

Salem Radio Labs

APPLICATION NOTE 001

Installing Rivendell on SuSE 9.0

SCOPE

This application note details the procedure for installing the Rivendell Radio Automation System from RPMs on the SuSE 9.0 distribution. While some of the procedures are specific to SuSE, most are fairly generic, and can thus be used as a guide to installation on other RPM-based distributions (e.g. RedHat, Mandrake) as well.

OVERVIEW

Installation of Rivendell by means of RPM consists of four major steps:

- 1) Install the RPMs
- 2) Enable the drivers
- 3) Initialize and Configure mySQL
- 4) Configure Rivendell

We'll cover each step in turn.

INSTALLING THE RPMS

Before installing the Rivendell RPMs, you should verify that the following packages from the SuSE CDROM/DVD are already installed:

```
cdparanoia
qt3
qt3-mysql
mysql
mysql-shared
sox
```

This can be done by starting up Yast2, clicking on the **Software** icon and selecting **Install and Remove Software**.

Next, download one of each of the following RPM packages from the Salem Radio Labs download site (at <http://www.salemradiolabs.com/rivendell/download.html>):

```
AudioScience HPI Driver Package
Radio Library
HPI Library
Rivendell Base Package
```

If your system has one of the supported MeasurementComputing GPIO cards, you will also need:

```
GPIO Driver Package
```

The driver packages come in one of two types: one for single processor systems, and another for multi-processor (SMP) systems. Be sure to select the correct one for your system type.

Once you've downloaded the RPMs, install each one by doing (as root):

```
rpm -i <name-of-package>
```

If the command returns a 'failed dependency' error, go back into Yast2 and install the needed package.

ENABLING THE DRIVERS

If your setup does not include an AudioScience audio adapter or a GPIO board, then you can skip this section and go to 'INITIALIZING AND CONFIGURING mySQL'.

Once the RPMs are installed, the drivers need to be enabled. To do this, first verify that the target hardware (one or more supported AudioScience adapters, and/or one or more GPIO boards) is installed. Next, start up **Yast2**, click the **System** icon and then select **Runlevel Editor**. Highlight the service **asihpi** on the list and then click the **Enable** button. You should then see a message like:

```
/etc/init.d/asihpi start returned 0 (success)
Loading asihpi (loading file /lib/modules/2.4.21-99...
```

Next, if you have one or more GPIO boards and have installed the GPIO package, highlight the service **gpio** on the list and then click the **Enable** button. You should then see a message like:

```
/etc/init.d/gpio start returned 0 (success)
Loading gpio (loading file /lib/modules/2.4.21-99...
```

Click the **Finish** button when you are through enabling drivers. If **Yast2** returns an error, go back and verify that the appropriate hardware is in fact installed in the system. Also, be sure that the version of the driver RPM installed matches the SuSE version and processor type (single processor or SMP) of the machine.

INITIALIZING AND CONFIGURING mySQL

If you already have mySQL up and running on the target machine, skip ahead to the **CONFIGURING RIVENDELL** section. You will need a mySQL account name and password with administrative rights.

If mySQL has never been run on the target machine, you will need to install the initial set of grant tables, set an administrator password and enable the **mysqld** daemon. **IMPORTANT NOTE: Initializing the grant tables can result in the destruction of any previously existing data in mySQL! Perform this procedure only if this is the first time mySQL is being run on the machine.**

To initialize the mySQL grant tables, enter the following commands (as root):

```
mysql_install_db
chown -R mysql:daemon /var/lib/mysql
```

mySQL tends to be extremely picky about the hostname assigned to the machine. In particular, it needs to be able to resolve the *unqualified* hostname (e.g. The 'myname' part from 'myname.mydomain.com'). If you get an error message at this point complaining about being unable to resolve names, this is likely the problem. Two possible ways to fix this are:

- 1) Add a 'search mydomain.com' entry in '/etc/resolv.conf'. This would be the preferred solution for machines with a dynamic IP address assignment.
- 2) Add an entry in '/etc/hosts' as follows:

```
a.b.c.d myhost.mydomain.com myhost
```

Where 'a.b.c.d' is the machine's assigned IP address. This method would not work well on machines with dynamic addressing, as the value of 'a.b.c.d' tends to change frequently.

Next, start up **Yast2**, click the **System** icon and then select **Runlevel Editor**. Highlight the service **mysql** on the list and then click the **Enable** button. You should then see a message like:

```
/etc/init.d/mysql start returned 0 (success)
Starting service MySQL
...success
```

Click the **Finish** button when you are through.

Finally, set the MySQL administrator password by entering the following (as root):

```
mysqladmin -u root password '<new-admin-passwd>'
mysqladmin -u root -h <hostname> password '<new-admin-passwd>'
```

NOTE: The default administrator account in MySQL is called 'root'. This should *not* be confused with the 'root' login account for Linux – the account names in MySQL are **completely independent** of the Linux login account names.

CONFIGURING RIVENDELL

We're now almost ready to start up Rivendell proper, but we first have a few additional tasks to complete. First, we need to determine what user account will be running Rivendell. Since Rivendell implements it's own comprehensive security scheme, it is **strongly recommended** that a single Linux login account be established for all Rivendell users. Go ahead and create this account now (using **Yast2**) if it doesn't already exist. For the remainder of this discussion, we will use '<rd-user>' to refer to the login name of this account.

Next, we need to create the directory where the audio data will be stored. This can be done with the following commands (as root):

```
mkdir /var/snd
chown <rd-user>:users /var/snd
```

Be sure that '/var/snd' has plenty of space available, as this is where the WAV files utilized by Rivendell will be stored. If needs be, this directory can be the mount point for a separate disk or even a RAID filesystem.

Next, we need to create a small configuration file in '/etc' to hold some basic information. Create a skeleton with the following commands (as root):

```
cd /etc
cp /usr/share/doc/packages/rivendell/rd.conf-sample rd.conf
```

Edit the file '/etc/rd.conf' (using emacs or any other text editor). The file should initially look like this:

```
; rd.conf
;
; This is the sample configuration file for Rivendell
```

```
;  
; by Fred Gleason <fredg@salemradiolabs.com>  
;  
  
[Identity]  
Password=letmein  
AudioOwner=fredg  
AudioGroup=users
```

You want to change the 'AudioOwner=fredg' to be 'AudioOwner=<rd-name>'. You may also want to change the 'Password=' entry (this is the password which Rivendell will use to access the MySQL database). If you do, make sure you use a *different* password than the 'root' MySQL password! The 'StationName=' entry can be used if you want the station name of the system in Rivendell to be different from its "official" hostname. Normally, this entry can be left commented out.

Now we're ready to start up RAdmin. Enter the following command (as <rd-user>, *not* root!):

```
rdadmin
```

You should see the following:



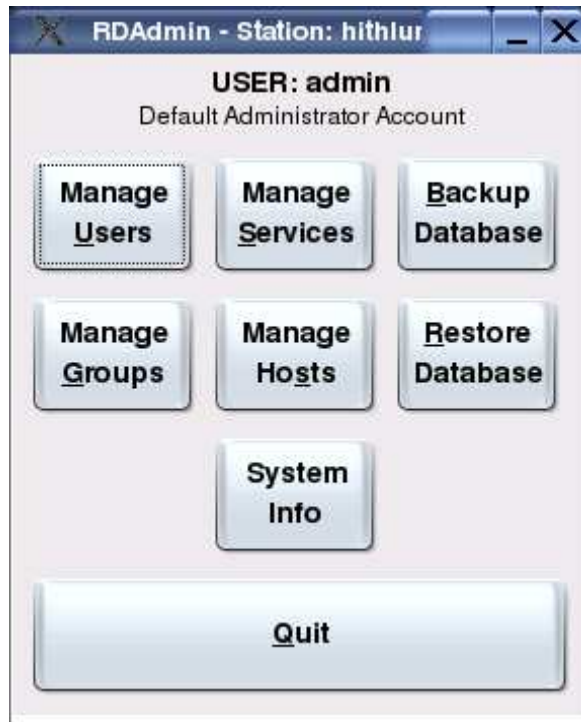
Enter the user name and password of an account on MySQL with administrative permissions. (If you just did the initialization procedure for MySQL above, the user name will be 'root', with the password you supplied).

Next, you should see:



This is the login box for RAdmin. Login with a user name of 'admin' and no password.

Now, you should see:



This is the Main Menu in RAdmin. You should immediately go into 'Manage Groups' on the Main Menu, select user 'admin' on the User List, click 'Edit', and then click 'Change Password' to set an administrative password.

Rivendell is now installed on the system. You probably want to create icons or menu entries for the various components on your desktop. The applications, along with their startup command names and functions are:

RAdmin – radmin -- Rivendell Administration and Configuration

RDLibrary – rdlibrary – Audio Library and Production Interface

RDLogin – rdlogin -- Change the Active Rivendell User

RDCatch – rdcatch -- Automatic Recorder Configuration

RDLogEdit – rdlogedit – Log Creation/Editing Application

RDairPlay – rdairplay – On-air Playout Application

GPITest – gpitest – General Purpose Input (GPI) Test Utility

GPOTest – gpotest – General Purpose Output (GPO) Test Utility

REVISION HISTORY

Wed 28 Jul 2004 – Fred Gleason <fredg@salemradiolabs.com>

- Added 'mysql-shared' package dependency.
- Added 'Radio Library' and 'HPI Library' to the RPM download list.
- Added a paragraph to 'ENABLING DRIVERS' instructing to skip if no ASI board or GPIO card is present.
- Corrected the path to the example rd.conf(5) file.
- Removed the instructions regarding the [GPIO] section in rd.conf(5).
- Removed instructions to create a hostname entry.
- Removed references to 'RDPlay' and 'RDRecord'.
- Updated RDAdmin main menu screen shot.

Thu 11 Dec 2003 – Fred Gleason <fredg@salemradiolabs.com>

- Added note on hostname address resolution problem to 'Initializing and Configuring MySQL' section

Wed 10 Dec 2003 – Fred Gleason <fredg@salemradiolabs.com>

- Initial document creation.