

RedHat Configuration as a UniVerse Server

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1 Introduction

1.1 Things you will need

1. Intel based server
2. RedHat Enterprise
3. RedHat License
4. RedHat email with license details
5. UniVerse or UniData software and license
6. Digi Terminal Server
7. Tapes matching the tape drive

2 Register RedHat

It seems that by purchasing the subscription through Avnet, we did not receive a 20 digit Installation number. Denise could not find a entitlement card with the system. She did receive three e mail messages from Red Hat. One has "New Subscription Activation of Red Hat Enterprise Linux" in the subject. In the body of the message was a Contract Number and an Account Number.

Go to the RedHat site and create a login for the customer using their e mail address and a password they create. <http://www.redhat.com/start/> is the URL. You will need to click on Login / Create a Red Hat login. The system will send an e mail message to confirm the login information before the account will be active.

Once the login is created, call Red Hat support (888-467-3342) and ask for customer service. They will submit a request to associated the account number with your login id.

On Friday March 7th, RedHat did get the information transfered from one account to another. I am not sure of all the details. The initial e mail the customer received contained RedHat account number 1039952. Then a second message was sent with account number 1045126. This is the account number associated with the acctes login at this time.

Use "**rhn_register --nox**" to access the RedHat Network to register the system. The program will walk you through the registration process using keyboard and ascii display to step through the RedHat Registration. It will ask for the user id and password for the account you created above.

I was now able to use the above commands and get connected to the RedHat network and register the product. The final message from the process reads as follows:

Please review the subscription details below:

Software channel subscriptions:

This system will receive updates from the following Red Hat Network software channels: rhel-i386-server-5 Warning: If an installed product on this system is not listed above, you will not receive updates or support for that product. If you would like to receive updates for that product, please visit <http://rhn.redhat.com/> and subscribe this system to the appropriate software channels to get updates for that product

RHN service level: Depending on what RHN modules are associated with a system, you'll enjoy different benefits of Red Hat Network. The following are the RHN modules associated with this system: Update module: per-system updates, email errata notifications, errata information

The next screen reads:

You may now run 'yum update' from this system's command line to get the latest software updates from Red Hat Network. You will need to run this periodically to get the latest updates. Alternatively, you may configure this system for automatic software updates (also known as 'auto errata update') via the Red Hat Network web interface. (Instructions for this are in chapter 6 of the RHN Reference Guide, available from the 'Help' button in the main Red Hat Network web interface.)

2.1 Update RedHat and install packages

Did a "yum update" to update all installed software.

3 RedHat Setup

3.1 Package Installation

The following packages are installed for various reasons to enhance the default RedHat environment. Following is a list of the purpose / software requiring some of these packages.

1. uniVerse sometimes requires libstdc++
2. Digi servers require the gnu c and c++ compilers
3. Digi required kernel-devel, ncurses-devel and rpm-build
4. RFW user generation and password setting package requires expect
5. Some clients require telnet which is no longer a default install.

3.1.1 compat-libstdc++

```
"yum install compat-libstdc++-33.i386"
```

To install the compatibility libraries for uniVerse

```
[root@hhhshims ~]# yum install compat-libstdc++-33.i386
Loading "installonlyn" plugin
Loading "rhnpplugin" plugin
Setting up Install Process
Setting up repositories
rhel-i386-server-5      100\% |=====| 1.4 kB    00:00
Reading repository metadata in from local files
Parsing package install arguments
Resolving Dependencies
--> Populating transaction set with selected packages. Please wait.
---> Downloading header for compat-libstdc++-33 to pack into transaction set.
compat-libstdc++-33-3.2.3 100\% |=====| 7.4 kB    00:00
---> Package compat-libstdc++-33.i386 0:3.2.3-61 set to be updated
--> Running transaction check
```

Dependencies Resolved

Package	Arch	Version	Repository	Size
---------	------	---------	------------	------

```
Installing:
  compat-libstdc++-33      i386      3.2.3-61      rhel-i386-server-5  232 k
```

Transaction Summary

```
Install      1 Package(s)
Update       0 Package(s)
Remove       0 Package(s)
```

Total download size: 232 k

Is this ok [y/N]: y

Downloading Packages:

(1/1): compat-libstdc++-3 100\% |=====| 232 kB 00:01

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

Installing: compat-libstdc++-33 ##### [1/1]

Installed: compat-libstdc++-33.i386 0:3.2.3-61

Complete!

[root@hhhshims ~]#

3.1.2 Search for and install telnet-server

[root@hhhshims ~]# yum search telnet.server

Loading "installonlyn" plugin

Loading "rhnpplugin" plugin

Setting up repositories

rhel-i386-server-5 100\% |=====| 1.4 kB 00:00

Reading repository metadata in from local files

No Matches found

[root@hhhshims ~]# yum search telnet-server

Loading "installonlyn" plugin

Loading "rhnpplugin" plugin

Setting up repositories

rhel-i386-server-5 100\% |=====| 1.4 kB 00:00

Reading repository metadata in from local files

```
telnet-server.i386      1:0.17-38.el5      rhel-i386-server
Matched from:
```


telnet-server

Telnet is a popular protocol for logging into remote systems over the Internet. The telnet-server package includes a telnet daemon that supports remote logins into the host machine. The telnet daemon is disabled by default. You may enable the telnet daemon by editing /etc/xinetd.d/telnet.

```
telnet-server.i386                1:0.17-39.el5                rhel-i386-server
```

Matched from:

telnet-server

Telnet is a popular protocol for logging into remote systems over the Internet. The telnet-server package includes a telnet daemon that supports remote logins into the host machine. The telnet daemon is disabled by default. You may enable the telnet daemon by editing /etc/xinetd.d/telnet.

```
[root@hhhshims ~]# rpm -qa |grep telnet
```

```
telnet-0.17-39.el5
```

```
[root@hhhshims ~]# yum install telnet-server.i386
```

```
Loading "installonlyn" plugin
```

```
Loading "rhnpplugin" plugin
```

```
Setting up Install Process
```

```
Setting up repositories
```

```
rhel-i386-server-5      100\% |=====| 1.4 kB    00:00
```

```
Reading repository metadata in from local files
```

```
Parsing package install arguments
```

```
Resolving Dependencies
```

```
--> Populating transaction set with selected packages. Please wait.
```

```
---> Downloading header for telnet-server to pack into transaction set.
```

```
telnet-server-0.17-39.el5 100\% |=====| 8.5 kB    00:00
```

```
---> Package telnet-server.i386 1:0.17-39.el5 set to be updated
```

```
--> Running transaction check
```

```
--> Processing Dependency: xinetd for package: telnet-server
```

```
--> Restarting Dependency Resolution with new changes.
```

```
--> Populating transaction set with selected packages. Please wait.
```

```
---> Downloading header for xinetd to pack into transaction set.
```

```
xinetd-2.3.14-10.el5.i386 100\% |=====| 7.7 kB    00:00
```

```
---> Package xinetd.i386 2:2.3.14-10.el5 set to be updated
```

```
--> Running transaction check
```

```
Dependencies Resolved
```

Package	Arch	Version	Repository	Size
Installing:				
telnet-server	i386	1:0.17-39.el5	rhel-i386-server-5	35 k
Installing for dependencies:				
xinetd	i386	2:2.3.14-10.el5	rhel-i386-server-5	124 k

Transaction Summary

```

Install      2 Package(s)
Update       0 Package(s)
Remove       0 Package(s)

```

Total download size: 159 k

Is this ok [y/N]: y

Downloading Packages:

```

(1/2): telnet-server-0.17 100\% |=====| 35 kB    00:00
(2/2): xinetd-2.3.14-10.e 100\% |=====| 124 kB   00:01

```

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

```

Installing: xinetd                ##### [1/2]
Installing: telnet-server         ##### [2/2]

```

Installed: telnet-server.i386 1:0.17-39.el5

Dependency Installed: xinetd.i386 2:2.3.14-10.el5

Complete!

[root@hhhshims ~]#

3.1.3 tcp_wrappers

tcp\wrappers is already installed if we want to use it.

```
[root@hhhshims ~]# rpm -qa |grep tcp\wrappers
```

```
tcp\wrappers-7.6-40.4.el5
```

```
[root@hhhshims ~]#
```

3.1.4 Install expect

Note: Expect is a package used in the assigning of user passwords inside a script.

```
[root@hhhshims bin]# yum install expect.i386
```

```

Loading "installonlyn" plugin
Loading "rhnplugin" plugin
Setting up Install Process
Setting up repositories
rhel-i386-server-5      100\% |=====| 1.4 kB    00:00
Reading repository metadata in from local files
Parsing package install arguments
Resolving Dependencies
--> Populating transaction set with selected packages. Please wait.
---> Downloading header for expect to pack into transaction set.
expect-5.43.0-5.1.i386.rp 100\% |=====| 15 kB    00:00
---> Package expect.i386 0:5.43.0-5.1 set to be updated
--> Running transaction check

Dependencies Resolved

Package                Arch      Version      Repository      Size
-----
Installing:
  expect                i386      5.43.0-5.1   rhel-i386-server-5 158 k

Transaction Summary

Install      1 Package(s)
Update      0 Package(s)
Remove      0 Package(s)

Total download size: 158 k
Is this ok [y/N]: y
Downloading Packages:
(1/1): expect-5.43.0-5.1. 100\% |=====| 158 kB    00:01
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing: expect                ##### [1/1]

Installed: expect.i386 0:5.43.0-5.1
Complete!

```

3.1.5 Install gcc-c++

```

[root@hvhshims dgnc-1.3]# yum install gcc-c++.i386
Loading "installonlyn" plugin

```

```
Loading "rhnplugin" plugin
Setting up Install Process
Setting up repositories
rhel-i386-server-5          100\% |=====| 1.4 kB    00:00
Reading repository metadata in from local files
Parsing package install arguments
Resolving Dependencies
--> Populating transaction set with selected packages. Please wait.
---> Downloading header for gcc-c++ to pack into transaction set.
gcc-c++-4.1.2-14.el5.i386 100\% |=====| 57 kB    00:00
---> Package gcc-c++.i386 0:4.1.2-14.el5 set to be updated
--> Running transaction check
--> Processing Dependency: gcc = 4.1.2-14.el5 for package: gcc-c++
--> Processing Dependency: libstdc++-devel = 4.1.2-14.el5 for package: gcc-c++
--> Restarting Dependency Resolution with new changes.
--> Populating transaction set with selected packages. Please wait.
---> Downloading header for libstdc++-devel to pack into transaction set.
libstdc++-devel-4.1.2-14. 100\% |=====| 135 kB    00:00
---> Package libstdc++-devel.i386 0:4.1.2-14.el5 set to be updated
---> Downloading header for gcc to pack into transaction set.
gcc-4.1.2-14.el5.i386.rpm 100\% |=====| 64 kB    00:00
---> Package gcc.i386 0:4.1.2-14.el5 set to be updated
--> Running transaction check
--> Processing Dependency: glibc-devel >= 2.2.90-12 for package: gcc
--> Processing Dependency: libgomp = 4.1.2-14.el5 for package: gcc
--> Processing Dependency: libgomp.so.1 for package: gcc
--> Restarting Dependency Resolution with new changes.
--> Populating transaction set with selected packages. Please wait.
---> Downloading header for glibc-devel to pack into transaction set.
glibc-devel-2.5-18.el5\_1. 100\% |=====| 109 kB    00:00
---> Package glibc-devel.i386 0:2.5-18.el5\_1.1 set to be updated
---> Downloading header for libgomp to pack into transaction set.
libgomp-4.1.2-14.el5.i386 100\% |=====| 54 kB    00:00
---> Package libgomp.i386 0:4.1.2-14.el5 set to be updated
--> Running transaction check
--> Processing Dependency: glibc-headers for package: glibc-devel
--> Processing Dependency: glibc-headers = 2.5-18.el5\_1.1
    for package: glibc-devel
--> Restarting Dependency Resolution with new changes.
--> Populating transaction set with selected packages. Please wait.
---> Downloading header for glibc-headers to pack into transaction set.
glibc-headers-2.5-18.el5\_ 100\% |=====| 142 kB    00:00
---> Package glibc-headers.i386 0:2.5-18.el5\_1.1 set to be updated
--> Running transaction check
```

Dependencies Resolved

Dependencies Resolved

Package	Arch	Version	Repository	Size
Installing:				
gcc-c++	i386	4.1.2-14.el5	rhel-i386-server-5	3.4 M
Installing for dependencies:				
gcc	i386	4.1.2-14.el5	rhel-i386-server-5	5.2 M
glibc-devel	i386	2.5-18.el5_1.1	rhel-i386-server-5	2.0 M
glibc-headers	i386	2.5-18.el5_1.1	rhel-i386-server-5	608 k
libgomp	i386	4.1.2-14.el5	rhel-i386-server-5	76 k
libstdc++-devel	i386	4.1.2-14.el5	rhel-i386-server-5	9.4 M

Transaction Summary

```

Install      6 Package(s)
Update       0 Package(s)
Remove       0 Package(s)

```

Total download size: 21 M

Is this ok [y/N]: y

Downloading Packages:

```

(1/6): libstdc++-devel-4. 100\% |=====| 9.4 MB    01:17
(2/6): gcc-4.1.2-14.el5.i 100\% |=====| 5.2 MB    00:44
(3/6): libgomp-4.1.2-14.e 100\% |=====| 76 kB     00:00
(4/6): gcc-c++-4.1.2-14.e 100\% |=====| 3.4 MB    00:30
(5/6): glibc-headers-2.5- 100\% |=====| 608 kB    00:04
(6/6): glibc-devel-2.5-18 100\% |=====| 2.0 MB    00:17

```

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

```

Installing: glibc-headers          ##### [1/6]
Installing: glibc-devel            ##### [2/6]
Installing: libgomp                ##### [3/6]
Installing: gcc                    ##### [4/6]
Installing: libstdc++-devel        ##### [5/6]
Installing: gcc-c++                ##### [6/6]

```

Installed: gcc-c++.i386 0:4.1.2-14.el5

Dependency Installed: gcc.i386 0:4.1.2-14.el5

```
glibc-devel.i386 0:2.5-18.el5\_1.1
glibc-headers.i386 0:2.5-18.el5\_1.1
libgomp.i386 0:4.1.2-14.el5 libstdc++-devel.i386 0:4.1.2-14.el5
Complete!
[root@hhhshims dgnc-1.3]# pwd
/root/driverdownloads/dgnc-1.3
```

3.1.6 Install gcc

```
[root@hhhshims dgnc-1.3]# yum install gcc.i386
Loading "installonlyn" plugin
Loading "rhnpplugin" plugin
Setting up Install Process
Setting up repositories
rhel-i386-server-5      100\% |=====| 1.4 kB    00:00
Reading repository metadata in from local files
Parsing package install arguments
Nothing to do
[root@hhhshims dgnc-1.3]#
```

3.1.7 Install rpm-build

```
[root@hhhshims dgnc-1.3]# yum install rpm-build.i386
Loading "installonlyn" plugin
Loading "rhnpplugin" plugin
Setting up Install Process
Setting up repositories
rhel-i386-server-5      100\% |=====| 1.4 kB    00:00
Reading repository metadata in from local files
Parsing package install arguments
Resolving Dependencies
--> Populating transaction set with selected packages. Please wait.
---> Downloading header for rpm-build to pack into transaction set.
rpm-build-4.4.2-47.el5.i386 100\% |=====| 18 kB    00:00
---> Package rpm-build.i386 0:4.4.2-47.el5 set to be updated
--> Running transaction check
--> Processing Dependency: elfutils for package: rpm-build
--> Restarting Dependency Resolution with new changes.
--> Populating transaction set with selected packages. Please wait.
---> Downloading header for elfutils to pack into transaction set.
elfutils-0.125-3.el5.i386 100\% |=====| 15 kB    00:00
---> Package elfutils.i386 0:0.125-3.el5 set to be updated
--> Running transaction check
--> Processing Dependency: elfutils-libs = 0.125-3.el5 for package: elfutils
```

```
--> Processing Dependency: libdw.so.1 for package: elfutils
--> Processing Dependency: libdw.so.1(ELFUTILS\_0.122) for package: elfutils
--> Restarting Dependency Resolution with new changes.
--> Populating transaction set with selected packages. Please wait.
---> Downloading header for elfutils-libs to pack into transaction set.
elfutils-libs-0.125-3.el5 100\% |=====| 17 kB 00:00
---> Package elfutils-libs.i386 0:0.125-3.el5 set to be updated
--> Running transaction check
```

Dependencies Resolved

Package	Arch	Version	Repository	Size
Installing:				
rpm-build	i386	4.4.2-47.el5	rhel-i386-server-5	549 k
Installing for dependencies:				
elfutils	i386	0.125-3.el5	rhel-i386-server-5	164 k
elfutils-libs	i386	0.125-3.el5	rhel-i386-server-5	105 k

Transaction Summary

```
Install      3 Package(s)
Update       0 Package(s)
Remove       0 Package(s)
```

Total download size: 818 k

Is this ok [y/N]: y

Downloading Packages:

```
(1/3): elfutils-0.125-3.e 100\% |=====| 164 kB 00:01
(2/3): rpm-build-4.4.2-47 100\% |=====| 549 kB 00:04
(3/3): elfutils-libs-0.12 100\% |=====| 105 kB 00:00
```

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

```
Installing: elfutils-libs          ##### [1/3]
Installing: elfutils               ##### [2/3]
Installing: rpm-build              ##### [3/3]
```

Installed: rpm-build.i386 0:4.4.2-47.el5

Dependency Installed: elfutils.i386 0:0.125-3.el5 elfutils-libs.i386 0:0.125-3.el5

Complete!

[root@hhhshims dgnc-1.3]#

3.1.8 Install kernel-devel

```
[root@hhhshims driverdownloads]# yum install kernel-devel-i686
Loading "installonlyn" plugin
Loading "rhnpplugin" plugin
Setting up Install Process
Setting up repositories
rhel-i386-server-5      100\% |=====| 1.4 kB    00:00
Reading repository metadata in from local files
Parsing package install arguments
Resolving Dependencies
--> Populating transaction set with selected packages. Please wait.
---> Downloading header for kernel-devel to pack into transaction set.
kernel-devel-2.6.18-53.1. 100\% |=====| 746 kB    00:01
---> Package kernel-devel.i686 0:2.6.18-53.1.4.el5 set to be installed
--> Running transaction check
```

Dependencies Resolved

Package	Arch	Version	Repository	Size
Installing:				
kernel-devel	i686	2.6.18-53.1.4.el5	rhel-i386-server-5	4.7 M

Transaction Summary

Install	1 Package(s)
Update	0 Package(s)
Remove	0 Package(s)

Total download size: 4.7 M

Is this ok [y/N]: y

Downloading Packages:

(1/1): kernel-devel-2.6.1 100\% |=====| 4.7 MB 00:37

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

Installing: kernel-devel ##### [1/1]

Installed: kernel-devel.i686 0:2.6.18-53.1.4.el5

Complete!

[root@hhhshims driverdownloads]#

3.1.9 Install ncurses-devel

```
[root@hhhshims driverdownloads]# yum install ncurses-devel.i386
Loading "installonlyn" plugin
Loading "rhnpplugin" plugin
Setting up Install Process
Setting up repositories
rhel-i386-server-5      100\% |=====| 1.4 kB    00:00
Reading repository metadata in from local files
Parsing package install arguments
Resolving Dependencies
--> Populating transaction set with selected packages. Please wait.
---> Downloading header for ncurses-devel to pack into transaction set.
ncurses-devel-5.5-24.2006 100\% |=====| 98 kB    00:00
---> Package ncurses-devel.i386 0:5.5-24.20060715 set to be updated
--> Running transaction check
```

Dependencies Resolved

Package	Arch	Version	Repository	Size
Installing:				
ncurses-devel	i386	5.5-24.20060715	rhel-i386-server-5	1.6 M

Transaction Summary

Install	1 Package(s)
Update	0 Package(s)
Remove	0 Package(s)

Total download size: 1.6 M

Is this ok [y/N]: y

Downloading Packages:

(1/1): ncurses-devel-5.5- 100\% |=====| 1.6 MB 00:12

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

Installing: ncurses-devel ##### [1/1]

Installed: ncurses-devel.i386 0:5.5-24.20060715

Complete!

[root@hhhshims driverdownloads]#

3.2 Miscellaneous Configuration

3.2.1 Link compress and uncompress to gzip and gunzip for UniVerse

UniVerse installation scripts use uncompress which is no longer a part of RedHat. The following symbolic links should solve the problem.

```
[root@hhhshims ~]# cd /bin
[root@hhhshims bin]# ls -al |grep compress
[root@hhhshims bin]# ls -al |grep zip
-rwxr-xr-x 3 root root 62136 Dec 14 2006 gunzip
-rwxr-xr-x 3 root root 62136 Dec 14 2006 gzip
[root@hhhshims bin]# ln -s gzip compress
[root@hhhshims bin]# ln -s gunzip uncompress
[root@hhhshims bin]# ls -al |grep zip
lrwxrwxrwx 1 root root 4 Jan 9 14:41 compress -> gzip
-rwxr-xr-x 3 root root 62136 Dec 14 2006 gunzip
-rwxr-xr-x 3 root root 62136 Dec 14 2006 gzip
lrwxrwxrwx 1 root root 6 Jan 9 14:41 uncompress -> gunzip
```

3.2.2 Use following gui commands for system configuration

Bob's notes: Following is system-config-lvm. I think I had to install this package.

All of these commands are GUI based and will run on the desktop on the console, using VNC or if you have Hummingbird, NetSarang X-shell and X-Manager or someother method of X-window tunneling.

```
[root@hhhshims /]# ls /usr/sbin/system-config*
/usr/sbin/system-config-authentication /usr/sbin/system-config-network-cmd
/usr/sbin/system-config-packages
/usr/sbin/system-config-lvm /usr/sbin/system-config-network-gui
/usr/sbin/system-config-printer
/usr/sbin/system-config-network /usr/sbin/system-config-network-tui
/usr/sbin/system-config-services
[root@hhhshims /]# ls /usr/bin/system-config*
/usr/bin/system-config-authentication /usr/bin/system-config-network
/usr/bin/system-config-selinux
/usr/bin/system-config-date /usr/bin/system-config-network-cmd
/usr/bin/system-config-services
/usr/bin/system-config-display /usr/bin/system-config-packages
/usr/bin/system-config-soundcard
/usr/bin/system-config-kdump /usr/bin/system-config-printer
/usr/bin/system-config-time
```

```
/usr/bin/system-config-keyboard      /usr/bin/system-config-rootpassword
      /usr/bin/system-config-users
/usr/bin/system-config-language      /usr/bin/system-config-securitylevel
/usr/bin/system-config-lvm           /usr/bin/system-config-securitylevel-tui
[root@hhhshims /]#
```

3.3 Devices

3.3.1 Digi term servers

Looking for dgnc

```
[root@hhhshims driverdownloads]# find / -print |grep dgnc-1.3-15.i386.rpm
/usr/src/redhat/RPMS/i386/dgnc-1.3-15.i386.rpm
[root@hhhshims driverdownloads]#
rpm -i /usr/src/redhat/RPMS/i386/dgnc-1.3-15.i386.rpm
Running Post Install script...
```

```
*****
* Please run "/etc/rc.d/init.d/dgnc start" to start the dgnc driver. *
*****
```

```
[root@hhhshims driverdownloads]#
```

3.3.2 Digi installation uses rpmbuild

I did:

```
941 rpmbuild --rebuild 40002369\_f.src.rpm
printed over 1000 lines and did not error
```

Add the digi port settings to the /etc/rc.d/rc.local script

```
[root@hhhshims uv]# cat /etc/rc.d/rc.local
#!/bin/sh
#
# This script will be executed *after* all the other init scripts.
# You can put your own initialization stuff in here if you don't
# want to do the full Sys V style init stuff.

touch /var/lock/subsys/local
```

```
# ttyn1a is printer lp0 in UniVerse
ditty.dgnc 9600 ixon ixoff ttyn1a

# ttyn1b is printer lp2 in UniVerse
ditty.dgnc 9600 ixon ixoff ttyn1b

# ttyn1c is printer lp3 in UniVerse
ditty.dgnc 9600 ixon ixoff ttyn1c

# ttyn1d is printer lp4 in UniVerse
ditty.dgnc 9600 ixon ixoff ttyn1d

# ttyn1g is reserved for the Desqtop modem
ditty.dgnc 9600 ixon ixoff ttyn1g

# ttyn1h is reserved for the ASCII terminal on the
# warehouse counter
ditty.dgnc 9600 ixon ixoff ttyn1h
[root@hhhshims uv]#
```

Add the mgetty to the /etc/inittab

<http://www.digi.com/support/kbase/kbaseresultdetl.jsp?id=194>
See line D000

```
[root@hhhshims etc]# cat inittab
#
# inittab          This file describes how the INIT process should set up
#                  the system in a certain run-level.
#
# Author:          Miquel van Smoorenburg, <miquels@drinkel.nl.mugnet.org>
#                  Modified for RHS Linux by Marc Ewing and Donnie Barnes
#

# Default runlevel. The runlevels used by RHS are:
#  0 - halt (Do NOT set initdefault to this)
#  1 - Single user mode
#  2 - Multiuser, without NFS (The same as 3, if you do not have networking)
#  3 - Full multiuser mode
#  4 - unused
#  5 - X11
#  6 - reboot (Do NOT set initdefault to this)
#
id:5:initdefault:
```

```
# System initialization.
si::sysinit:/etc/rc.d/rc.sysinit

10:0:wait:/etc/rc.d/rc 0
11:1:wait:/etc/rc.d/rc 1
12:2:wait:/etc/rc.d/rc 2
13:3:wait:/etc/rc.d/rc 3
14:4:wait:/etc/rc.d/rc 4
15:5:wait:/etc/rc.d/rc 5
16:6:wait:/etc/rc.d/rc 6

# Trap CTRL-ALT-DELETE
ca::ctrlaltdel:/sbin/shutdown -t3 -r now

# When our UPS tells us power has failed, assume we have a few minutes
# of power left.  Schedule a shutdown for 2 minutes from now.
# This does, of course, assume you have powerd installed and your
# UPS connected and working correctly.
pf::powerfail:/sbin/shutdown -f -h +2 "Power Failure; System Shutting Down"

# If power was restored before the shutdown kicked in, cancel it.
pr:12345:powerokwait:/sbin/shutdown -c "Power Restored; Shutdown Cancelled"


# Run gettys in standard runlevels
1:2345:respawn:/sbin/mingetty tty1
2:2345:respawn:/sbin/mingetty tty2
3:2345:respawn:/sbin/mingetty tty3
4:2345:respawn:/sbin/mingetty tty4
5:2345:respawn:/sbin/mingetty tty5
6:2345:respawn:/sbin/mingetty tty6

# Run agetty in standard runlevels for Warehouse Counter
D000:2345:respawn:/sbin/agetty -L 9600 ttyn1h

# Run xdm in runlevel 5
x:5:respawn:/etc/X11/prefdm -nodaemon
```

3.3.3 Axxon serial boards

3.4 VNC setup for remote desktop

3.4.1 TightVNC setup 1/22/08

TightVNC setup 1/22/08

need to have xshell running and enter "vino-preferences
\&" to see the X window for preferences.

Then to get the service started, enter "service vncserver start"
01/22/08 having a problem??

```
[root@hhhshims ~]# vino-preferences\&  
[2] 6623
```

You have new mail in /var/spool/mail/rootf

```
[1] Done vino-preferences
```

```
[root@hhhshims ~]# service vncserver status
```

Xvnc is stopped

```
[root@hhhshims ~]# service vncserver start
```

Starting VNC server: no displays configured [OK]

```
[root@hhhshims ~]# service vncserver status
```

Xvnc is stopped

I am not sure why I am getting a message no displays configured. It was working prior to a reboot.

3.5 Local Logging

Add the following to the last two lines of your /etc/syslog.conf file:

```
# local logging  
local1.* /var/log/local1.log
```

Then restart the syslogd daemon. Note on Fedora Core 9 this config file has changed to rsyslog.conf and the daemon to rsyslog. I am not sure when this change will catch up to Enterprise Linux.

3.6 Backup

4 UniVerse Installation

4.1 Directory Configuration

4.1.1 Setup UniVerse Directories

```
[root@hhhshims ~]# mkdir /media/cdrom
[root@hhhshims ~]# mkdir -p /usr/ibm/uv
```

Sometimes I make a symbolic link to /usr/ibm/uv from wherever the old install directory. Thus:
ln -s /usr/ibm/uv /usr/lpp/uv on 1/10/08 I changed the ownership of /usr/ibm to uvadm

```
[root@hhhshims usr]# chown uvadm:adm ibm
[root@hhhshims usr]# ls -al|grep ibm
drwxr-xr-x  2 uvadm adm   4096 Jan 10 15:38 ibm
[root@hhhshims usr]#
```

Then I removed the uv directory

```
[root@hhhshims usr]# cd ibm
[root@hhhshims ibm]# ls uv
[root@hhhshims ibm]# rmdir uv
```

4.2 User setup

4.2.1 uvadm creation?

Need to make a uvadm user for the installation.

4.2.2 Create uvadm and uvsql users

```
[root@hhhshims /]# adduser -g adm -G wheel,users,root -m
-c "uniVerse Administrator" uvadm
[root@hhhshims /]# passwd uvadm
Changing password for user uvadm.
New UNIX password:
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
[root@hhhshims /]# adduser -g adm -G wheel,users -m
```

```
-c "uniVerse SQL Admin" uvsql
[root@hhhshims /]# passwd uvsql
Changing password for user uvsql.
New UNIX password:
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
[root@hhhshims /]#
```

4.3 Installation

4.3.1 Mounting the UniVerse cd

```
[root@hhhshims ~]# mount /dev/cdrom /media/cdrom
mount: block device /dev/cdrom is write-protected, mounting read-only
[root@hhhshims ~]#
```

4.3.2 Copy uv.load to root

```
[root@hhhshims cdrom]# cd /
[root@hhhshims /]# cpio -ivcBdum uv.load < /media/cdrom/STARTUP
uv.load
28 blocks
[root@hhhshims /]#
```

4.3.3 UniVerse installation as user uvadm.

In general this is a tricky proposition. Unless there are significant user initiatives in the area of security, we do not recommend this installation. Rather we install universe as root.

4.3.4 UniVerse installation as root

The current settings of the available options are:

```
UniVerse installer      : root
UniVerse administrator: root uid=0 gid=0
```

- | | |
|---------------------------------------|---|
| 1) UniVerse home directory: | /usr/ibm/uv
(currently: Not Installed.) |
| 2) UniVerse-UniData shared directory: | /usr/ibm/unishared
(currently: Not Installed.) |
| 3) Compile terminfo definitions: | true |
| 4) Rewind tape name | /media/cdrom |
| 5) No-rewind tape name | /media/cdrom |

6) Long File Names

ON NEWACC

Enter a field number to change, q to abort installation, or
press <Return> to begin installation of UniVerse:

C7Q7I-ZZVCZ-RFX7Z-ZQZW6-ZUZMZ-XZ07U-UZISA
C7Q7I-ZZVCZ-RFX7Z-ZQZW6-ZUZMZ-XZ07U-UZISA

File	Action	Help
Enter Authorized serial number	: 12391815	
Local User Limit	: 24	
New expiration date	: 01/01/2500	
Package list	:	
Device Licensing count	:	
Configuration Code	: C7Q7I-ZZVCZ-RFX7Z-ZQZW6-ZUZMZ-XZ07U-UZISA	
Local Authorization Code	?	
Help Region		
Enter your designated authorization code. In the case of a Floating License system, this would be the Local authorization code.		

Went to IBM site with the above configuration and got a warning that the device licensing count was less than we were entitled to???

SZMB5-7NXXQ-UTMR

SZMB5-7NXXQ-UTMR

SZMB5-7NXXQ-UTMR

UniVerse licensing is complete. Please shutdown and restart UniVerse. Use the UniVerse system administration menu to create additional UniVerse accounts.

***** Warning !!! *****

During the installation process, a default Master Key was installed. The Master key is central to all data encryption operations. IBM recommends that you change the default Master Key to a site-specific Master Key before any data encryption activity takes place. To change the Master Key, run the uvregen utility. For information about uvregen, see "Administering UniVerse".

```
[root@hhhshims /]# /etc/rc.d/init.d/uv.rc stop
usa: no spool daemon
uniVerse has been brought down.
[root@hhhshims /]# /etc/rc.d/init.d/uv.rc start
UniVerse has not been authorized! You have a trial license.
uniVerse Log Daemon started
uniVerse has been brought up.
Deadlock Daemon has been started
[root@hhhshims /]#
```

```
[root@hhhshims /]# /etc/rc.d/init.d/uv.rc stop
DeadLock Daemon shutdown
uniVerse has been brought down.
[root@hhhshims /]#
```

```
[root@hhhshims /]# cd /usr/ibm/uv
[root@hhhshims uv]# /usr/ibm/uv/bin/uvregen -A "SZMB5-7NXXQ-UTMR"
uvregen: reconfiguration complete, disk segment size is 1009896
UniVerse has been authorized.
[root@hhhshims uv]#
```

```
[root@hhhshims uv]# /etc/rc.d/init.d/uv.rc start
uniVerse Log Daemon started
uniVerse has been brought up.
Deadlock Daemon has been started
[root@hhhshims uv]#
```

4.4 Configuration of UniVerse Environment

4.4.1 UniVerse tunables default settings

```
[root@hhhshims uv]# /usr/ibm/uv/bin/smat -t
Current tunable parameter settings:
      MFILES           =    12
      T30FILE          =   200
```

```

OPENCHK      = 1
WIDEO        = 0x3dc00000
UVSPOOL      = /usr/spool/uv
UVTEMP       = /tmp
SCRMIN       = 3
SCRMAX       = 5
SCRSIZE      = 512
QDEPTH       = 16
HISTSTK      = 99
QSRUNSZ      = 2000
QSBRNCH      = 4
QSDEPTH      = 8
QSMXKEY      = 32
TXMODE       = 0
LOGBLSZ      = 512
LOGBLNUM     = 8
LOGSYCNT     = 0
LOGSYINT     = 0
TXMEM        = 32
OPTMEM       = 64
Press any key to continue...
SELBUF       = 4
ULIMIT       = 128000
FSEMNUM      = 23
GSEMNUM      = 97
PSEMNUM      = 64
FLTABSZ      = 11
GLTABSZ      = 50
RLTABSZ      = 50
RLOWNER      = 50
PAKTIME      = 300
NETTIME      = 5
QBREAK       = 1
VDIVDEF      = 1
UVSYNC       = 1
BLKMAX       = 8192
PICKNULL     = 0
SYNCALOC     = 1
MAXRLOCK     = 40
ISOMODE      = 1
PKRJUST      = 0
PROCACMD     = 0
PROCRCMD     = 0
PROCPRMT     = 0

```

Press any key to continue...

```

ALLOWNFS      = 0
CSHDISPATCH   = /bin/csh
SHDISPATCH    = /bin/sh
DOSDISPATCH   = NOT\_SUPPORTED
LAYERSEL       = 0
OCVDATE        = 0
MODFPTRS       = 1
THDR512        = 0
UDRMODE        = 0
* UDRBLKS      = 0
MAXERRLOGENT   = 100
JOINBUF        = 4095
64BIT\_FILES    = 0
TSTIMEOUT      = 60
PIOPENDEFAULT  = 0
MAXKEYSIZE     = 255
SMISDATA       = 0
EXACTNUMERIC   = 15
MALLOCTRACING  = 0
CENTURYPIVOT   = 1930
* SPINTRIES    = 0
SPINSLEEP      = 10000
CONVERT\_EURO   = 0

```

Press any key to continue...

```

SYSTEM\_EURO    = 164
TERM\_EURO      = 164
SQLNULL        = 128
UVNET\_CONNECT  = 0
ALLOWMARKS     = 0
PICKDATE       = 0
PICK\_MT        = 0
UVTSORT        = 1
PHANTOMSAMEUV  = 0
CPLOGRLS       = 0
BGINPUTTIMEOUT = 0
TXNEXTHOLD     = 1
TIMEACCURACY   = 1
TXWMFSYNCMODE  = 0
FMT\_TEXTMARK   = 0
PI\_MATCHFIELD  = 0
UVLOGSWITCH    = 0

```

4.4.2 After changing the uvconfig parameter file need to do a uvregen

```
[root@hhhshims uv]# service uv.rc stop
DeadLock Daemon shutdown
uniVerse has been brought down.
[root@hhhshims uv]# /usr/ibm/uv/bin/uvregen
uvregen: reconfiguration complete, disk segment size is 1495696
[root@hhhshims uv]# service uv.rc stop
usa: no spool daemon
uniVerse has been brought down.
[root@hhhshims uv]# service uv.rc start
uniVerse Log Daemon started
uniVerse has been brought up.
Deadlock Daemon has been started
UniVerse tunables default settings
```

4.4.3 UniVerse tunables after the regen settings

Note the use of the smat command to document the installation of the changes.

```
[root@hhhshims uv]# /usr/ibm/uv/bin/smat -t
Current tunable parameter settings:
```

```
*   MFILES           =   70
    T30FILE          =   200
    OPENCHK           =    1
    WIDEO             =  0x3dc00000
    UVSPOOL           =  /usr/spool/uv
    UVTEMP            =  /tmp
    SCRMIN            =    3
    SCRMAX            =    5
    SCRSIZE           =   512
    QDEPTH            =   16
    HISTSTK           =   99
    QSRUNSZ           =  2000
    QSBRNCH           =    4
    QSDEPTH           =    8
    QSMXKEY           =   32
    TXMODE            =    0
    LOGBLSZ           =   512
    LOGBLNUM          =    8
    LOGSYCNT          =    0
    LOGSYINT          =    0
    TXMEM             =   32
    OPTMEM            =   64
```

Press any key to continue...

```

SELBUF          = 4
ULIMIT          = 128000
FSEMNUM         = 23
GSEMNUM         = 97
PSEMNUM         = 64
FLTABSZ         = 11
* GLTABSZ        = 75
* RLTABSZ        = 75
* RLOWNER        = 300
* PAKTIME        = 30
NETTIME         = 5
QBREAK          = 1
VDIVDEF         = 1
UVSYNC          = 1
BLKMAX          = 8192
PICKNULL        = 0
SYNCALOC        = 1
* MAXRLOCK       = 74
ISOMODE         = 1
PKRJUST         = 0
PROCACMD        = 0
PROCRCMD        = 0
PROCPRMT        = 0
Press any key to continue...
ALLOWNFS        = 0
CSHDISPATCH    = /bin/csh
SHDISPATCH     = /bin/sh
DOSDISPATCH     = NOT\_SUPPORTED
LAYERSEL        = 0
OCVDATE         = 0
MODFPTRS        = 1
THDR512         = 0
UDRMODE         = 0
* UDRBLKS       = 0
MAXERRLOGENT     = 100
JOINBUF         = 4095
64BIT\_FILES     = 0
TSTIMEOUT       = 60
PIOPENDEFAULT    = 0
MAXKEYSIZE      = 255
SMISDATA        = 0
EXACTNUMERIC     = 15
MALLOCTRACING    = 0
CENTURYPIVOT     = 1930

```

```
*    SPINTRIES      =    0
    SPINSLEEP       = 10000
    CONVERT\_EURO    =    0
```

Press any key to continue...

```
    SYSTEM\_EURO     =   164
    TERM\_EURO       =   164
    SQLNULL          =   128
    UVNET\_CONNECT   =    0
    ALLOWMARKS       =    0
    PICKDATE         =    0
    PICK\_MT         =    0
    UVTSORT          =    1
    PHANTOMSAMEUV    =    0
    CPLOGRLS         =    0
    BGINPUTTIMEOUT   =    0
    TXNEXTHOLD       =    1
    TIMEACCURACY     =    1
    TXWMFSYNCMODE    =    0
    FMT\_TEXTMARK    =    0
    PI\_MATCHFIELD    =    0
    UVLOGSWITCH      =    0
```

```
[root@hhhshims uv]#
```

4.5 Spooler Configuration

4.5.1 changed sp.config again

01/21/08 changed sp.config again to use the ttyn1a-d ports instead of prn1a-d The digi support person said the the prn1a-h ports were for transparent print through an ASCII terminal to an aux port. They have specific configuration to pace the output very slowly.

```
[root@hhhshims uv]# cat sp.config
lp0 /dev/ttyn1a BAUD 9600 XOFF STARTANY
  OFF PARITY None CRMODE ONLCR TABS ON DATABITS 8
lp2 /dev/ttyn1b BAUD 9600 XOFF STARTANY
  OFF PARITY None CRMODE ONLCR TABS ON DATABITS 8
lp3 /dev/ttyn1c BAUD 9600 XOFF STARTANY
  OFF PARITY None CRMODE ONLCR DATABITS 8
lp4 /dev/ttyn1d BAUD 9600 XOFF STARTANY
  OFF PARITY None CRMODE ONLCR DATABITS 8
LP6 /dev/null BAUD 9600 DRIVER /usr/spool/uv/hazh3.drv XOFF STARTANY
  OFF PARITY None TABS ON FFDELAY 1 LFDELAY 0 DATABITS 8
LP7 /dev/null BAUD 9600 DRIVER /usr/spool/uv/eng1.drv XOFF STARTANY
  OFF PARITY None TABS ON FFDELAY 1 LFDELAY 0 DATABITS 8
```

```
LP8 /dev/null BAUD 9600 DRIVER /usr/spool/uv/hpcolor1.drv XOFF STARTANY
  OFF PARITY None TABS ON FFDELAY 1 LFDELAY 0 DATABITS 8
LP90 /dev/null BAUD 9600 DRIVER /usr/spool/uv/belt1.drv XOFF STARTANY
  OFF PARITY None TABS ON FFDELAY 1 LFDELAY 0 DATABITS 8
```

4.6 Terminal and Terminfo Configuration

4.6.1 Compiling special terminfo after go live

01/28/08 did the following. I am not entirely happy about the results.
So I have scheduled this evening at 5PM EST to redo the config.
UNIX Compile of terminfo

```
tic -v ./dbms/HHH/terminfo/vt220.ti
```

Got a bunch of errors when I did this.

Universe compile of same:

```
uvtic -v ./dbms/HHH/terminfo/vt220.ti
```

```
[root@hhhshims /]# find . -print|grep vt220.ti
./home/s7rfw/terminfo/vt220.ti.save
./dbms/HHH/terminfo/vt220.ti
./dbms/UDS/terminfo/vt220.ti
```

4.6.2 Terminfo compiles

Rerun commands at 3:31 PM MST

```
[root@hhhshims /]# tic -v ./dbms/HHH/terminfo/vt220.ti
```

NOTE: There were 50+ lines of errors similar to the following. Deleted for sake of clarity.

```
"/dbms/HHH/terminfo/vt220.ti", line 10, col 25,
  terminal 'vt220': unknown capability 'norm'
... KEY\_BACKSPACE is the same as KEY\_LEFT
[root@hhhshims /]#
```

4.6.3 Rerun uvtic commands at 3:30MST

Rerun uvtic commands at 3:30MST

```
[root@hhhshims /]# uvtic -v ./dbms/HHH/terminfo/vt220.ti
```



```
create '/usr/ibm/uv/terminfo/v/vt220'  
create '/usr/ibm/uv/terminfo/i/invision'  
[root@hhhshims /]#
```

5 Migration

5.1 rlogin configuration

5.2 terminfo

5.3 Client Accounts

5.4 Cataloged programs