

Dialogic® IP Media Server Release 2.4.0

Installing Red Hat Enterprise Linux 4.0 for the Dialogic® IP Media Server

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About this Publication

This document describes how to install and configure *Red Hat Enterprise Linux 4* for use with the Dialogic® IP Media Server Release 2.4.0. The information in this document is based on *Red Hat Enterprise Linux 4 Update 5*, which is the latest update supported by the Dialogic® IP Media Server.

Dialogic® IP Media Server Release 2.4.0

Release 2.4.0 of the Dialogic® IP Media Server is available as an integrated appliance or as licensed software that you can install. If you choose the latter option, you must properly install and configure Red Hat Enterprise Linux 4 – Update 5 on a certified hardware platform.

Although the IP Media Server is available in software form, it cannot be treated as a generic software “application.” The hardware platform and underlying Linux installation must be configured to support the IP Media Server’s real-time performance requirements. The selection of Linux packages that will be co-resident with the IP Media Server software is also required.

This document details the Linux configuration requirements. It also describes and provides references to information on how to automate a custom Linux installation that meets these requirements.

Minimum Server Hardware Requirements

The server on which you install the IP Media Server software must meet the minimum hardware requirements listed in the following table:

Item	Requirements
Processor	Two 64-bit Intel Xeon Processors running at no less than 2.8 GHz, with 800 MHz front side bus, and 2 MB L2 cache
Memory	2 GB ECC DDR-2 SDRAM
Ethernet	Dual 1000baseT Gigabit Ethernet
Disk	At least 30 GB Ultra320 SCSI 10000 RPM hard drive

The IP Media Server can be used as a dedicated telephony media server. Installing other software applications on the same physical device that is configured as the IP Media Server may adversely affect the performance of the IP Media Server.

Tested Server Hardware Platforms

The following server hardware platforms have been qualified with IP Media Server Release 2.4.0:

- ◆ Intel Server Chassis SR1450 with Intel Server Board SE7520JR2

IP Media Server Software Organization

The IP Media Server packages install themselves into a directory structure that roughly follows the guidelines specified in the [Filesystem Hierarchy Standard](#). The IP Media Server binaries and related files are installed in /opt/snowshore/ and temporary output such as log files is written to /var/snowshore/log.

Note: You cannot modify the location of these directories.

Creating an Automated Red Hat Linux Installation

Red Hat Linux installations can be automated using a *kickstart* script and server. The server, which can be accessed via multiple network protocols, exports a copy of the directories contained on the installation CD-ROMs. The *kickstart* script partitions the system, configures the network, selects and installs packages, and also provides for post-install scripting. This last feature can be used to automatically install and configure the Dialogic® IP Media Server software packages.

To create Linux installations using *kickstart* you must:

- 1 Copy the data from the **Red Hat Enterprise Linux 4 Update 5** installation CD-ROMs and make these directories available to other systems over the network.
- 2 Create a boot CD that will be used to bootstrap new systems into the *kickstart* script.
- 3 Create a *kickstart* script to control the installation and make it available to other systems over the network. “Kickstart Script Template” (page 17) contains a *kickstart* script template for IP Media Server installation. Very little editing is required in a few well-marked areas to use the script on your network.

Details on creating a kickstart server and boot CD can be found in the [Red Hat Enterprise Linux 4: Installation Guide](#). Section 2.5 of that guide describes how to prepare for a network installation. Please note that you must copy the contents of the CD-ROMs as described in that section for a kickstart installation. It is not sufficient to copy the CD-ROM ISO images to a network-accessible location.

Alphabetical List of Required Packages

The following is the inclusive list of packages required for IP Media Server Release 2.4.0 operation.

```
acl-2.2.23-5
acpid-1.0.3-2
am-utils-6.0.9-15.RHEL4
anacron-2.3-32
apmd-3.0.2-24
apr-0.9.4-24.5
apr-util-0.9.4-21
ash-0.3.8-20
aspell-0.50.5-3.fc3
aspell-en-0.51-11
at-3.1.8-78_EL4
atk-1.8.0-2
atk-devel-1.8.0-2
attr-2.4.16-3
audit-1.0.12-1.EL4
audit-libs-1.0.12-1.EL4
authconfig-4.6.10-rhel4.1
autofs-4.1.3-169
basesystem-8.0-4
bash-3.0-19.2
bc-1.06-17.1
beecrypt-3.1.0-6
bind-libs-9.2.4-2
bind-utils-9.2.4-2
binutils-2.15.92.0.2-18
bluez-bluefw-1.0-6
bluez-hcidump-1.11-1
bluez-libs-2.10-2
bluez-utils-2.10-2.1
bzip2-1.0.2-13.EL4.3
bzip2-libs-1.0.2-13.EL4.3
checkpolicy-1.17.5-1
chkconfig-1.3.13.3-2
chkfontpath-1.10.0-2
cmp-proxy-EL40_7.0.7-1
cmp-snmp-EL40_7.0.7-1
compat-libstdc++-296-2.96-132.7.2
compat-libstdc++-33-3.2.3-47.3
comps-4ES-0.20060303
coreutils-5.2.1-31.2
cpio-2.5-8.RHEL4
cpp-3.4.5-2
cracklib-2.7-29
cracklib-dicts-2.7-29
crash-4.0-2.15
crontabs-1.10-7
```

cryptsetup-0.1-4
cups-1.1.22-0.rc1.9.10
cups-libs-1.1.22-0.rc1.9.10
curl-7.12.1-8.rhel4
cyrus-sasl-2.1.19-5.EL4
cyrus-sasl-md5-2.1.19-5.EL4
cyrus-sasl-plain-2.1.19-5.EL4
db4-4.2.52-7.1
dbus-0.22-12.EL.5
dbus-glib-0.22-12.EL.5
desktop-file-utils-0.9-2
device-mapper-1.02.02-3.0.RHEL4
dhclient-3.0.1-54.EL4
dhcpv6_client-0.10-14_EL4
diffutils-2.8.1-12
diskdumputils-1.2.8-2
distcache-1.4.5-6
dmraid-1.0.0.rc8-1_RHEL4_U2
dos2unix-3.1-21
dosfstools-2.8-15
dump-0.4b39-3.EL4.2
e2fsprogs-1.35-12.3.EL4
ed-0.2-36
eject-2.0.13-11
ElectricFence-2.2.2-19
elfutils-0.97-5
elfutils-libelf-0.97-5
emacs-21.3-19.EL.1
emacs-common-21.3-19.EL.1
emacs-leim-21.3-19.EL.1
enscript-1.6.1-33.el4
ethtool-1.8-4
expat-1.95.7-4
expect-5.42.1-1
fbset-2.1-17
file-4.10-2.EL4.3
filesystem-2.3.0-1
findutils-4.1.20-7
finger-0.17-26
fontconfig-2.2.3-7
fontconfig-devel-2.2.3-7
fonts-xorg-75dpi-6.8.2-1.EL
freetype-2.1.9-1
freetype-devel-2.1.9-1
ftp-0.17-22
gawk-3.1.3-10.1
gcc-3.4.5-2
gd-2.0.28-4.4E.1
gdb-6.3.0.0-1.96
gdbm-1.8.0-24
gettext-0.14.1-13

ghostscript-7.07-33
ghostscript-fonts-5.50-13
glib-1.2.10-15
glib2-2.4.7-1
glib2-devel-2.4.7-1
glibc-2.3.4-2.19
glibc-common-2.3.4-2.19
glibc-devel-2.3.4-2.19
glibc-headers-2.3.4-2.19
glibc-kernheaders-2.4-9.1.98.EL
gmp-4.1.4-3
gnupg-1.2.6-1
gpm-1.20.1-66
grep-2.5.1-31
groff-1.18.1.1-3
grub-0.95-3.5
gtk2-2.4.13-18
gtk2-devel-2.4.13-18
gzip-1.3.3-15.rhel4
hal-0.4.2-3.EL4
hdparm-5.7-2
hesiod-3.0.2-30
hotplug-2004_04_01-7.6
htmlview-3.0.0-8
httpd-2.0.52-22.ent
httpd-suexec-2.0.52-22.ent
hwdata-0.146.18.EL-1
ImageMagick-6.0.7.1-17
indexhtml-4.1-1
info-4.7-5
initscripts-7.93.24.EL-1.1
iproute-2.6.9-3
ipsec-tools-0.3.3-6
iptables-1.2.11-3.1.RHEL4
iptstate-1.3-4
iputils-20020927-18.EL4.2
irda-utils-0.9.16-3
isd4k-utils-3.2-18.p1.1
jpackage-utils-1.6.0-2jpp_3rh
jwhois-3.2.2-6.EL4.1
kbd-1.12-2
kernel-2.6.9-34.EL
kernel-smp-2.6.9-34.EL
kernel-smp-devel-2.6.9-34.EL
kernel-utils-2.4-13.1.80
krb5-libs-1.3.4-27
krb5-workstation-1.3.4-27
krbafs-1.2.2-6
kudzu-1.1.95.15-1
less-382-4
lftp-3.0.6-3
lha-1.14i-17

```
libacl-2.2.23-5
libattr-2.4.16-3
libcap-1.10-20
libgcc-3.4.5-2
libgcrypt-1.2.0-3
libgpg-error-1.0-1
libidn-0.5.6-1
libjpeg-6b-33
libjpeg-devel-6b-33
libmng-1.0.8-1
libmng-devel-1.0.8-1
libpcap-0.8.3-10.RHEL4
libpng-1.2.7-1.el4.2
libpng-devel-1.2.7-1.el4.2
libselinux-1.19.1-7
libsepol-1.1.1-2
libstdc++-3.4.5-2
libtermcap-2.0.8-39
libtermcap-devel-2.0.8-39
libtiff-3.6.1-8
libtool-libs-1.5.6-4.EL4.1
libungif-4.1.3-1.el4.2
libungif-progs-4.1.3-1.el4.2
libusb-0.1.8-3
libuser-0.52.5-1.el4.1
libwvstreams-3.75.0-2
libxml2-2.6.16-6
libxml2-python-2.6.16-6
libxslt-1.1.11-1
lm_sensors-2.8.7-2.40.3
lockdev-1.0.1-6.1
logrotate-3.7.1-5.RHEL4
logwatch-5.2.2-1.EL4.1
lrzsz-0.12.20-19
lsof-4.72-1.1
lvm2-2.02.01-1.3.RHEL4
lynx-2.8.5-18.2
m4-1.4.1-16
mailcap-2.1.17-1
mailx-8.1.1-33
make-3.80-5
MAKEDEV-3.15.2-3
man-1.5o1-9
man-pages-1.67-7.EL4
mdadm-1.6.0-3
mgetty-1.1.31-2
mingetty-1.07-3
minicom-2.00.0-19
mkbootdisk-1.5.2-1
mkinitrd-4.2.1.6-1
mktemp-1.5-20
mod_auth_pgsq1-2.0.1-7.1
```

mod_perl-1.99_16-4
mod_ssl-2.0.52-22.ent
module-init-tools-3.1-0.pre5.3.2
mtools-3.9.9-9
mtr-0.54-10
mt-st-0.8-1
nano-1.2.4-1
nc-1.10-22
ncurses-5.4-13
ncurses-devel-5.4-13
netconfig-0.8.21-1.1
netdump-0.7.14-4
net-snmp-5.1.2-11.EL4.6
net-snmp-libs-5.1.2-11.EL4.6
net-snmp-utils-5.1.2-11.EL4.6
net-tools-1.60-37.EL4.6
NetworkManager-0.3.1-3
newt-0.51.6-7.rhel4
nfs-utils-1.0.6-65.EL4
nscd-2.3.4-2.19
nss_db-2.2-29
nss_ldap-226-10
ntp-4.2.0.a.20040617-4
ntsysv-1.3.13.3-2
numactl-0.6.4-1.25
openldap-2.2.13-4
openssh-3.9p1-8.RHEL4.12
openssh-clients-3.9p1-8.RHEL4.12
openssh-server-3.9p1-8.RHEL4.12
openssl-0.9.7a-43.8
pam-0.77-66.14
pam_ccreds-1-3
pam_krb5-2.1.8-1
pam_passwdqc-0.7.5-2
pam_smb-1.1.7-5
pango-1.6.0-9
pango-devel-1.6.0-9
parted-1.6.19-1.EL
passwd-0.68-10.1
patch-2.5.4-20
pax-3.0-9
pciutils-2.1.99.test8-3.1
pcmcia-cs-3.2.7-3.5
pcre-4.5-3.2.RHEL4
pdksh-5.2.14-30.3
perl-5.8.5-24.RHEL4
perl-Filter-1.30-6
perl-URI-1.30-4
phoneweb-EL40_7.0.7-1
php-4.3.9-3.9
php-pear-4.3.9-3.9
php-pgsql-4.3.9-3.9

pinfo-0.6.8-7
pkgconfig-0.15.0-3
policycoreutils-1.18.1-4.9
popt-1.9.1-13_nonptl
portmap-4.0-63
postgresql-7.4.8-1.RHEL4.1
postgresql-libs-7.4.8-1.RHEL4.1
postgresql-server-7.4.8-1.RHEL4.1
ppp-2.4.2-6.4.RHEL4
prelink-0.3.3-0.EL4
procmail-3.22-14
procps-3.2.3-8.3
psacct-6.3.2-38.rhel4
psmisc-21.4-4
pyOpenSSL-0.6-1.p23
python-2.3.4-14.1
pyxf86config-0.3.19-1
PyXML-0.8.3-6
qt-3.3.3-9.3
qt-devel-3.3.3-9.3
quota-3.12-5
rdate-1.4-2
rdist-6.1.5-38.40.1
readline-4.3-13
readline-devel-4.3-13
redhat-logos-1.1.26-1
redhat-lsb-3.0-8.EL
redhat-menus-3.7.1-2
redhat-release-4ES-4.1
rhnlib-1.8.2-1.p23.1
rhpl-0.148.3-1
rmt-0.4b39-3.EL4.2
rootfiles-8-1
rpm-4.3.3-13_nonptl
rpmdb-redhat-4-0.20060303
rpm-libs-4.3.3-13_nonptl
rpm-python-4.3.3-13_nonptl
rp-pppoe-3.5-22
rsh-0.17-25.3
rsync-2.6.3-1
schedutils-1.4.0-2
sed-4.1.2-4
selinux-policy-targeted-1.17.30-2.126
sendmail-8.13.1-2
sendmail-cf-8.13.1-3.2.el4
setarch-1.6-1
setools-1.5.1-5
setserial-2.17-17
setup-2.5.37-1.3
setuptools-1.17-2
sg3_utils-libs-1.22-3.1
sg3_utils-1.06-3

shadow-utils-4.0.3-60.RHEL4
slang-1.4.9-8
slocate-2.7-13.el4.6
specspo-9.0.92-1.3
squid-2.5.STABLE6-3.4E.12
star-1.5a25-6
statserial-1.1-35
strace-4.5.13-0.EL4.1
stunnel-4.05-3
sudo-1.6.7p5-30.1.3
symlinks-1.2-22
sysklogd-1.4.1-26_EL
syslinux-2.11-1
sysreport-1.3.15-5
system-config-mouse-1.2.9-1
system-config-network-tui-1.3.22.0.EL.4.2-1
system-config-securitylevel-tui-1.4.19.2-1
SysVinit-2.85-34.3
talk-0.17-26
tar-1.14-8.RHEL4
tcl-8.4.7-2
tcpdump-3.8.2-10.RHEL4
tcp_wrappers-7.6-37.2
tcsh-6.13-9
telnet-0.17-31.EL4.3
termcap-5.4-3
time-1.7-25
tmpwatch-2.9.1-1
traceroute-1.4a12-24
ttmkfdir-3.0.9-14.1.EL
tzdata-2006a-1.EL4
udev-039-10.12.EL4
unix2dos-2.2-24.1
unixODBC-2.2.11-1.RHEL4.1
unzip-5.51-7
up2date-4.4.67-4
urw-fonts-2.2-6.1
usbutils-0.11-6.1
usermode-1.74-1
utempter-0.5.5-5
util-linux-2.12a-16.EL4.16
valgrind-2.2.0-5.EL4
valgrind-callgrind-0.9.9-1
vconfig-1.8-4
VFLib2-2.25.6-25
vg-scriptmanager-4.0.0-1
vg-setup-2.0.0-3
vg-xerces-EL40-2.0.0-3
vim-common-6.3.046-0.40E.7
vim-enhanced-6.3.046-0.40E.7
vim-minimal-6.3.046-0.40E.7
vixie-cron-4.1-36.EL4

```
vsftpd-2.0.1-5.EL4.3
wget-1.10.2-0.40E
which-2.16-4
wireless-tools-27-0.pre25.4.EL4
VFLib2-2.25.6-25
words-3.0-3
wvdial-1.54.0-3
Xaw3d-1.5-24
xinetd-2.3.13-4.4E.1
xmlsec1-1.2.6-3
xmlsec1-openssl-1.2.6-3
xorg-x11-devel-6.8.2-1.EL.13.25
xorg-x11-font-utils-6.8.2-1.EL.13.25
xorg-x11-libs-6.8.2-1.EL.13.25
xorg-x11-Mesa-libGL-6.8.2-1.EL.13.25
xorg-x11-xfs-6.8.2-1.EL.13.25
ypbind-1.17.2-8
yp-tools-2.8-7
zip-2.3-27
zlib-1.2.1.2-1.2
zlib-devel-1.2.1.2-1.2
```

Kickstart Script Template

This file is also available for download. Please contact Dialogic Technical Support for download information.

```
# Kickstart script template for installing a baseline Red Hat
# Enterprise Linux 4 platform for use as a SnowShore Media Server.
# Users must customize the script for system root password and
# the location of the Red Hat Linux packages.
#
# It is assumed that the user is familiar with Linux kickstart and
# has already created the required directory structure using the
# CD-ROMs. See section 2.5 of the "Red Hat Enterprise Linux Installation"
# guide for instructions on this step.
#
# Script lines preceded by the comment "CHANGE_ME" must be modified
# appropriately before the script can be used. Items in angle brackets
# "<>" must be replaced.
# SnowShore A1-G2 Media Server 2.4 Kickstart Configuration
# This version is for MS 2.4 RHEL4_U5 using packages on a Kickstart CDROM.
#System language
lang en_US
#Language modules to install
langsupport en_US
#System keyboard
keyboard us
#System mouse
mouse genericwheelp/2
#System timezone
timezone America/New_York
#Root password
rootpw --iscrypted $1$awLyD2w/$NAzk22RGpVtPuQXbaWpP0/
#Reboot after installation
reboot
#Use text mode install
text
#Install Red Hat Linux instead of upgrade
install
# Mount cdrom for installation
cdrom
#System bootloader configuration
bootloader --location=mbr --append "console=ttyS1,9600 console=tty0" --
    md5pass=$1$t5WeZAiB$rw6wvW8H651GLeHASUHEd.
#Clear the Master Boot Record
zerombr yes
#Partition clearing information
clearpart --all --initlabel
#Disk partitioning information
part /boot --fstype ext3 --size 101
part / --fstype ext3 --size 10000
part swap --size 1992
part /var --fstype ext3 --size 1 --grow
#System authorization information
auth --useshadow --enablemd5
#Network information
```

```
network --bootproto=dhcp --device=eth0
#network --bootproto=dhcp --device=eth1
#Firewall configuration
firewall --disabled
#Do not configure XWindows
skipx
#Disable security enhanced Linux features
selinux --disabled
#
#Package install information
%packages
basesystem
acl
acpid
am-utils
anacron
apmd
apr
apr-util
ash
aspell
aspell-en
at
atk
atk-devel
attr
authconfig
autofs
bash
bc
beecrypt
bind-libs
bind-utils
binutils
bzip2
bzip2-libs
chkconfig
# Needed for previous versions of the standard C++ library
# Could also simply install the group legacy-software-development
compat-libstdc++-33
compat-libstdc++-296
coreutils
cpio
cpp
cracklib
cracklib-dicts
crontabs
curl
cyrus-sasl
cyrus-sasl-md5
cyrus-sasl-plain
db4
#dev - not present in RHEL4
device-mapper
#devlabel - not present in RHEL4
dhclient
diffutils
```

distcache
dos2unix
dosfstools
dump
e2fsprogs
ed
eject
elfutils
elfutils-libelf
emacs
emacs-common
emacs-leim
enscript
ethtool
expat
ElectricFence
fbset
file
filesystem
findutils
finger
fontconfig
fontconfig-devel
freetype
freetype-devel
ftp
gawk
gcc
gd
gdb
gdbm
ghostscript
ghostscript-fonts
glib
glib2
glib2-devel
glibc
glibc-common
glibc-devel
glibc-headers
glibc-kernheaders
gnutls
gmp
gpm
grep
groff
grub
gtk2
gtk2-devel
gzip
hdparm
hesiod
hotplug
httpd
#hwcrypto - not present in RHEL4
hwdata
ImageMagick

info
initscripts
iproute
iptables
iputils
irda-utils
isd4k-utils
#jfsutils - not present in RHEL4
jwhois
kbd
kernel
kernel-smp
#kernel-sourcecode - not present in RHEL4
kernel-utils
krb5-libs
krbafs
kudzu
less
lftp
lha
libacl
libattr
libcap
libgcc
libjpeg
libmng
libpcap
libpng
libselinux
libstdc++
libtermcap
libtermcap-devel
libtiff
libtool-libs
libungif
libungif-progs
libuser
libwvstreams
libxml2
lockdev
logrotate
logwatch
lrzsz
lsof
lvm2
lynx
mailcap
mailx
make
MAKEDEV
man
man-pages
mdadm
mingetty
minicom
mkbootdisk
mkinitrd

mktemp
mod_auth_pgsql
mod_perl
mod_ssl
#modutils - renamed to module-init-tools in RHEL4
module-init-tools
mtools
mtr
mt-st
nano
nc
ncurses
ncurses-devel
netconfig
netdump
net-snmp
net-snmp-utils
net-tools
newt
nfs-utils
#njamd - not present in RHEL4
nscd
nss_ldap
ntp
ntsysv
openldap
openssh
openssh-clients
openssh-server
openssl
pam
pam_krb5
pam_smb
pango
pango-devel
parted
passwd
pax
pciutils
pcmcia-cs
pcre
perl
perl-Filter
perl-URI
php
php-pear
php-pgsql
#pidentd - not present in RHEL4
pinfo
pkgconfig
#policy - not present in RHEL4
policycoreutils
popt
portmap
postgresql
postgresql-libs
postgresql-server

ppp
prelink
procmail
procps
psacct
psmisc
python
pyxf86config
PyXML
qt
qt-devel
quota
#raidtools - not present in RHEL4 but similar to functionality in dmraid
dmraid
rdate
rdist
readline
readline-devel
#reiserfs-utils - not present in RHEL4
rhpl
rmt
rootfiles
rpm
rpm-python
rp-pppoe
rsh
rsync
schedutils
sendmail-cf
sed
sendmail
setarch
setserial
setup
setuptools
sg3_utils
sg3_utils-libs
shadow-utils
slang
slocate
specspo
squid
star
statserial
strace
stunnel
sudo
symlinks
sysklogd
syslinux
system-config-mouse
system-config-network-tui
system-config-securitylevel-tui
SysVinit
talk
tar
tcl

```
tcpdump
tcp_wrappers
tcsch
telnet
termcap
time
tmpwatch
traceroute
tzdata
unix2dos
unixODBC
unzip
urw-fonts
usbutils
usermode
utempter
util-linux
vconfig
VFlib2
vim-common
vim-enhanced
vim-minimal
vixie-cron
vsftpd
wget
which
wireless-tools
wireshark
words
wvdial
valgrind
valgrind-callgrind
Xaw3d
xorg-x11-devel
xorg-x11-libs
#xorg-x11-libs-data - not present in RHEL4
xorg-x11-Mesa-libGL
ypbind
yp-tools
zip
zlib
zlib-devel
#
%post --nochroot
#!/bin/sh
# The newly installed system is mounted on /mnt/sysimage
CHROOT=/mnt/sysimage
#
# Install SnowShore A1-G2 Media Server packages
# Create temporary directories to mount the remote MS files and to
# un-tar them
echo "Started RHEL4_U5 Installation - " > /mnt/sysimage/tmp/snowshore_pkg_install.log
2>&1
date >> /mnt/sysimage/tmp/snowshore_pkg_install.log 2>&1

mkdir -p /mnt/sysimage/tmp/ssinst >> /mnt/sysimage/tmp/postinstall.log 2>&1
#mkdir -p /mnt/sysimage/tmp/sstemp >> /mnt/sysimage/tmp/postinstall.log 2>&1
```

```

mkdir -p /mnt/sysimage/tmp/install_1 >> /mnt/sysimage/tmp/postinstall.log 2>&1
#
# Mount the CDROM to perform the installation...
mount -t iso9660 -r /tmp/cdrom /mnt/sysimage/tmp/ssinst >>
    /mnt/sysimage/tmp/postinstall.log 2>&1

cp --preserve=timestamps /mnt/sysimage/tmp/ssinst/SnowShore/SNOWG2PKG*.tar.gz
    /mnt/sysimage/tmp/install_1 >> /mnt/sysimage/tmp/postinstall.log 2>&1
cp --preserve=timestamps /mnt/sysimage/tmp/ssinst/SnowShore/G2Check
    /mnt/sysimage/tmp/install_1 >> /mnt/sysimage/tmp/postinstall.log 2>&1
cp --preserve=timestamps /mnt/sysimage/tmp/ssinst/SnowShore/dump_license_node_id.sh
    /mnt/sysimage/tmp/install_1 >> /mnt/sysimage/tmp/postinstall.log 2>&1
cp --preserve=timestamps /mnt/sysimage/tmp/ssinst/SnowShore/ms_backup.sh
    /mnt/sysimage/tmp/install_1 >> /mnt/sysimage/tmp/postinstall.log 2>&1
cp --preserve=timestamps /mnt/sysimage/tmp/ssinst/SnowShore/ms_restore.sh
    /mnt/sysimage/tmp/install_1 >> /mnt/sysimage/tmp/postinstall.log 2>&1
#
# Uncompress SnowShore rpm tarball
cd /mnt/sysimage/tmp/install_1 >> /mnt/sysimage/tmp/postinstall.log 2>&1
tar -xzf SNOWG2PKG*.tar.gz >> /mnt/sysimage/tmp/postinstall.log 2>&1
umount /mnt/sysimage/tmp/ssinst >> /mnt/sysimage/tmp/postinstall.log 2>&1
rmdir /mnt/sysimage/tmp/ssinst >> /mnt/sysimage/tmp/postinstall.log 2>&1
#cd /
#
# Package installation must be performed in a chroot environment so rpm can verify
# dependencies and install successfully.
chroot $CHROOT /bin/rpm -ivh /tmp/install_1/SNOW*.rpm >>
    /mnt/sysimage/tmp/snowshore_pkg_install.log 2>&1
chroot $CHROOT /tmp/install_1/ms_install >> /mnt/sysimage/tmp/snowshore_pkg_install.log
    2>&1
#
# Now that the SnowShore directory has been created copy over the G2Check & shell scripts.
mv -f /mnt/sysimage/tmp/install_1/G2Check /mnt/sysimage/opt/snowshore/bin >>
    /mnt/sysimage/tmp/postinstall.log 2>&1
mv -f /mnt/sysimage/tmp/install_1/dump_license_node_id.sh
    /mnt/sysimage/opt/snowshore/bin >> /mnt/sysimage/tmp/postinstall.log 2>&1
mv -f /mnt/sysimage/tmp/install_1/ms_backup.sh /mnt/sysimage/opt/snowshore/bin >>
    /mnt/sysimage/tmp/postinstall.log 2>&1
mv -f /mnt/sysimage/tmp/install_1/ms_restore.sh /mnt/sysimage/opt/snowshore/bin >>
    /mnt/sysimage/tmp/postinstall.log 2>&1
#
# Place SnowShore tarball in rpm directory so this version shows up in the web UI.
mv -f /mnt/sysimage/tmp/install_1/SNOWG2PKG*.tar.gz /mnt/sysimage/opt/snowshore/rpm >>
    /mnt/sysimage/tmp/postinstall.log 2>&1
#
# Remove sstemp directory and its contents
rm -rf /mnt/sysimage/tmp/install_1 >> /mnt/sysimage/tmp/postinstall.log 2>&1
#
# Remove unwanted daily cron jobs.
rm -f /mnt/sysimage/etc/cron.daily/00-logwatch >> /mnt/sysimage/tmp/postinstall.log 2>&1
rm -f /mnt/sysimage/etc/cron.daily/makewhatis.cron >> /mnt/sysimage/tmp/postinstall.log
    2>&1
rm -f /mnt/sysimage/etc/cron.daily/rpm >> /mnt/sysimage/tmp/postinstall.log 2>&1
rm -f /mnt/sysimage/etc/cron.daily/slocate.cron >> /mnt/sysimage/tmp/postinstall.log
    2>&1
rm -f /mnt/sysimage/etc/cron.daily/prelink >> /mnt/sysimage/tmp/postinstall.log 2>&1
rm -f /mnt/sysimage/etc/cron.daily/yum.cron >> /mnt/sysimage/tmp/postinstall.log 2>&1

```

```
#
# Remove unwanted weekly cron jobs
rm -f /mnt/sysimage/etc/cron.weekly/makewhatis.cron >>
    /mnt/sysimage/tmp/postinstall.log 2>&1
echo "Completed RHEL4_U5 Installation - " >> /mnt/sysimage/tmp/snowshore_pkg_install.log
    2>&1
date >> /mnt/sysimage/tmp/snowshore_pkg_install.log 2>&1
```