

Tru64 UNIX Best Practice

Configuring Sendmail Advanced Features Using Internet Express

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Product Version: **Internet Express Version 5.7**

This Best Practice describes how to configure the advanced features of Sendmail using *Compaq*TM Internet Express (formerly Open Source Internet Solutions).

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Configuring Sendmail Advanced Features Using Internet Express

Advanced features of Sendmail allow you to:

- Configure masquerading
- Configure virtual domains
- Configure anti-spam
- Configure LDAP

Internet Express is a collection of popular Open Source and other Internet software. Using Internet Express, you can install the latest version of Sendmail on your Tru64™ UNIX system.

See the Tru64 UNIX Best Practices Web page for more information about Best Practices documentation.

Is This Best Practice Right for You?

Not all Best Practices apply to all configurations, so you must be sure that it is appropriate for your system and circumstances. To use this Best Practice, you must meet the requirements described in the following table.

Requirement	Description
Operating System	Tru64 UNIX Version 5.0A or higher
Product Version	Internet Express Version 5.7 or higher.
System Configuration	High-speed network interface. Consider multiple network interfaces for very high volumes. Make sure you have enough file system space in <code>/var/spool/mail</code> . Use a local file system, not an NFS-mounted files, to hold the spool file.

If you do not meet the previous requirements, see *Alternative Practices* for information.

Before You Begin

Before you apply the Best Practice for Configuring the Advanced Features of Sendmail using Internet Express, you must understand some background information and perform some preliminary tasks.

If you have not already done so, register the IP address and any IP aliases for the system and configure the network. The Internet Express installation procedure will lead you through the network configuration, if necessary.

If you have not yet configured your system as an SMTP server and started the server, see the Best Practice document *Configuring SMTP Mail Servers Using Internet Express*.

To configure virtual domains on your system, you must first create a virtual domain table and create an address mapping database. The Administration utility expects this file to be named `/var/adm/sendmail/virtusertable`, but you can override this default when you enable virtual domains. If you have not created a virtual domain table or set up a database, see the *Open Source Internet Solutions for Tru64 UNIX Administration Guide*.

Applying the Best Practice

Before you configure the Sendmail advanced features, be sure to follow the recommendations in *Before You Begin*.

The Internet Express “Installation and Documentation” CD-ROM contains Sendmail, as well as other Internet software. This Best Practice recommends that you:

1. Obtain the CD-ROM from the Internet Express kit.
2. Install the Sendmail subset (IAESMTP).
3. Install the Internet Express Administration Utility subset (IAEADM).
4. Configure the Sendmail advanced features that allow you to:
 - Masquerade the local host name
 - Set up virtual domains to allow multiple aliases to be hosted on a single system
 - Set up anti-spam capabilities to prevent unsolicited bulk e-mail
 - Identify users based on information in an LDAP directory

Obtain the Internet Express Kit

Compaq includes the Internet Express CDROM with Tru64 UNIX AlphaServer™ systems. If you need the Internet Express CDROM, you can contact your Compaq representative. The part number for the Internet Express Kit is QB-3NCAA-SA .

Install Sendmail

To install the Sendmail, follow the instructions in the *Internet Express for Tru64 UNIX Installation Guide*. When you install Sendmail, the SMTP server automatically starts.

Install the Administration Utility

To install the Administration utility, follow the instructions in the *Internet Express for Tru64 UNIX Installation Guide*. The Internet Express installation procedure automatically selects prerequisite subsets for installation.

Configure Masquerading

Masquerading transforms the local host name portion of a mail address to look like the address of another host. A masquerading mail message appears to have come from the other host rather than the local host.

The following steps describe how to configure masquerading using the Internet Express Administration utility. They assume that you have already configured your system as an SMTP server, as mentioned in *Before You Begin*.

To configure masquerading with more advanced settings that might be appropriate for your system, see the steps in the *Internet Express for Tru64 UNIX Administration Guide*.

To configure masquerading:

1. From the Administration utility Main menu, choose Components.
2. On the Manage Components menu under Mail, choose SMTP Server.
3. On the SMTP Server Administration menu, choose Configure SMTP Server. (When your SMTP server is configured and running, a message box indicates that the server is configured and the Server button is selected.)

4. On the Configure SMTP Server menu, click Configure, then choose Configure Masquerading. The Configure Masquerading form is displayed.
5. Select the Enable Masquerading check box. When it is selected, masquerading is enabled (and alternatively, disabled when not selected.)
6. In the Masquerade As field, click on the name of the host for which you want to masquerade. When masquerading is enabled, the host name is automatically masqueraded to that name. In addition, all the host aliases for your system will automatically assume this masquerading host name. To override this, select the Exclude Host Aliases From Masquerading check box for the host aliases you don't want masqueraded.

The system can have only one masquerading host name, and it must be a valid, fully qualified name.

If you want other hosts within your domain to be masqueraded, you can add the host names to the Masquerading Hosts/Domain List field. Separate host names with a space.

By default, the local users of your system (`root`, `postmaster`, `news`, `uucp`, `mailer-daemon`, `rdist`, `nobody`, `daemon`, `pop`, and `imap`) are not masqueraded. Any other user can be masqueraded by adding the user's name to the Excluded Users List field.

7. Click on Submit to change the server configuration.

A message is displayed confirming that the configuration has been changed and that the SMTP server has been restarted. Click on OK to return to the Configure SMTP Server menu.

If there were any errors in the configuration, a list of the errors is displayed. Click on OK to return to the Configure Masquerading menu.

Configure Virtual Domains

The Administration utility lets you configure Sendmail to use virtual domains. Virtual domains allow multiple aliases to be hosted on a single system.

As mentioned in *Before You Begin*, the following steps describing how to configure virtual domains assume that you have already:

- Created a virtual domain table (`/var/adm/sendmail/virtusertable`) with the `makemap` command.

- Set up name servers for the virtual addresses that get mapped to the real addresses.

To configure Sendmail to use virtual domains on a system configured as an SMTP server, follow these steps:

1. On the Manage Components menu under Mail, choose SMTP Server.
2. On the SMTP Server Administration menu, choose Configure SMTP Server. (When your SMTP server is configured and running, a message box indicates that the server is configured and the Server button is selected.)
3. On the Configure SMTP Server menu, click Configure, then choose Configure Virtual Domains. The Configure Virtual Domains menu is displayed.
4. Select the Use Virtual Domains check box to enable virtual domains. (You can clear this check box to disable virtual domains while retaining the virtual domains configuration.)
5. Enter the complete pathname for the virtual user table you created. The default is `/var/adm/sendmail/virtusertable`.
6. Enter the Virtual Domain aliases that are mapped in the Virtual Domain database in the Virtual Hosts/Domains list. If you configure virtual domains, then all the host aliases in this list will be checked for mapping in the `virtusertable`.
7. Select the Suppress Errors in the Absence of the Database File check box to allow database lookups to fail silently if the `table_name.dir` and `table_name.pag` files (`table_name` is the file name for your virtual user table) do not exist. (This parameter corresponds to the `-o` option on the `K` configuration line in the `sendmail.cf` file.)
8. To preserve quotation marks and escape characters (those preceded by a backslash) in keys before database lookup, clear the Strip Quotation Marks from Keys checkbox. (This parameter corresponds to the `-q` option on the `K` configuration line in the `sendmail.cf` file.)

By default, Sendmail removes all nonescaped quotation marks and removes any backslashes (`\`) from a key before looking it up in the virtual user table. For example:

```
"Bob \"bigboy\"Roberts \"(esq)\"@bob.com
```

is ordinarily converted to:

```
Bob "bigboy" Roberts (esq)@bob.com
```

9. If keys in the virtual user table are case sensitive, clear the Convert Keys to Lowercase check box to prevent conversion to lowercase letters. (This parameter corresponds to the `-f` option on the `K` configuration line in the `sendmail.cf` file.)

By default, Sendmail converts a key to lowercase letters before looking it up in the virtual user table.

10. Click on Submit to change the server configuration.

When the Suppress Errors in the Absence of the Database Files check box is not selected, the Administration utility checks that the `filename.dir` and `filename.pag` files exist (where `filename` is the name of the virtual user table specified in the Database File Name field).

If there are no errors, a message is displayed confirming that the configuration has been changed and that the SMTP server has been restarted. Click on OK to return to the Configure SMTP Server menu.

If there were any errors in the configuration, a list of the errors is displayed. Click on OK to return to the Configure Virtual Domains menu.

Configure Anti-Spam

Sendmail provides preconfigured anti-spam settings to prevent unsolicited bulk e-mail, or spam, from reaching your system and being forwarded from your system.

- By default, your SMTP server configuration does not relay messages from a site outside your domain to another site outside your domain. Accepting this default ensures the highest level of protection against spam mail.

Most likely, you would want to set your system to act as a relay for other host systems within your domain. To do this:

1. On the Manage Components menu under Mail, choose SMTP Server.
2. On the SMTP Server Administration menu, choose Configure SMTP Server. (When your SMTP server is configured and running, a message box indicates that the server is configured and the Server button is selected.)
3. On the Configure SMTP Server menu, click Configure, then choose Configure Anti-Spam.
4. On the Configure Anti-Spam menu, choose Configure Relaying.

5. Select the Allow Relaying from Any Host in Local Domain check box. Note that only hosts listed as OK in the access database (by default, `accessdb`) are allowed to relay messages.

To further configure relaying, see the *Internet Express for Tru64 UNIX Administration Guide*.

- The SMTP server uses an access database (by default, `accessdb`) to accept or reject mail from specific domains and addresses. See the *Internet Express for Tru64 UNIX Administration Guide* for a description of the contents of the access database.

To configure an access database, follow these steps:

1. On the Manage Components menu under Mail, choose SMTP Server.
2. On the SMTP Server Administration menu, choose Configure SMTP Server. (When your SMTP server is configured and running, a message box indicates that the server is configured and the Server button is selected.)
3. On the Configure SMTP Server menu, click Configure, then choose Configure Anti-Spam.
4. On the Configure Anti-Spam menu, choose Configure Access Database.
5. On the Configure Access Database menu, select the Use Access Database check box to enable access database lookups. (You can clear this check box to disable database lookups while retaining the access database configuration.)
6. Enter the complete pathname for the access database you created. (The default pathname is `/var/adm/sendmail/accessdb`.)
7. Select the Suppress Errors in the Absence of the Database File check box to prevent Sendmail from performing a database lookup if the access database does not exist. (This parameter corresponds to the `-o` option on the `K` configuration line in the `sendmail.cf` file.)
8. To preserve quotation marks and escape characters (those preceded by a backslash) in keys before database lookup, clear the Strip Quotation Marks from Keys check box. (This parameter corresponds to the `-q` option on the `K` configuration line in the `sendmail.cf` file.)

By default, Sendmail removes all nonescaped quotation marks and removes any backslashes (\) from a key before looking it up in the access database. For example:

```
"Bob \"bigboy\"Roberts \ (esq\)"@bob.com
```

is ordinarily converted to:

```
Bob "bigboy" Roberts (esq)@bob.com
```

9. By default, Sendmail converts a key to lowercase letters before looking it up in the access database. If keys in the virtual user table are case-sensitive, clear the Convert Keys to Lowercase checkbox to prevent conversion to lowercase. (This parameter corresponds to the `-f` option on the `K` configuration line in the `sendmail.cf` file.)
10. Click on Submit to change the server configuration.

If there are no errors, a message is displayed confirming that the configuration has been changed, and indicates that the SMTP server has been restarted.

If there were any errors in the configuration, a list of the errors is displayed.

- To configure checking on sender's information, follow these steps:
 1. Select the Accept Mail from Unqualified Senders check box to accept messages that do not include a domain name in the sender's address.
 2. Select the Accept Mail from Unresolvable Domains check box to accept messages from addresses that the Domain Name Service (DNS) server cannot locate and resolve.

Configure LDAP

You can configure the SMTP server to identify users based on the information in an LDAP directory. When you complete the Configure LDAP form during SMTP server configuration, the Administration utility creates a `K` line entry in the `sendmail.cf` file that defines how the Sendmail daemon is to search the LDAP directory to authenticate users.

To configure the SMTP server to use LDAP, follow these steps:

1. On the Manage Components menu under Mail, choose SMTP Server.
2. On the SMTP Server Administration menu, choose Configure SMTP Server. (When your SMTP server is configured and running, a message

box indicates that the server is configured and the Server button is selected.)

3. On the Configure the SMTP Server menu, click Configure, then choose Configure LDAP.
4. On the Configure LDAP menu, select the Enable LDAP Look-Up check box to enable the SMTP server to look up user information in an LDAP directory. (You can clear this check box to disable LDAP directory lookups while retaining the LDAP configuration.)
5. In the LDAP Search Base field, specify the directory in your LDAP tree in which you want to begin searching. Use a space to separate the entries in this field. For example:

```
ou=People o=XYZCompany c=US
```

This field corresponds to the `-b` option in the `K` configuration line in the `sendmail.cf` file.

6. In the List of LDAP Servers field, enter the names of servers at your site that support LDAP. Use a space to separate entries in this field. The LDAP libraries attempt to connect to these servers in the order you list them. For example:

```
dirserver1.xyz.com dirserver2.xyz.com
```

This field corresponds to the `-h` option in the `K` configuration line in the `sendmail.cf` file.

7. In the List of LDAP Search Strings field, specify one or more attributes. The maximum number of attributes that you can search is 1023. Use a space to separate attributes. For example:

```
uid cn
```

This field corresponds to the `-k` option in the `K` configuration line in the `sendmail.cf` file.

The base directory that you specified in the LDAP Search Base field in step 6, combined with the strings supplied in this field, should define a search that returns *at most one* entry.

8. In the List of LDAP Attributes Returned field, specify one or more attributes that will get populated from the LDAP directory when your search is successful. You can specify at most 63 attributes. Use a space to separate attributes. The `ldapsearch` command returns all the attributes that it can successfully populate. For example:

```
mailForwardingAddress mail uid
```

If a `mailForwardingAddress` and `mail` attribute exists, it will return both. Each one will then be treated as a separate address and will be individually processed.

This field corresponds to the `-v` option in the `K` configuration line in the `sendmail.cf` file.

9. Select the Suppress LDAP Errors check box to prevent Sendmail from performing a database lookup if the `ldap` database does not exist. (This parameter corresponds to the `-o` option on the `K` configuration line in the `sendmail.cf` file.)

Verifying Success

After you apply the Best Practice for Configuring Sendmail's Advanced Features, you can verify whether it was successful.

- You successfully installed Sendmail and Administration utility from Internet Express.
- Using the Administration utility, you configured one or more of the Sendmail advanced features.

If the Best Practice was not successful, see *Troubleshooting* for information about identifying and solving problems.

Troubleshooting

If you determine that the Best Practice was not successful, as described in *Verifying Success*, use the following table to identify and solve problems.

Problem	Possible Solutions
An Internet Express subset did not install.	Review the installation steps described in the <i>Internet Express for Tru64 UNIX Installation Guide</i> .
You could not configure the SMTP server or Sendmail advanced features	Review the steps in the Best Practice document <i>Configuring SMTP Mail Servers Using Internet Express</i> . For more detailed steps, see the <i>Internet Express for Tru64 UNIX Administration Guide</i> .
You could not start the SMTP Server.	From the SMTP Server Administration menu, click on Start/Stop the SMTP Server.

Alternative Practices

Although this Best Practice is the recommended method for configuring Sendmail advanced features, if your system does not meet the requirements described in *Is This Best Practice Right for You?*, you can use an alternative method:

- Copy and install the binary kit or install sources copied from:
`ftp://ftp.cs.berkeley.edu/ucb/sendmail/`
- If you are running Tru64 UNIX Version 5.0A or higher, continue to use the version of Sendmail provided with the operating system.
- Directly edit the Sendmail configuration file (`sendmail.cf`) to add a particular advanced feature. See the *Internet Express for Tru64 UNIX Administration Guide* for more information.

Comments and Questions

We value your comments and questions on the information in this document. Please mail your comments to us at this address:

`best_practices@zk3.dec.com`

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