

WHITE PAPER: INSTALLING FREERADIUS ON LINUX-BASED SERVERS

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FREERADIUS ON LINUX



SUMMARY

FreeRADIUS is an open-source RADIUS server for UNIX systems. It supports EAP and the attributes necessary to enable dynamic VLAN assignment with 802.1x. This paper describes the installation and configuration of FreeRADIUS on Linux.

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Installation

Perform a standard installation of your favorite Linux distribution. Red Hat 8.0, Red Hat 9.0, SuSE 8.2, and Debian are known to work with FreeRADIUS. Make sure the development tools are installed, as they will be needed to compile FreeRADIUS.

Go to the FreeRADIUS web site (www.freeradius.org) and download the latest version of FreeRADIUS. As of this writing, the latest version is 0.9.2.

Login to your system as root and expand the tar file:

```
bash# tar xvzf freeradius-0.9.2.tar.gz
```

Change to the newly created FreeRADIUS directory and execute the following commands to compile and install FreeRADIUS:

```
bash# ./configure  
bash# make  
bash# make install
```

When the installation is complete, all relevant configuration files can be found in the `/usr/local/etc/raddb` directory.

Configuration

For a basic installation only two files in this directory must be edited: **clients** and **users**. Starting with the 0.9.2 release there is no need to edit **radiusd.conf** because all EAP related options are enabled by default.

Client Configuration

All devices using this server for RADIUS authentication must be included in the **clients** file. An entry in the **clients** file consists of two fields, the client IP address and the shared secret. Add a line similar to the following for each switch:

FREERADIUS ON LINUX

192.168.7.1 foundry01

A network address can be specified for the client address, and will match any client in that network.

User Configuration

The **users** file is made up of sections. Each username has its own section, and the sections are separated by a hash mark. The section must specify an authentication type and a password.

```
#
bob   Auth-Type := EAP, User-Password == "secret"
#
mary  Auth-Type := EAP, User-Password == "test"
Tunnel-Type = 13,
Tunnel-Medium-Type = 6,
Tunnel-Private-Group-Id = 7
```

In this example, user bob has the password secret and no other options. User mary has additional information which is used by the client to place Mary in a VLAN (VLAN ID 7, in this case).

Testing

For testing, start the server with:

```
bash# radiusd -xyz
```

The **xyz** flags specify the most verbose output. This output is useful for initial configuration and troubleshooting.

A free tool called NTRadPing is available from <http://www.mastersoft-group.com/download/>. NTRadPing simulates a RADIUS client and is useful for testing RADIUS servers.

Final Setup

Once you have the configuration working, stop the server with Ctrl-C or the kill command. To restart the server without the verbose debugging output, simply use the command:

```
bash# radiusd
```

For most servers, the RADIUS server will need to be started at boot time. Consult your distribution's documentation for information on starting the server automatically.

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