” options. You may have to perform a custom database configuration to properly configure the character sets.
2	After the database is created, you can verify the character set from SQL with the following query: <pre>select * from nls_database_parameters;</pre> Check that <code>NLS_CHARACTERSET</code> and <code>NLS_NCHAR_CHARACTERSET</code> are set to UTF8.
3	Create a user. Assign the user full access to the database (for example, <code>DBA</code>).
4	Make a note of the connect string: <pre>user/password@databasename</pre> The Forum installation process requires this connect string.

Installing the Oracle Client

You must install the Oracle client on the system running Forum. This software must be obtained from Oracle.

Install the software on your client machine. Use the Net8 Assistant to configure a network service name that connects to the database that you created in the prior steps.

During the installation process, the installer prompts you for the connect string for the database. The format of the Oracle connect string needed to access your database service is:

```
user/password@servicename
```

Configuring Linux for Oracle

To configure Linux for Oracle:

Step	Action
1	<p>Make sure that both the root user account and the user account from which you are running the installation are Oracle users (with the appropriate Oracle environment).</p> <p>To test this, log in as the intended user and enter this command:</p> <pre>tnsping SITESCAPE</pre> <p>(SITESCAPE is the name of the Oracle database in your connect string.)</p> <p>If you cannot access <code>tnsping</code>, your Oracle environment is not set up correctly. Contact your database administrator or system administrator for assistance.</p>
2	<p>Use the following command to make sure that this path:</p> <pre>/<oracle-client-installation-dir>/lib</pre> <p>is located in the <code>LD_LIBRARY_PATH</code> of the Forum user and root user's environment:</p> <pre>echo \$LD_LIBRARY_PATH</pre> <p>If this path is not in the environment variable above, you must add it to the environment variable before you install Forum.</p>

Chapter 2: Installing Novell Forum

This chapter provides instructions for performing the following actions:

- Install Forum on Microsoft Windows (first time)
- Install Forum on Linux Systems (first time)
- Remove Forum from Windows
- Remove Forum from Linux

Review the release notes for the most up-to-date product information, including notices and restrictions. You can find this file on your Forum CD, in the Forum base directory, and linked to the first page of the online Manager Help system.

To install Forum, you must have a valid Version 8.1 license key. The key is included with your CD-ROM packaging. To obtain a temporary key or for further information, contact Novell sales.

The license key has the following format:

```
nnnn-nnnn-nnnn-nnnn-nnnn
```

The `n` characters are numbers or letters. Case does not matter. Include or omit dashes.

For information about managing license keys, see [Appendix B: License Key Management and Compliance](#).

Install Forum on Microsoft Windows

To install Forum for the first time on Microsoft Windows:

Step	Action
1	Log in to the same user account used to install the web server (typically the Administrator account). This ensures that the server has proper access to Forum files.
2	Insert the Novell Forum CD in your CD drive.
3	Using Windows Explorer, locate the <code>\nti386</code> subdirectory on the Novell Forum CD.

Step	Action
4	Double-click the <code>setup.exe</code> file.
5	The installer appears. Click Next , and then click Next again.
6	Click Agree to accept the license terms and conditions.
7	Specify the Forum base directory. We recommend: <code>C:\ssf\</code> Note: <i>Directory names cannot contain spaces.</i>
8	Enter your license key (letters can be either upper- or lowercase, and the dashes are optional). <code>nnnn-nnnn-nnnn-nnnn-nnnn</code>
9	If the installer detects an installed version of Forum in the directory you specified, it prompts you to choose whether to update the existing installation or remove it. If you are upgrading, go to Chapter 3 .
10	Specify the directory names for the hidden and visible base directories. Hidden: <code>C:\ssf\hidden</code> Visible: <code>C:\ssf\visible</code> Forum uses the hidden directory to store data for internal use. It uses the visible directory for information that your users can access using URLs.
11	Specify a zone directory name and descriptive title. A zone is a set of users and a collection of forums that they can access. Because the directory name of the zone appears in the URL that your users specify, you may want to use an identifier that describes the purpose of the zone (for example, <code>widgetco</code>). The descriptive name appears in the banner of Forum pages. An example of a descriptive name is “Widget Company Zone.”
12	Specify a password for the Forum administrator account (<code>wf_admin</code>). Remember this username and password; you need it to create and manage forums. If you lose it, you must contact SiteScape for a new password.
13	Select the database you configured in Chapter 1 (or the built-in database). If you are using a database other than “FrontBase (built-in),” the installer prompts you for the connect string for the database that you configured in Chapter 1 . For example (Microsoft SQL database): <code>SITESCAPE SITESCAPE password</code>

Step	Action
14	Review your installation choices, and click Install to copy the files to the specified areas. When all the files are copied, the installation procedure is complete.
15	Your next step is to configure your web server. See Chapter 4 for more information.
16	To get started using Forum, see Chapter 5 , which provides instructions for accessing Forum.

If the installer reports a problem, `cd` to the Forum base directory and review this file:

```
create-aca-<zone>.log
```

The string `<zone>` is the name you gave to the default directory at installation. Forum stores installation and upgrade information in this file.

Install Forum on Linux Systems

You can install Forum on Red Hat Linux and SUSE Linux using a graphical user interface or using a command prompt. Both methods are described in this section. The graphical interface is used if the `DISPLAY` variable is set, and the X-Server is available. (You may need to do an `xhost +` command to allow access from the install account.)

Install Forum Using the Graphical Interface

To install Forum for the first time on Linux:

Step	Action
1	Log in as <code>root</code> .
2	Shut down the web servers and exit the browser.
3	Insert the Novell Forum CD in your CD drive.
4	Mount the CD using this command: <pre>mount /mnt/cdrom</pre>
5	Create a Forum base directory (for example, <code>/home/sitescape</code>): <pre>mkdir /home/sitescape chown <web-server-account-name> /home/sitescape chgrp <web-server-account-name> /home/sitescape</pre>
6	Log in with the same account used to install the web server (such as <code>nobody</code> or <code>apache</code>).
7	Follow these steps to ensure that this account has privileges to create a file in the Forum base directory: <pre>cd /home/sitescape touch foo.txt ls foo.txt rm foo.txt</pre> <p>If you cannot create a file in this directory, contact your system administrator.</p>
8	If necessary, return to the Forum base directory: <pre>cd /home/sitescape</pre>
9	Locate the <code>/linux</code> subdirectory on the Novell Forum CD.
10	From the Forum base directory, run <code>ssfinstall.linux</code> . For example: <code>/mnt/cdrom/linux/ssfinstall.linux</code>
11	The installer appears. Click Next , and then click Next again.

Step	Action
12	Click Agree to accept the license terms and conditions. (See your Forum kit for a copy of the license.)
13	Specify the Forum base directory. The default is: <pre>/home/sitescape</pre> <p>Note: Directory names cannot contain spaces.</p>
14	Enter your license key (letters can be either upper- or lowercase, and the dashes are optional). <pre>nnnn-nnnn-nnnn-nnnn-nnnn</pre>
15	If the installer detects an installed version of Forum in the directory you specified, it prompts you to choose whether to update the existing installation or remove it. If you are upgrading, go to Chapter 3 . If the installer does not detect an existing installation, it continues with the next step.
16	Specify the directory names for the hidden and visible base directories. <p>Hidden: /home/sitescape/hidden Visible: /home/sitescape/visible</p> Forum uses the hidden directory to store data for internal use. It uses the visible directory for information that your users can access using URLs.
17	Specify a zone directory name and descriptive title. A zone is a set of users and a collection of forums that they can access. Because the directory name of the zone appears in the URL that your users specify, you may want to use an identifier that describes the purpose of the zone (for example, <code>widgetco</code>).
18	Specify a password for the Forum administrator account (<code>wf_admin</code>). Remember this username and password; you need it to create and manage forums. If you lose it, you must contact Novell for a new password.
19	Select the database you configured in Chapter 1 (or the built-in database). If you are using a database other than “FrontBase (built-in),” the installer prompts you for the connect string for the database that you configured in Chapter 1 . For example (External FrontBase Database Server): <pre>localhost SSFUSER SSFPW SITESCAPE</pre>
20	Review your installation choices, and click Install to copy the files to the specified areas. When all the files are copied, the installation procedure is complete.

Step	Action
21	Log into the <code>root</code> account again.
22	To complete the installation of the background service, enter the following: <pre>./avf-configure -install_background</pre> <p>The installation script installs the background for the next reboot and then starts Forum.</p>
23	Your next step is to configure your web server. See Chapter 4 for more information.
24	The HTML Viewer feature requires access to an X Windows Server in order to render PowerPoint and other vector-graphics formats properly. The <code>xhost</code> command is required to allow Forum access to the X Windows Server. See the <code>xhost</code> man page for options that may be more appropriate for your site. For example: <pre>xhost +localhost</pre>
25	To get started using Forum, see Chapter 5 , which provides getting-started instructions.

Install Forum Using the Command Line

To install Forum for the first time on Linux:

Step	Action
1	Log in as <code>root</code> .
2	Shut down the web servers and exit the browser.
3	Insert the SiteScape Forum CD in your CD drive.
4	Mount the CD using this command: <pre>mount /mnt/cdrom</pre>
5	Create a Forum base directory (for example, <code>/home/sitescape</code>): <pre>mkdir /home/sitescape</pre> <pre>chown <web-server-account-name> /home/sitescape</pre> <pre>chgrp <web-server-account-name> /home/sitescape</pre>
6	Log in with the same account used to install the web server (such as <code>nobody</code> or <code>apache</code>).

Step	Action
7	<p>Follow these steps to ensure that this account has privileges to create a file in the base directory:</p> <pre data-bbox="399 369 683 506">cd /home/sitescape touch foo.txt ls foo.txt rm foo.txt</pre> <p>If you cannot create a file in this directory, contact your system administrator.</p>
8	<p>If necessary, return to the Forum base directory:</p> <pre data-bbox="399 642 683 667">cd /home/sitescape</pre>
9	<p>Locate the <code>/linux</code> subdirectory on the SiteScape Forum CD.</p>
10	<p>From the Forum base directory, run <code>ssfinstall.linux</code>.</p> <p>For example: <code>/mnt/cdrom/linux/ssfinstall.linux</code></p>
11	<p>Enter yes if you choose to accept the license terms and conditions.</p>
12	<p>Enter the Forum base directory. For example:</p> <pre data-bbox="399 1119 634 1144">/home/sitescape</pre>
13	<p>Enter your license key (letters can be either upper- or lowercase, and the dashes are optional).</p> <pre data-bbox="399 1278 773 1304">nnnn-nnnn-nnnn-nnnn-nnnn</pre>
14	<p>Specify the directory names for the hidden and visible base directories.</p> <p>Hidden: <code>/home/sitescape/hidden</code></p> <p>Visible: <code>/home/sitescape/visible</code></p> <p>Forum uses the hidden directory to store data for internal use. It uses the visible directory for information that your users can access using URLs.</p>
15	<p>Specify a zone directory name and title.</p> <p>A zone is a set of users and a collection of forums that they can access. Because the directory name of the zone appears in the URL that your users specify, you may want to use an identifier that describes the purpose of the zone (for example, <code>widgetco</code>).</p>
16	<p>Specify a zone manager title (the default is SiteScape Forum Manager).</p>

Step	Action
17	Specify a password for the Forum administrator account (<code>wf_admin</code>). Remember this username and password; you need it to create and manage your forums. If you lose it, you must contact Novell for a new password.
18	Select the database you configured in Chapter 1 (or the built-in database).
19	Press Enter to begin the installation.
20	If you are using a database other than “FrontBase (built-in),” the installer prompts you for the connect string for the database that you configured in Chapter 1 . The connect string consists of the DSN name, the database user, and the password. For example (Oracle database): <pre>SITESCAPE/sspassword@ssdatabasename</pre> Forum is installed, and the files are copied to the directories you created.
21	Log back into the <code>root</code> account.
22	<code>cd</code> to the Forum base directory.
23	To complete the installation of the background service, enter the following: <pre>./avf-configure -install_background</pre> The installation script installs the background for the next reboot, and the script starts Forum.
24	Your next step is to configure your web server. See Chapter 4 for more information.
25	The HTML Viewer feature requires access to an X Windows Server in order to render PowerPoint and other vector-graphics formats properly. The <code>xhost</code> command is required to allow Forum access to the X Windows Server. See the <code>xhost</code> man page for options that may be more appropriate for your site. For example: <pre>xhost +localhost</pre>
26	To get started using Forum, see Chapter 5 , which provides instructions for accessing Forum.

Special Notes for SUSE Linux Installations

- Based on Novell’s tests, the default SUSE Linux Apache server does not properly work with Forum. If you want to use Apache as your web server, you must re-install it manually.

- Forum should be installed while logged in as the web server user. If you select Apache, the default Apache user in SUSE Linux is:

```
user: wwwrun
group: nogroup
```

- By default Apache configuration changes are made to:

```
/etc/apache2/default-server.conf
```

Special Notes for Linux Installations Using an Oracle Database

1. Install as the user for the web server (for example, *nobody* or *apache*).
2. Be sure to `cd` to the home directory of the Forum installation before running the installation.

Also, make sure the user can create a file in the forum installation directory.

For example:

```
cd /home/forum-installation-dir
touch foo.txt
ls foo.txt
rm foo.txt
```

3. If using an Oracle database, before attempting the installation, make sure that the root user and the installation user are both Oracle users (that they both have the Oracle environment setup).

To test for this setup, become the intended user:

```
su -nobody
tnsping SID
```

SID is the name of the oracle database in your connect string.

If you can't access `tnsping` from within your path, then the Oracle environment is not set up correctly. Make sure the root user can do this as well.

4. Make sure that the Oracle client libraries are pointed to the `LD_LIBRARY_PATH` in both the Forum and root-user environments:

```
echo $LD_LIBRARY_PATH
```

For example, `/opt/oracle/lib`. If it is not in that path, then you must add it before attempting the installation. (It must be in the path of root and the forum/webserver user.)

Important Notes:

- If trying to install with Oracle 10, you need to create a symbolic link to a library. `cd` to the directory containing the 32-bit Oracle libraries, then check to see if `libwtc.so` already exists. If it does, then continue with Step 5. If it does not exist, then create a symbolic link that points to another library: `libclntsh.so`.

Use this command:

```
ln -s libclntsh.so libwtc.so
```

5. If for any reason the installation fails, and you want to try again, you need to complete additional steps. Some of these steps pertain to new installations only (not to upgrades).

Complete these steps:

- A. Shutdown any Forum services that might be running:

```
avfbackground.sh stop
```

- B. Verify the command was successful:

```
Linux: > ps -ef | grep -i avf|ssf
```

If any Forum services are still running, use "kill -9 <pid#>" to stop them.

- C. Remove the startup file:

```
Linux: > rm /etc/init.d/avfbackground
```

- D. Drop the tables or schema in Oracle (ask your database administrator for instructions, if necessary).

- E. Remove the contents of the Forum installation directory.

Remove Forum from Windows

To remove Forum from Windows:

Step	Action
1	Log in to the same user account used to install the web server (typically the Administrator account). This ensures that the server has proper access to Forum files.
2	Insert the Novell Forum CD in your CD drive.
3	Using Windows Explorer, locate the \nti386 subdirectory on the Novell Forum CD.
4	Double-click the <code>setup.exe</code> file.
5	The installer appears. Click Next , and then click Next again.
6	Click Agree to accept the license terms and conditions.
7	Specify the Forum base directory.
8	Enter your license key and click Next .

Step	Action
9	When the installer detects the installed version of Forum, it prompts you to choose whether to update the existing installation or remove it.
10	Choose the Deinstall radio button. The installer displays the version information for the installation you are about to delete, and asks for final confirmation.
11	Click Delete . The installer removes Forum.

Remove Forum from Linux

To remove Forum from Linux:

Step	Action
1	Shut down the web servers and exit the browser.
2	Log in as user <code>root</code> .
3	Shut down the <code>avf-background</code> process with the following commands: <pre>cd <Forum-base-directory> ./avfbackground.sh stop</pre>
4	Verify that the <code>FrontBase</code> processes are no longer running: <pre>ps -ef grep -i FrontBase</pre>
5	Remove the directory containing the Forum installation: <pre>rm -rf</pre> Because the <code>-rf</code> switch removes all subdirectories without prompting, be sure that the current directory is the correct one.

Chapter 3: Upgrading Novell Forum

If you are upgrading from Forum Version 6.0 to Forum Version 8.1, you need to run a pre-installation script that checks your current database for errors. See “Upgrading from Releases Earlier than Version 7.0” for more information.

Disk Space Warning for Upgrades

Upgrades from Forum installations prior to Version 7.0 require a significant amount of free disk space to complete successfully.

Depending on the makeup of your forums and your database configuration, you should expect the amount of disk space consumed to increase to two to three times the current amount. This space may be on your local disk or on your database server, depending on your configuration.

Attachments are still stored in the file system and do not contribute to the growth. The search indexes also do not increase significantly. If you are running an SQL database, the abstract storage and metadata (formerly stored in the `.webletdb*` files) are transferred to the SQL database. Our experience is that SQL databases consume significantly more disk space than FrontBase, the built-in database.

After the upgrade is complete, you can reclaim some of the disk space consumed by deleting the abstract files and old database files. See the “Reclaim Disk Space after Upgrading from Version 6.0” section for more information.

The Upgrade Procedure

When you upgrade your installation, the Forum installer first copies a new version of the software to the disk. It then invokes the upgrade procedure, which is a script that is run by the `avf-butler` program (`scripts/upgrade.wfb`).

The procedure examines the state of the databases and invokes the appropriate set of upgrade steps required for the server. The time it takes to perform these steps is highly dependent on the amount and type of information stored on your system. The steps in the next section provide a sense of the scope of the upgrade process.

The upgrade procedure has been modified to be more tolerant of problems discovered during the upgrade. This allows sites to complete the bulk of the upgrade and then troubleshoot any issues later.

If the upgrade procedure fails for any reason, you can restart it manually by opening a command prompt and, from the Forum base directory, invoking the upgrade script, which is one of the following:

```
avf-butler scripts/upgrade.wfb  
./avf-butler scripts/upgrade.wfb
```

It is not harmful to repeat the upgrade procedure. The procedure examines the state of the forums and zones and determines the best way to perform the upgrade. In certain special circumstances, the procedure may do a "fast" upgrade, in which it performs only a minimal number of steps because there are no database changes to be made.

The upgrade procedure sends its output to two places. The installer window shows a high-level summary of the status of the upgrade. The procedure also creates a new `upgrade.log` file containing the same summary plus additional details that may be useful in diagnosing problems. (The existing `upgrade.log` file is renamed with a timestamp before the procedure creates the new log file.)

Upgrading from Releases Earlier than Version 7.0

Upgrading from releases prior to Version 7.0 involves moving from the built-in ndbm database to an SQL database. We provide a pre-installation script, which you must run prior to upgrading. This script scans the existing server and reports data which may be incompatible with the SQL database.

When you are upgrading from Version 6.0, before the upgrade procedure begins, each forum is converted to the SQL database that you specified during the installation process. Data stored in the `.webletdb` files and the `.abstract` files is converted and stored in the SQL database. Other data, such as attachments, currently remains in the file system. (For information about reclaiming this disk space, see the "Reclaim Disk Space after Upgrading from Version 6.0" section.)

Access the pre-installation script by contacting Novell Support.

To run the script:

Step	Action
1	Create a new directory under your Version 6.0 base directory, and name it <code>convert80</code> .
2	Unzip the contents of <code>preinstall.zip</code> to the new directory.
3	From the command prompt, enter the following command: <pre>cd <Forum-V6-base-directory> avf-butler convert80/preInstallValidate.tcl</pre>

Note: If you have a pre-6.0 version of Forum, or if the script generates an error or warning, and if you are a current customer, contact Novell Support.

Upgrade on Microsoft Windows

To upgrade Forum on Microsoft Windows:

Step	Action
1	Back up your Forum directories and subdirectories.
2	Shut down all web servers and exit your browser.
3	Insert the Novell Forum CD in your CD drive.
4	Using Windows Explorer, locate the <code>\nti386</code> subdirectory on the Novell Forum CD.
5	Double-click <code>setup.exe</code> .
6	The installer appears. Click Next , and then click Next again.
7	Click Agree to accept the license terms and conditions. (See your Forum kit for a copy of the license.)
8	Specify the Forum base directory.

Step	Action
9	Enter your license key, if needed, and then click Next . (If you are reinstalling the same version of the same software, you do not need to specify a key.)
10	When the installer detects the installed version of Forum, it prompts you to choose whether to update the existing installation or remove it.
11	Specify that you are updating the current installation and click Next .
12	The installation procedure displays the choices you have made. Review your installation choices and click Install to copy the files to the specified areas. Upgrade information is reported for existing discussion and documentation forums.

Upgrade on Linux Systems

To upgrade Forum on Red Hat Linux or SUSE Linux:

Step	Action
1	Back up your Forum directories and subdirectories.
2	Shut down all web servers and exit your browser.
3	Log in as user <code>root</code> .
4	<code>cd</code> to the Forum base directory.
5	Shut down the <code>avf-background</code> process: <pre>./avf-background stop</pre>
6	Ensure that your HTTP server has read and write access to the files in the visible directory. Log in to the same user account (<code>nobody</code> or <code>apache</code>) that the web server (<code>httpd</code>) runs as. <p>For example: <code>su nobody</code></p>
7	Insert the Novell Forum CD in your CD drive.
8	Mount the Novell Forum CD using one of the following commands: <p>Linux: <code>mount /mnt/cdrom</code></p>

Step	Action
9	cd to the Forum base directory: <pre>cd /home/sitescape</pre>
10	Execute the files in that directory: <pre>Linux:/mnt/cdrom/linux/ssfinstall.linux</pre>
11	Enter your license key, if needed, and then click Next . (If you are reinstalling the same version of the same software, you do not need to specify a key.)
12	Enter <code>yes</code> to confirm that you are running under the same user account used to install the web server, or one with identical read and write privileges.
13	Enter and confirm your <code>httpd</code> user account name. The installation procedure lists the zones and forums as they are updated.
14	The HTML Viewer feature requires access to an X Windows Server in order to render PowerPoint and other vector-graphics formats properly. The <code>xhost</code> command is required to allow Forum access to the X Windows Server. See the <code>xhost</code> man page for options that may be more appropriate for your site. For example (you must be logged in as <code>root</code>): <pre>xhost +localhost</pre>

Reclaim Disk Space after Upgrading from Version 6.0

During an upgrade from Version 6, Forum copies the contents of the ndbm database files and abstract files into the SQL database (the attachment files remain on the file system). As a precaution, the old files are not removed from your file system. After the upgrade, you can reclaim this disk space by running the `v7cleanup.tcl` script:

Step	Action
1	<code>cd</code> to the Forum base directory.
2	Invoke the script using the butler: <pre>avf-butler scripts/v7cleanup.tcl</pre> The script prompts you for zone names. You can clean up one, several, or all zones.
3	Enter the zone names separated by spaces, or enter an asterisk (<code>*</code>) to select all zones. The script deletes all <code>.webletdb*</code> files and <code>*.abstract</code> files in the forums.

Chapter 4: Configuring Web Servers

After you install Forum, you must configure the web server to support it. The web servers described in this chapter include:

- Microsoft IIS Versions 5.0 and 6.0
- Apache Servers

To configure the Microsoft IIS web server for use with Forum, you must perform the following actions:

- Create the Virtual Directory
- Change Timeout Settings
- Adjust Web Site Properties for Java Support
- Allow CGI Extensions

IIS Servers

To configure the IIS web server for use with Forum, complete the steps in the tables that follow.

Create the Virtual Directory

Step	Action
1	From the Start menu, select the Settings menu item.
2	Select the Control Panel and click Administrative Tools .
3	Click the Internet Services Manager icon.
4	In the left pane of the window, click the name of the computer on which you installed Forum.
5	In the right pane, click Default Web Site .

Step	Action
6	Click the Action toolbar item, select New , then Virtual Directory . Microsoft IIS starts the Virtual Directory Wizard. Click Next to continue.
7	The wizard prompts you for a virtual directory alias. Enter the alias name in the text box, for example, <code>forums</code> . To see where this alias appears in the URL for accessing Forum, see Chapter 5 .
8	Click Next .
9	The wizard prompts you for a web site content directory. Click Browse and map the content directory to the <code>visible</code> directory on your disk (by default, <code><Forum-base-directory>\visible</code>). Click Next .
10	The wizard prompts you for access permissions. Select Read and Execute access. Clear the Run Scripts checkbox, and then click Next .
11	Click Finish .

Change Timeout Settings

For Forum to run correctly, you must make the following changes to your Microsoft IIS server:

Step	Action
1	In the right pane of the Internet Information Services window, right-click Default Web Site and choose Properties .
2	Click the Web Site tab.
3	In the Connections section, in the Connection Timeout text box, change the value to 3600 seconds. This instructs IIS to wait for the Forum process to finish.
4	Click Apply .
5	Click OK .

Adjust Web Site Properties for Java Support

For Forum to run Java applets properly, you must remove **Execute Permission** from the IIS Server:

Step	Action
1	In the right pane of the Internet Information Services window, double-click Default Web Site .
2	In the right pane, locate the virtual directory alias you created (for example, <code>forums</code>) and double-click it.
3	In the right pane, right-click the <code>/pics</code> directory and choose Properties .
4	Click the Directory tab.
5	In the Execute Permissions drop-down menu, choose None .
6	Click Apply .
7	Click OK .

Allow CGI Extensions (IIS 6 only)

For Forum to run properly, you must allow **CGI Extensions** from the IIS Server:

Step	Action
1	In the left pane of the Internet Information Services window, single-click WebService Extensions .
2	In the right pane, locate the option All Unknown CGI Extensions and single-click it.
3	Change the status to Allowed .

Apache Servers

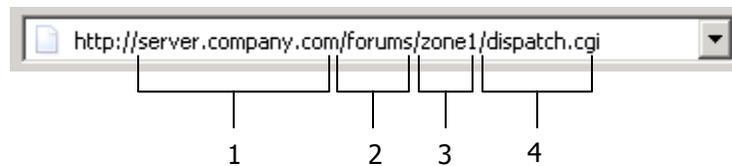
To configure the Apache web server for use with Forum:

Step	Action
------	--------

Step	Action
1	<p>cd to the <code>/conf</code> subdirectory under the Apache installation directory. For example:</p> <pre data-bbox="399 338 842 363">/usr/apache-install-dir/conf</pre>
2	<p>The following are examples of the lines that you must add to the <code>httpd.conf</code> file. These lines use the example directory names provided as the default during installation. Be sure to specify the directory names that apply to your system and its installation.</p> <ul style="list-style-type: none"> <li data-bbox="350 533 630 560">• Example (Windows): <pre data-bbox="391 575 1057 848">Alias /forums "C:/ssf/visible/" <Directory "C:/ssf/visible"> Options ExecCGI Indexes FollowSymLinks AllowOverride None order allow,deny allow from all </Directory></pre> <ul style="list-style-type: none"> <li data-bbox="350 867 586 894">• Example (Linux): <pre data-bbox="375 909 1040 1178">Alias /forums /home/sitescape/visible/ <Directory /home/sitescape/visible> Options ExecCGI Indexes FollowSymLinks AllowOverride None order allow,deny allow from all </Directory></pre> <p data-bbox="350 1213 1395 1308"><code>C:/ssf/visible/</code> and <code>/home/sitescape/visible</code> indicate the path to the visible directory that you specified during the Forum installation. The lines in the <code>Directory</code> tag enable the <code>ExecCGI</code> and other options needed to run Forum properly.</p>
3	<p>The following lines sometimes appear in the <code>httpd.conf</code> file as commented lines, and sometimes they are not in the file. If these lines are not present, add them. If they are present, remove the comment characters.</p> <pre data-bbox="399 1465 951 1528">AddHandler cgi-script .cgi AddType application/x-http-cgi .cgi</pre> <p data-bbox="350 1551 1187 1579">These lines establish global permission for the execution of CGI scripts.</p>
4	Save the changes to the file.
5	Stop and restart the Apache web server so the changes can take effect.
6	Go to Chapter 5 for information about accessing Forum.

Chapter 5: Accessing Forum and Getting Started

To access Novell Forum, enter a URL in the following format:



The sections of this URL are:

1. The physical machine; for example, `collab.acme.com`
2. Your web-server alias (*forums* is the suggestion from [Chapter 4](#))
3. The name of your zone (*zone1* is the default)
4. Forum internal program

The top-level workspace is pre-populated with a few forums to get you started, including tutorials for users and managers.

The Forum Environment

Because Forum uses an authentication protocol based on cookies, each Forum user must have their browser configured to accept cookies or to ask for confirmation before accepting cookies.

After you create forums (discussion and document-sharing forums, calendars, workspaces, teams, and more), the workspace displays only the forums and workspaces to which the current user has access.

The Help System

For information on getting started with Forum, view a workspace page and click **Help** in the upper-right corner of the page.

The first time you access Help (or after you upgrade your Forum installation or re-index the Help files), Forum builds the Help system, which can take a few minutes. When Forum is finished indexing the system, click **OK** to view Help information.

Click **Getting Started Manuals** in the left frame of the Help window to download the *Getting Started Guide for Forum Managers* and *Making Teams Work* manuals. The first manual describes the initial setup of the zone. The second manual addresses ways to create an inviting collaborative space, ways in which your zone can best serve your users, ways to populate your zone to assist users in getting started, and other tips for optimizing the use of Forum.

To read getting-started information in the Help window, click **Getting Started with Forum**. To access online Help for managers, click the **Show Help topics for Managers** link at the top of the left frame of the Help window.

Chapter 6: Performance Optimization

You may find that heavy use of Novell Forum results in performance degradation. You can optimize performance by increasing the number of running dispatchers. Also, if you are using the FrontBase database, there are a few more configuration settings that can dramatically improve your performance.

Increase the Number of Running Dispatchers

To increase the number of running dispatchers, you may need to increase the memory and speed of your server. We recommend that you monitor your system to determine the impact of adding dispatchers.

It is also possible to decrease the number of dispatchers.

To increase or decrease the number of running dispatchers:

Step	Action
1	Edit the <code>avf.conf</code> file in your Forum base directory.
2	Add the following definition variable, or if the variable exists, change its value to: <pre>set Wgw_BaseProps(dispatcher.residents) n</pre> The number <code>n</code> specifies the number of dispatchers you want Forum to run.
3	Save and close the <code>avf.conf</code> file.
4	Stop and restart Forum.

FrontBase Performance Tuning

FrontBase, like most database servers, works best when all or a significant portion of the database can be cached in memory. FrontBase uses a mechanism called the "raw device driver" cache (*rdd cache*). You can improve performance by increasing the size of the rdd cache.

Set the Size of the rdd cache

Step	Action
1	Open the following file in a text editor: <code>FrontBase/Databases/SITESCAPE.options</code>
2	In the file, set the <code>-rdd</code> option to the appropriate value (where <code>N</code> is the number of megabytes to devote to the cache): <code>-rdd=N</code> Example: <code>-localonly -rdd=500</code>

Ideally, you should set `N` to the size of your database. You can determine this number by checking the size of the `SITESCAPE.fb` file. The `-rdd` setting directly affects the virtual memory size of the FrontBase process. Make sure that you have adequate RAM to support the rdd cache size, or you could cause your server to "thrash."

Relocate Files

You can improve performance by relocating the database and transaction log files to different physical disk drives. This action reduces the competition for disk access and can improve write performance and overall system performance.

Step	Action
1	Stop the FrontBase database service.
2	Relocate the <code>/TransactionLogs</code> or <code>/Databases</code> directory to another drive. (The <code>/TransactionLogs</code> directory is a good first choice.)

- 3** To inform FrontBase of the changes, create the following file with a text editor:

```
/FrontBase/Library/FrontBase.config
```

In the file, add lines following this format:

```
<type> = <location>
```

where <type> is one of the following:

- Databases
- TransactionLogs
- Backups

Examples:

```
TransactionLogs = D:/FBLogs
```

```
Databases = /disk12/fb/databases
```

Note: When you change the FrontBase configuration, you must stop the SiteScape Forum service, stop the FrontBase SITESCAPE service, change the configuration and file placement, and then restart Forum.

Appendix A: Compatible Browsers

Forum performs well on most currently used browsers as of this writing. However, due to browser limitations, some Forum features are not supported on certain browsers. In some cases, Forum provides alternate ways of performing these functions. If a feature is not working properly, it may be due to your browser. Contact Novell Support and we can inform you of the browser support for that feature.

Appendix B: License Key Management and Compliance

When you install or upgrade Novell Forum, you must provide a Forum license key. After the installation or upgrade is complete, you can use the zone-management menu to enter additional license keys for features such as Program Management.

For added security, the last four digits of each license key are an authentication code. After you enter a license key, the last four digits are not stored or displayed in Forum.

Note: License-key management is server-wide: when you add or change a license key, all zones are immediately affected.

Add-On Modules

Forum has several add-on modules, including:

- Program Management

The Program Management module offers a set of features that assist in the delivery of a variety of interrelated products and services. The central feature of Program Management is the program dashboard, which includes a set of integrated forums that are specifically designed for efficient program work. "Stoplight" status icons on the

dashboard allow program managers immediate visibility into the current status of the different components of the program.

- TCAMM (Tactical Calendar, Action Item, and Meeting Management)

TCAMM is the ideal solution for government and military program managers to manage meetings and the calendars, action items, decision histories, and documents that are related to those meetings. The calendars in TCAMM are customized to provide detailed information to the end user, including directions to the meeting, attached documents, the associated project, associated action items, meeting minutes, and more. TCAMM is highly secure and is PKI-enabled.

These products require separate license keys.

Enforcement of Program Management and TCAMM

Prior to Version 7.2, there was no license compliance checking for the Program Management (PM) or TCAMM options. If you have an unlimited PM or TCAMM key (listed as zero users in the license-key management report), the number of users is automatically set to your existing key and no additional management is required.

If you licensed a subset of users for PM or TCAMM (for example, you have a 1000-user Forum license and a 50-user PM license), you must explicitly identify each of those users in each zone that uses the option. You do this by creating a group and populating it with the individuals (or subgroups) that make up the licensed users. A user must be a member of the group to access the specific features of the option.

For TCAMM, create a group with the "group internal name" of `_licensed_tcammm_users`. For PM, use the internal name `_licensed_pm_users`. These groups are like any other group and can be used in access control or other Forum features.

License Compliance

The "Check license compliance" option analyzes all zone user databases on your server and produces a summary report of your compliance for Forum and all optional components. The report is in an easy-to-read format, highlighting any potential compliance problems for each zone.

Note: Because of the analysis that must be done, if you have many zones or large zones, the "Check license compliance" option may take several seconds to complete.

User licensing is based on the e-mail address of each user account, regardless of which zone(s) they are in. An empty e-mail address counts as a unique user. This means that an individual can have multiple accounts in one or more zones and be counted as only a single licensed user. This

accounting rule is also applied if you have a separate license for PM or TCAMM. Consequently, it will be commonplace to have more user accounts (or group members) than licensed users.

Appendix C: Running Multiple Installations

This section describes the process for installing and switching between multiple instances of Novell Forum on the same machine.

Switch Between Two Installations on Windows

On Windows systems, only one instance of Forum can be running at one time. To install or upgrade multiple instances of Forum on Windows, you must switch the active installation to the installation that you want to upgrade, and upgrade each installation separately. Use the command-line instructions in this section, not the Services application, for switching installations. Otherwise, the upgrade process places the upgrade information in the wrong installation database.

You can use the Services window to check which database is currently installed:

Step	Action
1	From the Start menu, select the Settings menu item.
2	Select the Control Panel and click Administrative Tools .
3	Click the Services icon.
4	In the Services window, right-click the “FrontBase SITESCAPE” process.
5	Select Properties .
6	Determine that the “Path to executable” corresponds to the installation you want to upgrade.

To install another instance of Forum on the same machine running Windows with a FrontBase installation:

Step	Action
1	From a command prompt, <code>cd</code> to the Forum base directory: <code>cd <Forum-base-directory></code>
2	Uninstall the Forum service: <code>avf-background -u</code>
3	Remove the FrontBase service: <code>cd <Forum-base-directory>\frontbase\bin frontbase -remove SITESCAPE</code>
4	Install (see Chapter 2) or upgrade (see Chapter 3) Forum in a different directory than that of the first installation.

If the removal of the `SITESCAPE` process in the first installation area has not yet completed by the time you attempt to install the process in the second installation area, an error may occur. If this happens, stop and restart the command window, and then retry these commands. Repeat these steps until the commands execute successfully.

To switch between two installations of Forum on Windows:

Step	Action
1	Uninstall the currently running SiteScape service: <code>cd <first-Forum-base-directory></code> <code>avf-background -u</code>
2	Remove the FrontBase Service from the FrontBase directory in the current installation: <code>cd <first-Forum-base-directory>\frontbase\bin</code> <code>frontbase -remove SITESCAPE</code>
3	From the Forum base directory of the installation to which you want to switch, activate the installation: <code>cd <second-Forum-base-directory>\frontbase\bin</code> <code>frontbase -install SITESCAPE</code> <code>cd <second-Forum-base-directory></code> <code>avf-background -i</code>

Switch Between Two Installations on Linux

If you are running Linux, you can run simultaneous installations of Forum if only one installation uses the FrontBase built-in database (which comes with Forum), or if you are using databases other than FrontBase, such as Oracle.

To switch between two installations of Forum on Linux:

Step	Action
1	Stop the currently running SiteScape service: <pre>cd <first-Forum-base-directory> ./avfbackground.sh stop</pre>
2	Verify that the FrontBase processes are no longer running: <pre>ps -ef grep -i FrontBase</pre>
3	Edit the Forum and FrontBase startup scripts from the <code>/etc "rc"</code> directories to point to the new installation.
4	From the Forum base directory of the installation you are switching to, activate the installation: <pre>cd <second-Forum-base-directory> ./avfbackground.sh start <webserver username></pre>