IBM Director and Tools on Linux

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Documentation on using Red Hat Enterprise Linux 3.0 ES Update 4,
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v1.01 (May 10, 2005)   Slight modification of disclaimer

Notices:

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Overview

IBM Director has supported Linux for several years – first as an Agent and more recently as a Server. However, until recently, demand for IBM Director on Linux was minimal. Now, as Linux achieves increased acceptance in Corporate America, the demand for IBM Director on Linux is also increasing. Systems Administrations extremely fluent in Windows are now being asked to implement Linux – skills they may not be as well versed in. Add to this the ever-changing commands, file-names, and directories used by new versions of Linux, and it becomes evident that implementing IBM Director in this environment is no trivial matter.

The purpose of this paper is to document how to first install and configure the required Linux services, then how to install IBM Director and other xSeries Systems Management Tools. This document will focus on Red Hat Enterprise Linux 3.0 ES Update 4, IBM Director v4.21, IBM Server Plus Pack v4.20, IBM Software Distribution Premium Edition v4.20, and IBM Remote Deployment Manager v4.20.

Installing a Management Server

Installing PostgreSQL

IBM Director requires a database for storing Inventory information and System Availability data. IBM Director Server running on Linux supports several databases, though PostgreSQL seems to be the most popular. This section will take you through installing and configuring PostgreSQL on your Management Server.

1. Verify the PostgreSQL, PostgreSQL Server, and PostgreSQL JDBC RPMs are installed
   ```
   rpm -qa | grep rh-postgresql
   ```
   Look for the following installed packages:
   ```
   rh-postgresql-7.3.8-2
   rh-postgresql-server-7.3.8-2
   rh-postgresql-jdbc-7.3.8-2
   ```

2. Install the required RPMs
   If the required RPMs are installed (for example, you selected to install Everything), proceed to Step 3. If the required RPMs are not installed (for example, you installed the Package Defaults or performed a Customized install), install the RPMs found on the third Red Hat CD.
   ```
   mount /dev/cdrom /mnt/cdrom
   rpm -ihv /mnt/cdrom/RedHat/RPMS/rh-postgresql-7.3.8-2.i386.rpm
   rpm -ihv /mnt/cdrom/RedHat/RPMS/rh-postgresql-server-7.3.8-
   2.i386.rpm
   rpm -ihv /mnt/cdrom/RedHat/RPMS/rh-postgresql-jdbc-7.3.8-2.i386.rpm
   ```

3. Create a symbolic link
   The version of PostgreSQL that ships with Red Hat Enterprise Linux 3.0 ES has renamed the JDBC jar file from earlier versions of PostgreSQL. While IBM Director works well with this version of PostgreSQL, it still looks for the older file name. To overcome this, you must create a symbolic link.
   ```
   ln -s /usr/share/java/rh-postgresql3.jar
   /usr/share/java/postgresql.jar
   ```

4. Set PostgreSQL to start automatically
   Check the startup configuration of PostgreSQL.
   ```
   chkconfig --list rhdb
   ```
   If it is not set to start (i.e. for all run levels, it is set to `off`), change it to start automatically.
   ```
   chkconfig rhdb on
   ```

5. Start PostgreSQL
   ```
   service rhdb start
   ```
   Verify the service is running.
   ```
   service rhdb status
   ```
   The first time PostgreSQL is started, the default database will be initialized.

6. Enable access to the database
   By default, PostgreSQL is configured to deny all access to the database. To enable access, edit the file `/var/lib/pgsql/data/pg_hba.conf` and uncomment the line
   ```
   #host    all    postgres    127.0.0.1    255.255.255.255    trust
   ```
   by removing the leading '#'.

7. Configure PostgreSQL to accept TCP/IP connections
   By default, PostgreSQL is configured to not allow TCP/IP connections. To enable TCP/IP connections, edit the file `/var/lib/pgsql/data/postgresql.conf`, uncomment the line `#tcpip_socket = false` by removing the leading '#', and change `false` to `true`.

8. Restart PostgreSQL
   ```
   service rhdb restart
   ```

Verify the service is running.
```
service rhdb status
```

Installing DHCP

When using Remote Deployment Manager to deploy images to systems, RDM requires a DHCP server for leasing IP addresses to PXE Clients. This section will take you through installing and configuring a DHCP server on your Management Server.

1. Verify the DHCP server is installed
   ```
   rpm –qa | grep dhcp
   ```
   Look for the following installed package.
   ```
   dhcp-3.0.1-10_EL3
   ```

2. Install the required RPM
   If the required RPM is installed (for example, you selected to install Everything), proceed to step 3. If the required RPM is not installed (for example, you installed the Package Defaults or performed a Customized install), install the RPM found on the first Red Hat CD.
   ```
   mount /dev/cdrom /mnt/cdrom
   rpm –ihv /mnt/cdrom/RedHat/RPMS/dhcp-3.0.1-10_EL3.i386.rpm
   ```

3. Set DHCP to start automatically
   Check the startup configuration of DHCP.
   ```
   chkconfig --list dhcpd
   ```
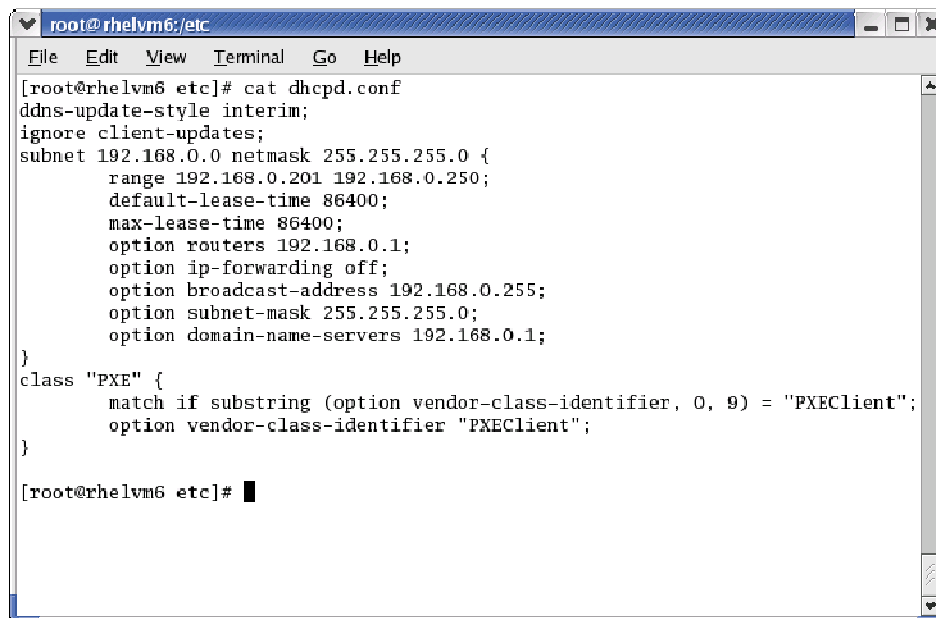   If it is not set to start (i.e. for all run levels, it is set to `off`), change it to start automatically.
   ```
   chkconfig dhcpd on
   ```

4. Create the DHCP configuration file
   The DHCP server stores configuration information in the file `/etc/dhcpd.conf`. A sample configuration file can be found at `/etc/log.d/conf/services/dhcpd.conf`. To this sample, you must add the PXE-specific statements. The sample below shows a basic configuration file that works sufficiently for RDM. Note that if using this sample, you will need to change the addresses (i.e. 192.168.0.*) to those appropriate for your network. More information on can be found by reading the man pages.
   ```
   man dhcpd.conf
   ```

```
root@rhelvm6:/etc
 File   Edit   View   Terminal   Go   Help
[root@rhelvm6 etc]# cat dhcpd.conf
ddns-update-style interim;
ignore client-updates;
subnet 192.168.0.0 netmask 255.255.255.0 {
        range 192.168.0.201 192.168.0.250;
        default-lease-time 86400;
        max-lease-time 86400;
        option routers 192.168.0.1;
        option ip-forwarding off;
        option broadcast-address 192.168.0.255;
        option subnet-mask 255.255.255.0;
        option domain-name-servers 192.168.0.1;
}
class "PXE" {
        match if substring (option vendor-class-identifier, 0, 9) = "PXEClient";
        option vendor-class-identifier "PXEClient";
}

[root@rhelvm6 etc]#
```

5. Start the DHCP server
```
service dhcpd start
```
Verify the service is running.
```
service dhcpd status
```

Installing NFS

When using RDM to deploy Linux images to systems following the whitepaper at http://www-307.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-53487, RDM requires a NFS server for storing the Linux files. This section will take you through installing and configuring a NFS server on your Management Server.

1. Verify the NFS Server is installed
```
rpm –qa | grep nfs
```
Look for the following installed package.
```
nfs-utils-1.0.6-33EL
```

2. Install the required RPM
If the required RPM is installed (for example, you select to install Everything), proceed to step 3. If the required RPM is not installed (for example, you installed the Package Defaults or performed a Customized install), install the RPM found on the second Red Hat CD.
```
mount /dev/cdrom /mnt/cdrom
rpm –ihv /mnt/cdrom/RedHat/RPMS/nfs-utils-1.0.6-33EL.i386.rpm
```

3. Set NFS to start automatically
Check the startup configuration of NFS.
```
chkconfig --list nfs
```
If it is not set to start (i.e. for all run levels, it is set to `off`), change it to start automatically.
```
chkconfig nfs on
```

4. Configure NFS
The NFS Server stores configuration information in the file `/etc/exports`. When NFS is installed, it creates a default `/etc/exports` file that is blank. First, you will need to create the directory that will hold the Linux files, and then add that directory to the `/etc/exports` file. For example, if you want to keep all of your RDM images together, you would first create the directory.
```
mkdir /opt/IBM/RDM/repository/image/rhel30es
```
Then, you need to add this directory to the `/etc/exports` file, specifying which machines can access it, and the options they will have. For example, you may add the line
```
/opt/IBM/RDM/repository/image/rhel30es *(ro, no_root_squash)
```
to specify that any client has read-only access.

5. Start NFS
```
service nfs start
```
Verify the service is running.
```
service nfs status
```

Installing the IBM Director Server

IBM Director is a hardware element manager, designed to provide robust hardware systems management. This section will take you through installing an IBM Director Server on your Management Server.

1. Install the Service Processor driver
Depending on the xSeries Machine-Type, you may need to install one or more Service Processor drivers to allow IBM Director to receive hardware alerts in-band. If your system has a Remote Supervisor Adapter, RSA-II, or RSA-II SlimLine, you will first need to install the applicable driver. Refer to http://www.ibm.com/support/ to find the RSA driver for your server. If your system does not have a RSA, you may need to install the LM78 driver.

This driver enables PFA alerting to IBM Director. If your system has neither an IPMI BMC nor a RSA, you need to install the SMBus driver. This driver ensures the System Health Task works correctly. Please refer to the IBM Director Release Notes ftp://ftp.software.ibm.com/pc/pccbbs/pc_servers/dir4.21_docs_relnotes.pdf to determine if the either the LM78 or the SMBus driver is applicable for your system.

2. Mount the IBM Director CDROM
    ```
    mount –t iso9660 –o map=off /dev/cdrom /mnt/cdrom
    ```
    This mount command is required to preserve the mixed-case file names used by the IBM Director installation script.

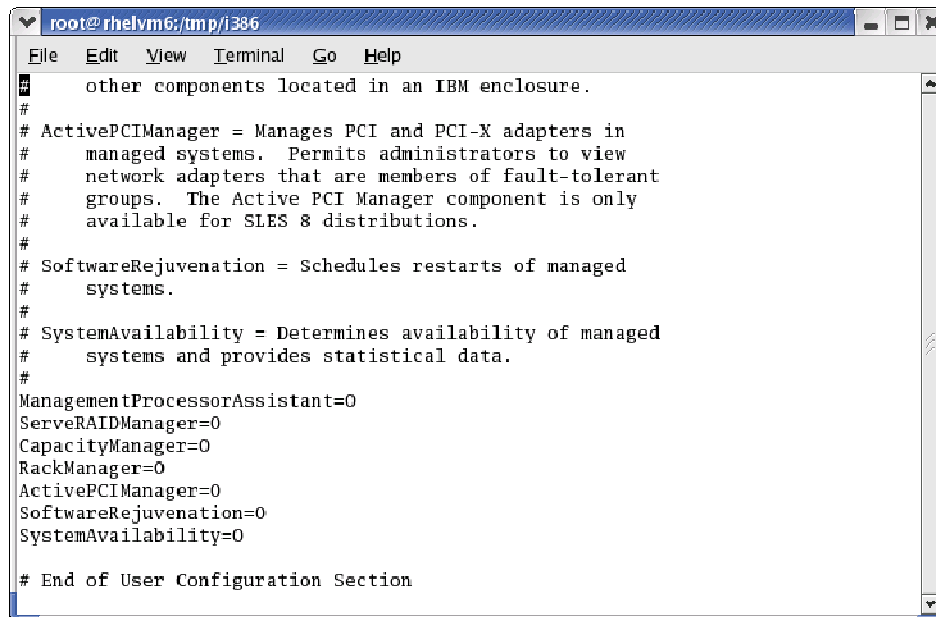3. Copy the installation files from the CD onto the hard drive
    ```
    cp –r /mnt/cdrom/director/server/linux/i386 /tmp/director
    ```

4. Unmount the CDROM (and optionally eject it)
    ```
    umount /mnt/cdrom
    eject
    ```

5. Edit the install script
    ```
    vi /tmp/director/dirinstall
    ```


Select which components to install by changing the 0 to a 1. Note that if you want to launch the MPA or ServeRAID Manager tasks against IBM Director Agents, or receive in-band hardware Events from the Management Server itself, the ManagementProcessorAssistant and ServeRAIDManager components must be installed. Also note that the ActivePCIManager is not supported on Red Hat Enterprise Linux 3.0 ES.

6. Install the IBM Director Server
    ```
    /tmp/director/dirinstall
    ```

7. Create the file /etc/TWGserver/setup_env that contains the following line
    ```
    export CLASSPATH=/usr/share/java/postgresql.jar
    ```

8. Set the setup_env file attributes to read-execute
    ```
    chmod 755 /etc/TWGserver/setup_env
    ```

9. Create an IBM Director user account
   `useradd –G dirsuper userid`
   where `userid` is the User ID.

10. Specify the account password
    `passwd userid`
    where `userid` is the user specified above. Follow the prompts to enter and verify the password.

11. To enable encryption or change security settings
    `/opt/IBM/director/bin/cfgsecurity`

12. Configure the database for use with IBM Director
    `/opt/IBM/director/bin/cfgdb`
    Complete the PostgreSQL configuration as follows.
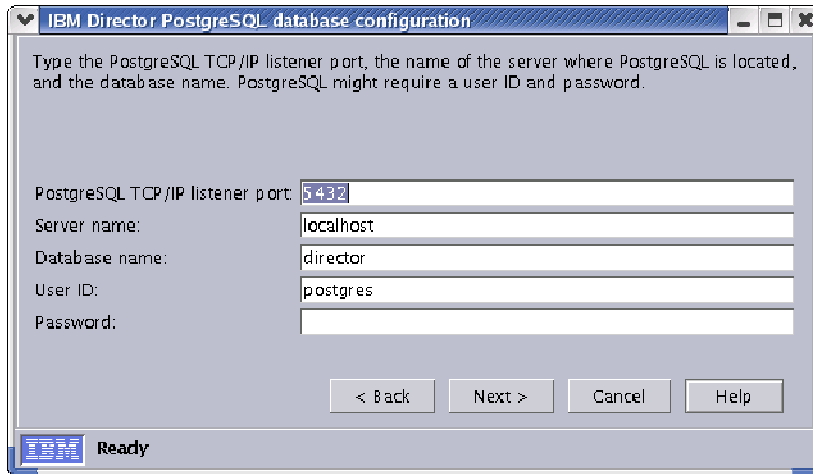
13. Start IBM Director
    `/opt/IBM/director/bin/twgstart`

14. View the status of IBM Director
    `/opt/IBM/director/bin/twgstat`
    Wait for the status to change to `Active`.

15. Start the IBM Director Console
    `/opt/IBM/director/bin/twgcon`

16. Login to IBM Director

If running the IBM Director Console on the Management Server, enter `localhost` for the IBM Director Server name. Enter the User ID and Password created in Step 9 above.

Installing Server Plus Pack

The Server Plus Pack tools are comprised of 3 components – Console, Server, and Agent. All three components are installed during the installation of the IBM Director Server (see Step 5 in the Installing the IBM Director Server section above). However, Rack Manager must be "enabled" using the files on the Server Plus Pack CD. This section will take you through "enabling" Rack Manager on the Management Server.

1. Mount the Server Plus Pack CDROM
    ```
    mount –t iso9660 –o map=off /dev/cdrom /mnt/cdrom
    ```
    This mount command is required to preserve the mixed-case file names used by the IBM Director installation script.

2. Copy the installation files from the CD onto the hard drive
    ```
    cp –r /mnt/cdrom/rackmgr/server/linux/i386 /tmp/rackmgr
    ```

3. Unmount the CDROM (and optionally eject it)
    ```
    umount /mnt/cdrom
    eject
    ```

4. If the IBM Director Console is running, close it

5. Stop the IBM Director Server
    ```
    /opt/IBM/director/bin/twgstop
    ```

6. Ensure the IBM Director Server is stopped
    ```
    /opt/IBM/director/bin/twgstat
    ```

7. Install Rack Manager
    ```
    /tmp/rackmanager/install
    ```

8. Start the IBM Director Server
    ```
    /opt/IBM/director/bin/twgstart
    ```

9. Ensure the IBM Director Server is started
    ```
    /opt/IBM/Director/bin/twgstat
    ```

10. Start the IBM Director Console
    ```
    /opt/IBM/director/bin/twgcon
    ```

Installing Software Distribution Premium Edition

IBM Director ships with a version of Software Distribution that is limited to installing system software provided by IBM. This functionality can be extended by using Software Distribution Premium Edition. This section will take you through installing Software Distribution Premium Edition on your Management Server.

1. Mount the Software Distribution Premium Edition CDROM
    ```
    mount –t iso9660 –o map=off /dev/cdrom /mnt/cdrom
    ```
    This mount command is required to preserve the mixed-case file names used by the IBM Director installation script.

2. Copy the installation files from the CD onto the hard drive
    ```
    cp –r /mnt/cdrom/swdist/server/linux/i386 /tmp/swdist
    ```

3. Unmount the CDROM (and optionally eject it)
    ```
    umount /mnt/cdrom
    eject
    ```

4. If the IBM Director Console is running, close it

5. Stop the IBM Director Server
    `/opt/IBM/director/bin/twgstop`

6. Ensure the IBM Director Server is stopped
    `/opt/IBM/director/bin/twgstat`

7. Install Software Distribution Premium Edition
    `/tmp/swdist/install`

8. Start the IBM Director Server
    `/opt/IBM/director/bin/twgstart`

9. Ensure the IBM Director Server is started
    `/opt/IBM/Director/bin/twgstat`

10. Start the IBM Director Console
    `/opt/IBM/director/bin/twgcon`

Installing Remote Deployment Manager

Remote Deployment Manager adds to IBM Director the ability to deploy operating systems, BIOS updates, and CMOS configurations, in addition to performing system disposal tasks. This section will take you through installing RDM on your Management Server.

1. Mount the Remote Deployment Manager CDROM
    `mount -t iso9660 -o map=off /dev/cdrom /mnt/cdrom`
    This mount command is required to preserve the mixed-case file names used by the RDM installation script.

2. Copy the installation files from the CD onto the hard drive
    `cp -r /mnt/cdrom/linux /tmp/rdm`

3. Unmount the CDROM (and optionally eject it)
    `umount /mnt/cdrom`
    `eject`

4. If the IBM Director Console is running, close it

5. Install RDM
    `/tmp/rdm/installRDMServer`
    This will install the Console and D-Server as well as the Server

6. When prompted for the configuration information:
    `IP address of management server` = Type the IP address of the Management Server
    `HTTP port on management server` = Press ENTER to accept the default
    `MTFTP start port` = Press ENTER to accept the default
    `MTFTP port range` = Press ENTER to accept the default
    `Multicast start address` = Press ENTER to accept the default
    `Multicast port` = Press ENTER to accept the default
    `Multicast pool size` = Press ENTER to accept the default
    `Enable Multicast` = Press ENTER to accept the default
    `Hostname` = Press ENTER to accept the default
    `Is DHCP daemon enabled on this machine` = Type `yes` or `no`

7. Review the settings, then type `yes`

8. Once RDM has finished installing and the services have restarted, restart the Management Server before using RDM

Applying Update 2

RDM Update 2 includes updates to RDM v4.20 including incremental fixes and additional functionality. This section will take you through installing RDM Update 2 on your Management Server.

1. If the IBM Director Console is running, close it

2. Download the RDM patch from the web
    http://www-307.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-58896 and save it into `/tmp`.

3. Untar the file
    ```
    mkdir /tmp/rdmu2
    tar -xvf /tmp/rdmu2/rdm420u2rpm_10212.tar -C /tmp/rdmu2
    ```

4. Install the patch using the command
    ```
    /tmp/rdmu2/updateRDMServer
    ```

5. Once the patch has been installed, the services will be restarted

Installing a Management Console

Installing IBM Director Console

The IBM Director Server may be accessed by a remote IBM Director Console. It is important to note that the same optional Console tools must be installed on remote Management Console as were installed on the Management Server. This section will take you through installing an IBM Director Console on your Management Console.

1. Mount the IBM Director CDROM
   ```
   mount –t iso9660 –o map=off /dev/cdrom /mnt/cdrom
   ```
   This mount command is required to preserve the mixed-case file names used by the IBM Director installation script.

2. Copy the installation files from the CD onto the hard drive
   ```
   cp –r /mnt/cdrom/director/console/linux/i386 /tmp/director
   ```

3. Unmount the CDROM (and optionally eject it)
   ```
   umount /mnt/cdrom
   eject
   ```

4. Edit the install script
   ```
   vi /tmp/director/dirinstall
   ```


Select which components to install by changing the `0` to a `1`. Note that you must select the same components that you installed on the Management Server.

5. Install the IBM Director Console
   ```
   /tmp/director/dirinstall
   ```

6. Start the IBM Director Console
   ```
   /opt/IBM/director/bin/twgcon
   ```

Installing Remote Deployment Manager

You must also install the Remote Deployment Manager Console on your Management Console. This section will take you through installing the RDM Console on your Management Console.

1. Mount the Remote Deployment Manager CDROM
   `mount -t iso9660 -o map=off /dev/cdrom /mnt/cdrom`
   This mount command is required to preserve the mixed-case file names used by the RDM installation script.

2. Copy the installation files from the CD onto the hard drive
   `cp -r /mnt/cdrom/linux /tmp/rdm`

3. Unmount the CDROM (and optionally eject it)
   `umount /mnt/cdrom`
   `eject`

4. If the IBM Director Console is running, close it

5. Install RDM
   `/tmp/rdm/installRDMRemoteConsole`
   This will install the RDM Console only.

6. Once RDM has finished installing, the IBM Director Console can be restarted

Applying Update 2

RDM Update 2 must also be installed on your remote Management Console. This section will take you through installing RDM Update 2 on your Management Console.

1. If the IBM Director Console is running, close it

2. Download the RDM patch from the web
   http://www-307.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-58896 and save it into `/tmp`.

3. Untar the file
   `mkdir /tmp/rdmu2`
   `tar -xvf /tmp/rdm420u2rpm_10212.tar -C /tmp/rdmu2`

4. Install the patch using the command
   `/tmp/rdmu2/updateRDMRemoteConsole`

5. Once the patch has been installed, the IBM Director Console can be restarted

Installing a Management Agent

Installing IBM Director Agent

The IBM Director Agent is installed on each of your xSeries servers, allowing them to be managed by the Management Server. This section will take you through installing an IBM Director Agent on your Management Agent system.

1. Install the Service Processor driver
   Depending on the xSeries Machine-Type, you may need to install one or more Service Processor drivers to allow IBM Director to receive hardware alerts in-band. If your system has a Remote Supervisor Adapter, RSA-II, or RSA-II SlimLine, you will first need to install the applicable driver. Refer to http://www.ibm.com/support/ to find the RSA driver for your server. If your system does not have a RSA, you may need to install the LM78 driver. This driver enables PFA alerting to IBM Director. If your system has neither an IPMI BMC nor a RSA, you need to install the SMBus driver. This driver ensures the System Health Task works correctly. Please refer to the IBM Director Release Notes ftp://ftp.software.ibm.com/pc/pccbbs/pc_servers/dir4.21_docs_relnotes.pdf to determine if the either the LM78 or the SMBus driver is applicable for your system.

2. Mount the IBM Director CDROM
   ```
   mount –t iso9660 –o map=off /dev/cdrom /mnt/cdrom
   ```
   This mount command is required to preserve the mixed-case file names used by the IBM Director installation script.

3. Copy the installation files from the CD onto the hard drive
   ```
   cp –r /mnt/cdrom/director/agent/linux/i386 /tmp/director
   ```

4. Unmount the CDROM (and optionally eject it)
   ```
   umount /mnt/cdrom
   eject
   ```

5. Edit the install script
   ```
   vi /tmp/director/dirinstall
   ```


Select which components to install by changing the 0 to a 1. Note that if your systems has a ServeRAID Adapter, and you want to send in-band hardware Events to the Management

Server, the `ServeRAIDManager` component must be installed. Additionally, if you want other hardware Events, including PFA events, to be sent in-band to the Management Server, the `ManagementProcessorAssistant` component must be installed.

6. Install the IBM Director Agent
    ```
    /tmp/director/dirinstall
    ```

7. To enable encryption or change security settings
    ```
    /opt/IBM/director/bin/cfgsecurity
    ```

8. Start the IBM Director Agent
    ```
    /opt/IBM/director/bin/twgstart
    ```

9. View the status of IBM Director
    ```
    /opt/IBM/director/bin/twgstat
    ```
    Wait for the status to change to `Active`.

Installing Server Plus Pack

The Agent components of the Server Plus Pack tools must be installed on each Management Agent. Each of the tools is installed individually. This section will take you through installing the Server Plus Pack tools on the Management Agent.

1. Mount the Server Plus Pack CDROM
    ```
    mount -t iso9660 -o map=off /dev/cdrom /mnt/cdrom
    ```

2. Copy the installation files from the CD onto the hard drive
    ```
    cp -r /mnt/cdrom/capmgt/agent/linux/i386 /tmp/capmgt
    cp -r /mnt/cdrom/swrejuv/agent/linux/i386 /tmp/swrejuv
    cp -r /mnt/cdrom/sysavail/agent/linux/i386 /tmp/sysavail
    ```

3. Unmount the CDROM (and optionally eject it)
    ```
    umount /mnt/cdrom
    eject
    ```

4. Stop the IBM Director Agent
    ```
    /opt/IBM/director/bin/twgstop
    ```

5. Ensure the IBM Director Agent is stopped
    ```
    /opt/IBM/director/bin/twgstat
    ```

6. Install Server Plus Pack tools
    ```
    rpm -ihv /tmp/capmgt/CapMgtAgent-4.20-1.i386.rpm
    rpm -ihv /tmp/swrejuv/SwRejuvAgent-4.20-1.i386.rpm
    rpm -ihv /tmp/sysavail/SysAvailAgent-4.20-1.i386.rpm
    ```

7. Start the IBM Director Agent
    ```
    /opt/IBM/director/bin/twgstart
    ```

8. Ensure the IBM Director Agent is started
    ```
    /opt/IBM/Director/bin/twgstat
    ```

9. Request Access
    When the Management Agent is first discovered by the Management Server, it will have a padlock displayed beside it, indicating that the IBM Director Agent is secured. You will need to Request Access before you can manage it. Right-click on the newly discovered IBM Director Agent and select Request Access.
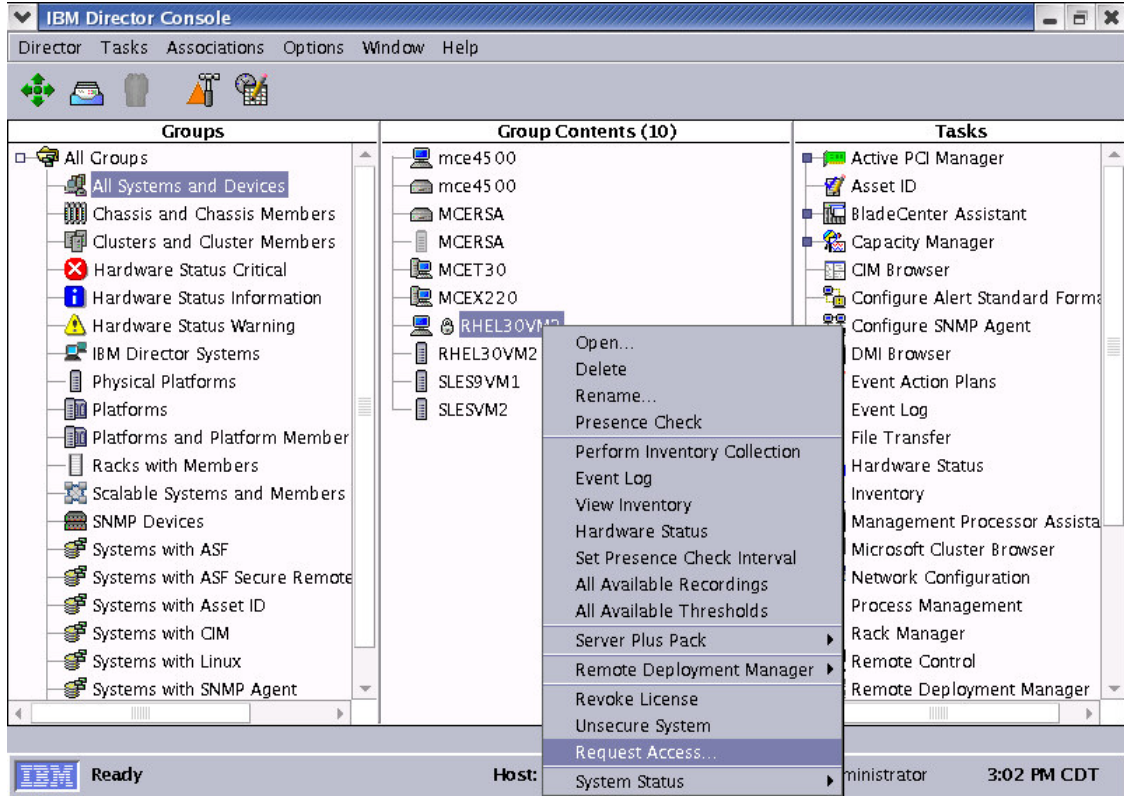
10. Enter credentials
    In the dialog box that is displayed, you must enter the `root` User ID and Password.
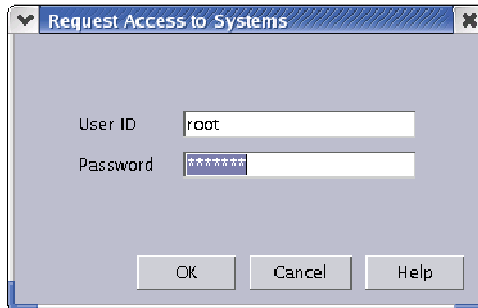
Installing a "Helper Server"

Installing FTP Server

IBM Director's Software Distribution Task can use "helper" servers to offload the workload from the Management Server. In this case, the "helper" server is simply a FTP server. This section will take you through installing and configuring a FTP server.

1. Verify the FTP server is installed
   ```
   rpm –qa | grep ftp
   ```
   Look for the following installed package.
   ```
   vsftpd-1.2.1-3E.1
   ```

2. Install the required RPM
   If the required RPM is installed (for example, you selected to install Everything), goto step 3.
   If the required RPM is not installed (for example, you installed the Package Defaults or performed a Customized install), install the RPM found on the first Red Hat CD.
   ```
   mount /dev/cdrom /mnt/cdrom
   rpm –ihv /mnt/cdrom/RedHat/RPMS/vsftpd-1.2.1-3E.1.i386.rpm
   ```

3. Set FTP to start automatically
   Check the startup configuration of FTP.
   ```
   chkconfig --list vsftpd
   ```
   If it is not set to start (i.e. for all run levels, it is set to `off`), change it to start automatically.
   ```
   chkconfig vsftpd on
   ```

4. Configure FTP
   The FPT Server stores configuration information in the file `/etc/vsftpd/vsftpd.conf`. When FTP is installed, it creates a default `/etc/vsftpd/vsftpd.conf` file that can be used as a template. The default works for most environments, but you may want to edit it to provide more security.

5. Start FTP
   ```
   service vsftpd start
   ```
   Verify the service is running.
   ```
   service vsftpd status
   ```

6. Create an FTP user account
   ```
   useradd userid
   ```
   where `userid` is the User ID. You should use the same account as you created for the IBM Director user above.

7. Specify the account password
   ```
   passwd userid
   ```
   where `userid` is the user specified above. Follow the prompt to enter and verify the password.

8. Configure IBM Director to use the FTP Server as a "helper" server
   In the IBM Director Console, select Options → Server preferences. Select the File Distribution Servers tab. In the Share Names section of the window, select Add. Enter the required information in the window.
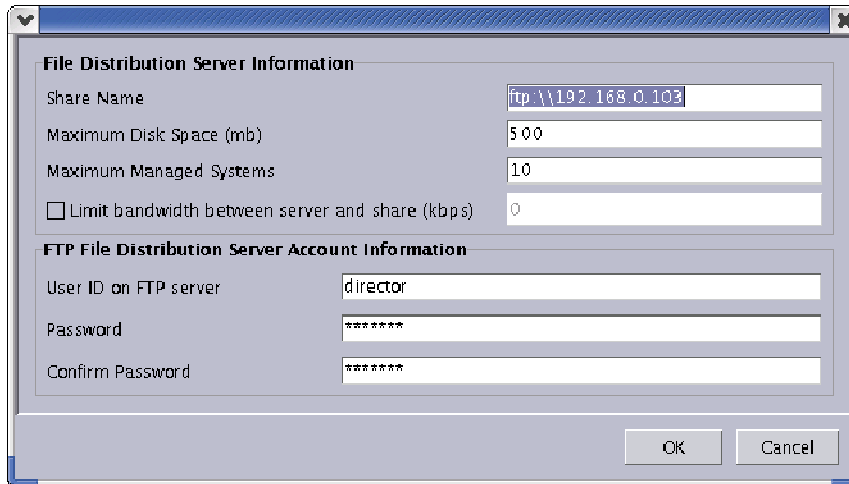
Note that by default the files will be stored in the user's home directory (in this example `/home/director`).

9. Test the connection to the FTP Server
In the IBM Director Console, right-click on the Software Distribution Task, and select File Distribution Servers Manager. This will display the File Distribution Servers Manager window. Right-click on the desired File Distribution Server, and then select Test Access to Select File Distribution Server(s). Verify that Server can access is `Accessible`.
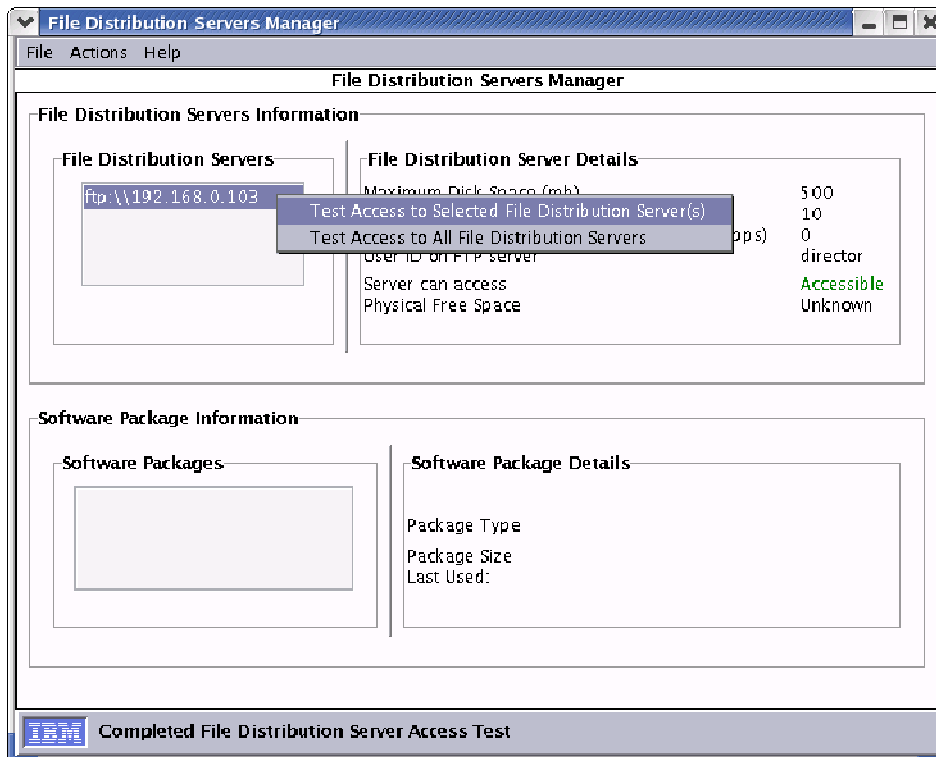
10. Configure Agents or Groups to use the File Distribution Server
Right-click on the desired IBM Director Agent or Group and select Distribution Preferences. The Distribution Preferences window will open. In the Shares section of the window, select Add.
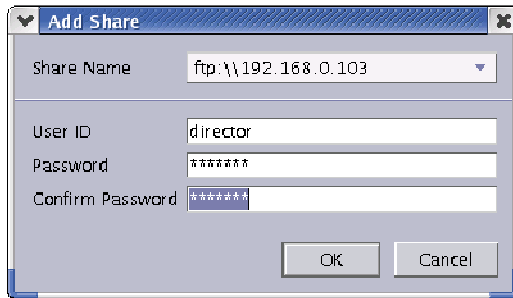
Select the Share Name you created in Step 8 above. Enter the User ID and Password created in Steps 6 and 7 above. Ensure the Use File Distribution Server Shares radio-button is selected. Also ensure the Restrict share selection to list check-box is selected.
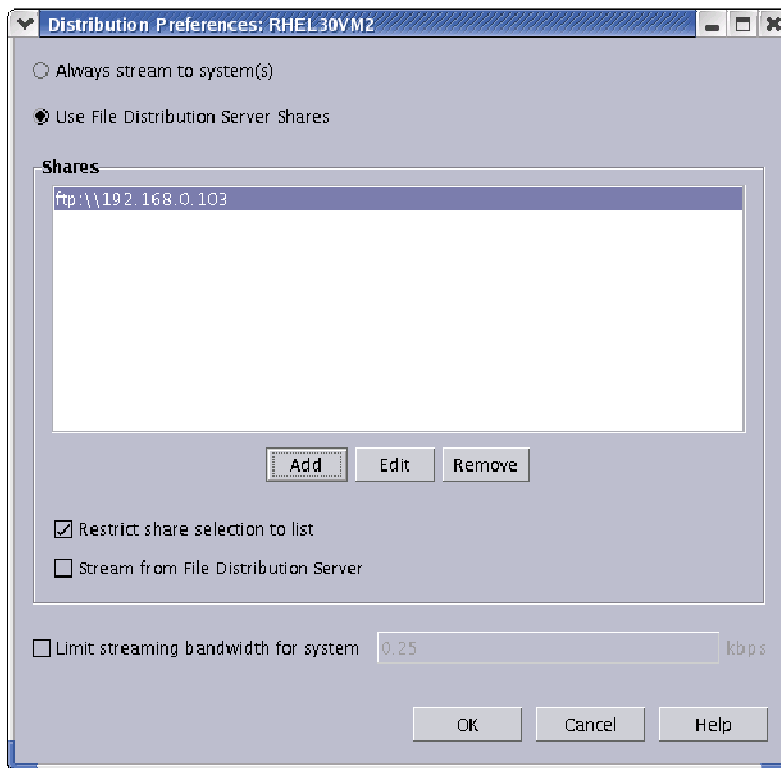

11. Distribute a Software Distribution Package
    The first time a Software Distribution Package is distributed to an IBM Director Agent or Group using the File Distribution Server, the package will be first copied to the File Distribution Server, and then from there to the IBM Director Agent(s).
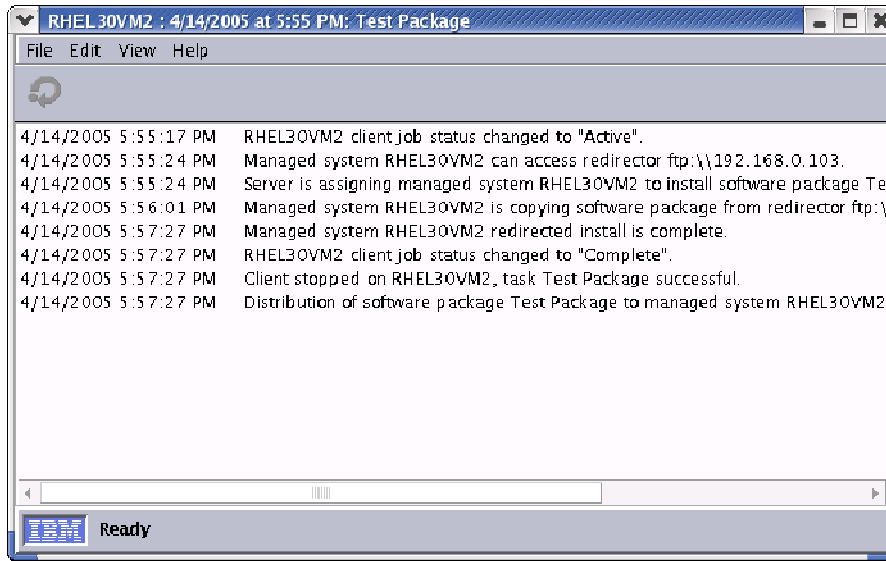
12. Verify the Package was successfully copied
    To verify the Software Distribution Package was successfully copied, launch the File
    Distribution Servers Manager again. Select the File Distribution Server you created in Step 8,
    and view the Software Packages. You may also right-click on any of the packages and
    refresh or remove them.
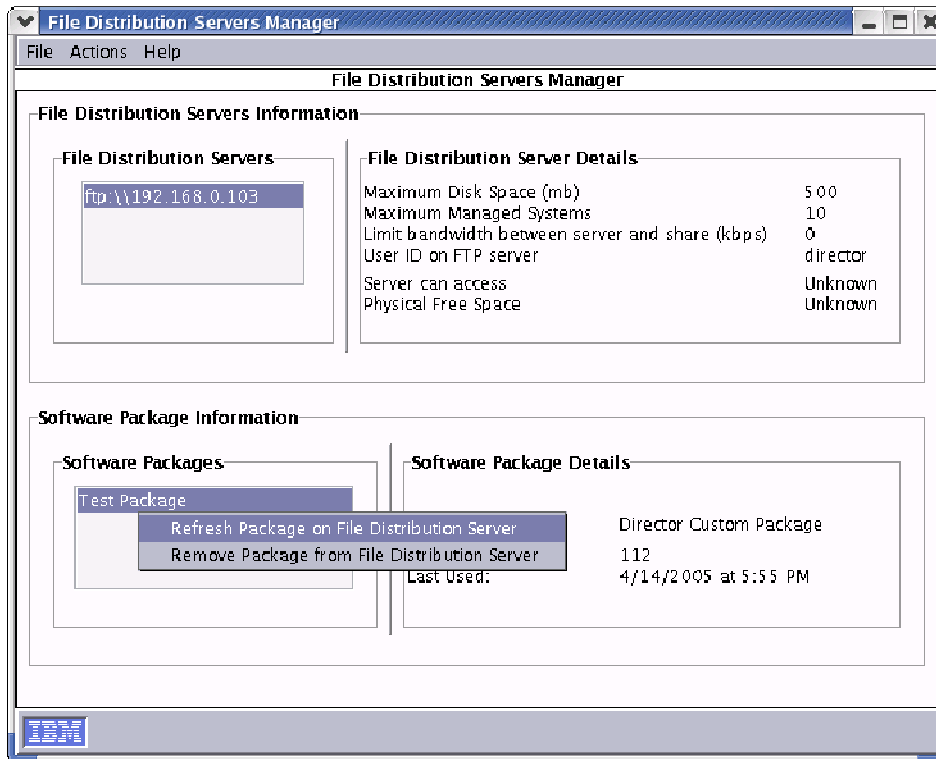
Installing Remote D-Server

Remote Deployment Manager can also use "helper" servers called Remote D-Servers to offload
some of the workload from the RDM Server. This section will take you through installing a
Remote D-Server in your network.

1. Mount the Remote Deployment Manager CDROM
   `mount –t iso9660 –o map=off /dev/cdrom /mnt/cdrom`
   This mount command is required to preserve the mixed-case file names used by the RDM installation script.

2. Copy the installation files from the CD onto the hard drive
   `cp –r /mnt/cdrom/linux /tmp/rdm`

3. Unmount the CDROM (and optionally eject it)
   `umount /mnt/cdrom`
   `eject`

4. Install the Remote D-Server
   `/tmp/rdm/installRDMRemoteDServer`

5. When prompted for the configuration information:
   `IP address of management server` = Type the IP address of the Management Server
   `HTTP port on management server` = Press ENTER to accept the default
   `IP Address of this remote D-Server` = Type the IP address of this system
   `HTTP port on this remote D-Server` = Press ENTER to accept the default
   `MTFTP start port` = Press ENTER to accept the default
   `MTFTP port range` = Press ENTER to accept the default
   `Multicast start address` = Press ENTER to accept the default
   `Multicast port` = Press ENTER to accept the default
   `Multicast pool size` = Press ENTER to accept the default
   `Enable Multicast` = Press ENTER to accept the default
   `Hostname` = Press ENTER to accept the default
   `Is DHCP daemon enabled on this machine` = Type `yes` or `no`

6. Review the settings, and then type `yes`.

Applying Update 2

RDM Update 2 must also be installed on your "helper" server. This section will take you through installing RDM Update 2 on your Remote D-Server.

1. Download the RDM patch from the web
   http://www-307.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-58896 and save it into `/tmp`.

2. Untar the file
   `mkdir /tmp/rdmu2`
   `tar –xvf /tmp/rdmu2/rdm420u2rpm_10212.tar –C /tmp/rdmu2`

3. Install the patch using the command
   `/tmp/rdmu2/updateRDMRemoteDServer`

4. Once the patch has been installed, the services will be restarted

5. Enable the Remote D-Server
   On the IBM Director Console, select Tasks → Remote Deployment Manager → Options → Change D-Server Options. Highlight the Remote D-Server, select the Connections tab, and mark the D-Server Enabled check-box.
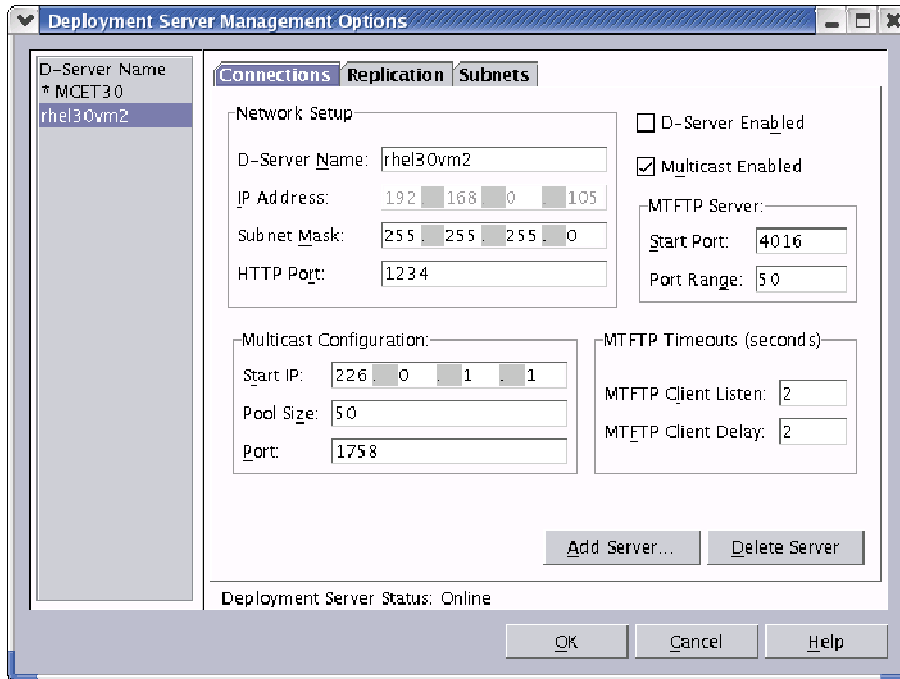
Appendix

References

- IBM Director v4.21 Download (including LM78 and SMBUS drivers)
  http://www-307.ibm.com/pc/support/site.wss/MIGR-58219.html

- IBM Director v4.20 Systems Management Guide
  http://www-307.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-50461

- IBM Director v4.20 Installation and Configuration Guide
  http://www-307.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-50460

- IBM Director v4.21 Compatibility Guide
  http://www-307.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-58649

- IBM Director v4.21 Release Notes
  ftp://ftp.software.ibm.com/pc/pccbbs/pc_servers/dir4.21_docs_relnotes.pdf

- RDM Documentation
  http://www-307.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-56662

- RDM Whitepapers (including installing Linux)
  http://www-307.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-53487

- RDM Update 2
  http://www-307.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-58896