ISEEU™ Global Courier V3.1 – Installation Instructions

Installation Steps: (total time approx – 140 mins or 2hrs 10mins)
- Install Red Hat Enterprise Linux – 25 mins
- Red Hat Enterprise Linux First Time Boot Configuration – 5 mins
- Red Hat Enterprise Linux System Patching – upto 60 mins
- Courier V3.1 Installation Instructions – 30 mins
- Final System Tidy-up and Testing – 10 mins

Install Red Hat Enterprise Linux
The procedure below is intended for live servers and where the information is in red will need to be substituted for the site specific information.

1. Ensure the DVD or ISO image is bootable by installing this into the hosts drive, your clients drive, or choosing the ISO image destination with appropriate VMware settings within the CD options of the Courier Virtual Machine and then power on the server.
2. The operating system disk will then boot, follow the onscreen prompts and this script to install the operating system.
3. At the Red Hat Linux boot: prompt press enter.
4. You are then prompted to test the media – unless this is the first time the media is being used choose to skip the media test by pressing tab and enter.
5. The Graphical installer starts and loads and you need to click next to continue.
6. For the language settings choose English (English) and click next.
7. For the keyboard layout choose United Kingdom and click next.
8. The installation number popup appears and you can enter an installation number if you have one for this build. This can be done at a later stage if there are no plans to use RHEL Virtualisation or any other advanced configuration options. None of these are required for an ISEEU™ Global Courier build. The installation number used for this process was as follows: 9c0beca79c87a5ec after which you can click OK.
9. At the warning popup click yes to accept the warning of loss of ALL data on the selected partition.
10. From the partitioning hard drive screen check down the list and choose remove all partitions on selected drives and tick the boxes next to encrypt system and review the partitioning layout. Click next to continue. For live platforms the following disk layout should be configured as a minimum:
    a. / = 10240Mb
    b. /var = 10240Mb
    c. /tmp = 10240Mb
    d. /home = (remaining disk space)
11. A popup appears warning that you have chosen to remove all partitions. Click Yes to continue.

12. At the passphrase popup box enter a passphrase that is used to encrypt the disks. This was set to golddrum77 and click OK to continue.
13. At the boot loader dialog screen ensure the boot loader password is checked and enter the password into the popup hellfirewarrior123 (same as root password) then click next to continue.
14. On the network configuration pages edit the network devices section and add the following information:
    a. On IPV4 manually set the IP to be 192.168.0.254
    b. Set the netmask to be 255.255.255.0
    c. Then uncheck the IPV6 support box.
    d. Once complete click OK to continue.
15. Change the hostname to be crr-75001.iseeuglobal.com
16. Under the miscellaneous settings add the following information:
    a. Gateway setting should be 192.168.0.1
    b. Primary DNS setting should be 208.67.222.222
    c. Secondary DNS setting should be 208.67.220.220
    d. Click next to continue
17. From the regional options choose Europe/London and leave the system clock to use UTC time. Click next to continue.
18. Enter a root password and confirm – set to hellfirewarrior123 for this build. Once complete click next.
19. At the software options screen ensure nothing is checked in the upper half of the screen and choose the customise now radio button. Click next to continue.
20. When choosing software please use the following settings for a Courier build:
    a. Desktop Environments – Gnome Desktop Environment
    b. Applications – Editors
    c. Applications – Graphical Internet
    d. Applications – Graphics
    e. Applications – Text Based Internet
    f. Development – Development Libraries
    g. Development – Development Tools
    h. Servers – MySQL – mysql-devel-5.0.45-7.eI5.I386
    i. Servers – MySQL – mysql-server-5.0.45-7.eI5.I386
    j. Base System – Base
    k. Base System – X Window System
    l. Languages – British Support
    m. Click next to continue.
21. After a dependency check by the operating system you are prompted to click next to install Red Hat Linux onto the server.
22. The installation proceeds showing the system formatting the hard disks that, includes the encryption steps and then Red Hat is installed showing its progress as it moves through. This can take some time depending on the speed of the system and network factors depending on how you mounted the DVD at the beginning of the process.
23. Once this process is complete, you are prompted to remove the media and click the reboot button to restart the operating system for the first time.

Red Hat Enterprise Linux First Time Boot Configuration

Now the operating system is installed the system reboots into a first time boot configuration mode. During the reboot you will need to enter the LUKS passphrase that was used during the installation. Type golddrum77 into the console and wait for the system to complete booting and enter into the configuration wizard. Follow the steps below to complete this stage.

1. At the welcome screen click on the forward button.
2. On the licence screen ensure the Yes radio button is selected to agree to the licence agreement and click on the forward button to continue.
3. At the Firewall screen ensure Secure WWW (HTTPS) is the only selected option under Trusted Services and that the Firewall is Enabled and then click Forward to continue.
4. A popup warning you of making the Firewall changes appears, click Yes to continue and accept the warning.
5. On the SELinux screen change the default SELinux setting to disabled and then click on the forward button.
6. A popup warning of a required reboot is displayed. Click the Yes button to agree and continue.
7. On the Time and Date screen set these as appropriate or set a time clock if one is available for the installation being undertaken. Click Forward to continue.
8. To setup software updates for the system follow the following steps:
    a. Ensure the yes, I'd like to register now option is chosen and click Forward to continue.
    b. Leave the default setting of receiving updates directly from the Red Hat Network and click Forward to continue.
    c. Type the username and password for the Red Hat Network (iseeuglobalredhat / iseeuredhat01).
    d. Change the system name to be appropriate for the system being identified – crr-75001-Site_Name. Then click Forward to continue leaving the two boxes checked to send Hardware and Software information to Red Hat.
    e. The system connects to the Red Hat Network and sends all the software and hardware information. This registers the system onto the network so that updates and patches can be applied. This can take several minutes and once completed a check should be performed to check that the entry has been correctly added to the Red Hat Network list of systems.
    f. When it does complete the subscription is reviewed and it displays the channels, which the system is subscribed to for updates. Click Forward to continue once this has been reviewed.
    g. A screen then shows how the system displays if updates are available and to continue click the forward button.
9. On the create user screen enter the following details:
    a. Username = iseeuglobal
    b. Full Name = ISEEU Global Administration Account
    c. Password = hellfirewarrior123
    d. Confirm Password = as above.
    e. Click on the forward button to continue
10. On the sound card screen just click Forward to continue as no soundcards are typically installed into server machines or VM's.
11. On the additional CD's screen click on the finish button to complete this process.
12. A popup window is displayed and warns that the system will reboot to make the necessary changes we have undertaken in the above process. Click the OK button to reboot the system.
13. During the reboot check for errors or problems during the process.
14. When the system is rebooting, remember to type the password golddrum77 at the LUKS passphrase prompt.
15. When completed the system displays the RHEL login page.

Red Hat Enterprise Linux System Patching

Now that the operating system has been installed its important that the software is current and up to date to eliminate any security vulnerabilities that may exist. Follow this section to ensure your new operating system build is up to date.

1. On the main RHEL console login as a root user using the credentials you supplier earlier during the installation.
2. Navigate to Applications/System Tools/Software Updater and click to start the application.
3. After a brief check to see what is out-of-date the system displays any software that requires patching. Click on the Apply updates button to begin the patching process.
4. The system resolves any system dependencies and then downloads any packages required for the update to occur. If you are prompted at any point to install security keys, click the install keys button to continue. This step can take some time to perform depending on the Internet connectivity and also how busy the download web site is at any time.
5. When complete the system does not always require a reboot, but as this is part of an initial system build, it is preferable to ensure all updates have applied correctly and the system is still functional.

Install and Configure Courier V3.1.

Now the operating system and supporting software are ready, the ISEEU™ Global Courier application can be installed and configured with the site-specific settings necessary. Follow the following steps to install the application:

1. Locate the installation files either from CD, Windows Share, USB disk or FTP server and locate the folder on the root desktop in a file called current.
2. Using a terminal window with root privileges change directory to this location and run the installations script with the following commands: cd /root/Desktop/current then ./courier3_1_install_script
3. The screen will clear and you are prompted to enter the servers DNS name the service will use to connect users – type courier.iseeuglobal.com and press enter.
4. You are then asked to complete the required steps to secure the mySQL installation:
   a. Current root password – press Enter
   b. Set root password – Y – press Enter
   c. Type the new password – HellfireWarrior and then press Enter
   d. Re-type the password again to confirm and press Enter
   e. Remove anonymous users – Y – press Enter
   f. Disallow root login remotely – Y – press Enter
   g. Remove test databases and access – Y – press Enter
   h. Reload privilege tables – Y – Press Enter
5. Script pause to unpack source files – press Enter
6. Script pause to compile Apache Web Server – press Enter
7. Script pause to compile PHP scripting – press Enter
8. Script pause to create new database – press Enter
9. You are prompted to enter the mySQL password – type HellfireWarrior and the press Enter
10. Script pause to create required directories – press Enter
11. Script pause to copy all required configuration files – press Enter
12. Script pause to create the server private key – press Enter
13. Script pause to generate the server certificate request – press Enter
14. You are now asked a series of questions that will generate the CSR file which is sent to the certificate authority (CA) who will in turn produce the server certificate. Follow these steps:

      a.   Country Name = GB

      b.   State or Province = North Somerset

      c.   Locality Name = Bristol

      d.   Organisation Name = ISEEU Global Limited

      e.   Organisational Unit = Information Technology

      f.   Common Name = courier.iseeuglobal.com

      g.   Email Address = technical@iseeuglobal.com

      h.   Challenge Password = (just press enter)

      a.   Optional Company Name = <Customer Name>

15. Script pause to clean up files and directories – press Enter

16. You are then asked if you would like to edit the configuration files that require editing now or leave them for later configuration – type y and press Enter.

17. The first file that is opened using vim is the localcfg.inc file, which is used to control the ISEEU™ Global Application settings. Amend the following lines:

      a.   Database - $password$ = HellfireWarrior

      b.   Locally Defined - _sysname_ = crr-75003-

      c.   Locally Defined - _baseurl_ = https://courier.iseeuglobal.com

      d.   Locally Defined - _admail_ = ISEEUGlobalCourier@iseeuglobal.com

      e.   Locally Defined - _sysmail_ = technical@iseeuglobal.com

      f.   External Services - _smsuname_ = (need to set new account first with MediaBurst)

      a.   External Services - _smspwd_ = (again from MediaBurst account)

18. Script pause to edit the archive configuration file – press Enter

19. The second file that is opened with vim is the arc_courier3.php file, which is used to control how files and sessions are cleaned up every day. Amend as follows:

      a.   At the top of the config file, edit the database password field with HellfireWarrior

20. Script pause to edit the SSL configuration file with certificate information – press Enter

21. The last script to be opened with vim is the httpd-ssl.conf file and this needs to be amended as follows:

      a.   Edit the system host name to match – courier.iseeuglobal.com

      b.   Edit the servers certificate file to match what will come back from Comodo.

      c.   Edit the servers private key file name to match your DNSname.key

      d.   Edit the certificate authorities certificate bundle file name again to match.

22. Script then prompts you if you want to reboot the server now. Type y and presss Return.

Final System Tidy-up and Testing

Now the system is almost ready for use. The certificates need to be requested from the certificate authority and the final system checks and cleanup must be performed. Follow these steps to complete the installation:

1. Follow the steps below to get a certificate file:

      a.   Go to the URL: http://www.comodo.com

      b.   Login at the top right of the website with the username = iseeuglobal and password = certificate123.

      c.   This will popup the portal window where you can choose to go to 'Web Host Reseller' link.

      d.   Choose the certificate type here, including the free test certificate option – standard option is the Instant SSL option but will depend on the company requirements.

      e.   Now cut and paste the output from the .csr file (cat crr-75003.iseeuglobal.com.csr) into the open space on the Comodo Web Portal window.

      f.   Choose Red Hat Linux as the source of the file and click next on the web page

g. What is returned on the following page needs to be checked for accuracy, as it will influence the certificate return if there are any errors. Once checked click next to complete the request.

h. An Email is received from Comodo saying that they have received the request and it will be approved within 1 working day. When the request is approved another Email is returned which contains a zip file with the certificate and ca-bundle attached – WHEN THESE HAVE BEEN RETURNED COMPLETE THE FOLLOWING STEPS…

2. Unzip these 2 files and send them (can use Courier Demo for this) to yourself so that you can login to the server and download them onto the Courier server being built.
3. These 2 files should be stored in the /etc/httpd/extra directory.
4. Permissions of these files should be set with the command: chmod 644 (filename)
5. Ownership should be also set on these 2 files with the command: chown root:root (filenames)
6. Ensure the file names match the file names previously edited in /etc/httpd/extra/httpd-ssl.conf – if they do not edit this file with vim.

Once all the above steps are complete – login to the Courier application (iseeuglobal / scherZo) and ensure all functions are working by testing all functions. Remember to add administrators to the platform and test access before deleting our own internal accounts used during the build.

Once the system is built complete, tested and installed – ensure you complete the following:
• Take copy of server key
• Take copy of the certificate file
• Take copy of localcfg.inc file
• Take copy of httpd.conf, httpd-ssl.conf and php.ini
• If cosmetic or functional changes have been made for this specific build, keep copy of entire code for project file.
• Create within ISEEU™ Global Google Email system an entry on the group's tab, which will create an entry with the email sender address, which will send Emails to the technical@iseeuglobal.com group.
• Create laminated server sheets for project file – with password, configuration details and server hardware information. In addition keep a copy of the build disk with the files taken from site also in the project file.

Apendix

For reference only the installation script is detailed below:

```
#!/bin/bash
# This is the installation script for ISEEU Global Courier Application
# Script Change Control:
#     Initial version to test if scripting could speed up process - TJD - 21/06/10
#     Some changes to add options to manually edit config file and moved to end - TJD - 21/06/10
#     Further additions to clean up files and to choose if reboot now or later - TJD - 21/06/10
# Information:
#     Courier Version    - 3.1
#     Apache HTTP Version - 2.2.15
#     PHP Version        - 5.3.2
#     Operating System    - Red Hat Linux Enterprise Server 5.5
# Variables
# dnsname = This is the DNS name that Courier will be called and used for certificates
# answer = This is used to break out of the script if 'n' is chosen to not edit config files.
# answer2 = This is another yes or no request to choose to reboot the server now or not.
# Main Script
if [ $(id -u) !=0]; then
    echo "You must be root to run this script" >&2
    exit 1
fi
clear
echo "Please enter the server's DNS host name: "
read dnsname
echo
echo
echo "Now starting and configuring mySQL"
chkconfig --level 2345 mysqld on
```

```
service mysqld start
/usr/bin/mysql_secure_installation
echo
echo
read -p "Next the script will move source files and unpack them - press return to continue"
cd /root/Desktop/current/code
cp httpd-2.2.15.tar.bz2 php-5.3.2.tar.bz2 /usr/local/src
cd ..
cd config_files
cp config.layout /usr/local/src
cd /usr/local/src
chmod 777 *
chown root:root *
tar -xjvf httpd-2.2.15.tar.bz2
tar -xjvf php-5.3.2.tar.bz2
echo
echo
read -p "Next the script will move the layout file and compile apache - press return to continue"
cp config.layout ./httpd-2.2.15
cd httpd-2.2.15
./configure --enable-layout=AWT --with-mpm=prefork --enable-modules="rewrite so ssl speling"
make
make install
clear
read -p "Next the script will compile PHP and apply configuation file - press return to continue"
cd ../php-5.3.2
./configure --with-apxs2=/usr/sbin/apxs --with-mysql=/usr --with-zlib-dir=/usr
make
make install
cd /root/Desktop/current
cd config_files
cp php.ini /usr/local/lib/php.ini
chown root:root /usr/local/lib/php.ini
chmod 644 /usr/local/lib/php.ini
echo
echo
read -p "Next the script will move and unpack the Courier code - press return to continue"
cd ..
cd code
cp courier_v3_1.tar /home/httpd/htdocs
cd /home/httpd/htdocs
tar -xvf courier_v3_1.tar
rm courier_v3_1.tar
cd global
echo
echo
read -p "Next the script will create the blank database - press return to continue"
cd /root/Desktop/current
cd config_files
mysql -uroot -p < courier3.sql
echo
echo
read -p "Next the script will create the required directories - press return to continue"
mkdir /home/upload
mkdir /home/upload/courier
mkdir /home/upload/courier/prestaged
chown nobody:nobody /home/upload/courier
chown nobody:nobody /home/upload/courier/prestaged
chmod 750 /home/upload/courier
chmod 750 /home/upload/courier/prestaged
cd /home/httpd/htdocs/maint
echo
echo
read -p "Next the script will copy all required configuration files - press return to continue"
mv arc_courier3.php /etc/cron.daily
cd /etc/cron.daily
chmod 750 arc_courier3.php
chown root:root arc_courier3.php
cd /root/Desktop/current
cd config_files
cp httpd.conf /etc/httpd
cp httpd-ssl.conf /etc/httpd/extra
echo
echo
read -p "Next the script will create a server key file - press return to continue"
cd /etc/httpd
cd extra
openssl genrsa 2048 > $dnsname.key
chmod 400 $dnsname.key
echo
echo
read -p "Next the script will create a certificate request file - press return to continue"
openssl req -new -key $dnsname.key -out $dnsname.csr
openssl req -noout -text -in $dnsname.csr
cat $dnsname.csr
echo
echo
read -p "Next the script will stop un-necessary services and clean up - press return to continue"
cd /root/Desktop/current/
cd cleanup_scripts/
./buffy-edited
cd /home/httpd/htdocs
rm ._*.*
cd /usr/local/src
rm -rf *
echo
echo
clear
echo "The installation is now complete.  The following configuration files need to be edited before the application will operate:"
echo
echo "ISEEU Global Courier Configuration - /home/httpd/htdocs/global/localcfg.inc"
echo "ISEEU Global Courier Archive Configuration - /etc/cron.daily/arc_courier3.php"
echo "SSL Certificate Configuration File - /etc/httpd/extra/httpd-ssl.conf"
echo
echo "Would you like to edit these files now? (y/n - choosing 'n' will complete the script and allow you to manually edit these files
later.)"
read answer
if [ $answer = n ]; then exit 0
fi
read -p "Next the script will open the Courier configuration file for you to edit - press return to continue"
vim /home/httpd/htdocs/global/localcfg.inc
echo
```

```
echo
read -p "Next the script will open the archive configuration for editing - press return to continue"
vim /etc/cron.daily/arc_courier3.php
echo
echo
read -p "Next the script will open the SSL config for editing names - press return to continue"
vim /etc/httpd/extra/httpd-ssl.conf
echo
echo
echo "The installation is now complete and the server will need to reboot before it will operate correctly.  Would you like to reboot
the server now? y/n"
read answer2
if [ $answer2 = n ]; then exit 0
fi
shutdown -r now
exit 0
```