Point Clark Networks
ClarkConnect Firewall/Gateway

Installation and Quick Start Guide

December, 2005

Revision 1.0

I. Welcome

ClarkConnect is a powerful yet easy-to-use software solution for deploying and managing dedicated servers and Internet gateways.

This installation and quick start guide describes how to install and begin managing your ClarkConnect server through the web-based, Graphical User Interface (GUI). Users should have some familiarity with installing computer software and basic knowledge of computer networking.

II. ISO Download & CD-ROM Burn

If you received a bootable CD from Point Clark Networks with this guide, you can skip this step and go directly to "Installing the Software". For those who purchased a software-only license and for those using the free "Home Edition", you will first need to download the software available from the ClarkConnect FTP servers. Downloads for specific platforms can be found at:

http://www.clarkconnect.com/downloads/

The ISO image file is anywhere from 250MB to 400MB depending on the platform so downloading will take some time, even on a broadband connection. Once you have downloaded the CD ISO image, it is always a good idea to check the integrity of the file by calculating the MD5 sum and comparing it to the checksum posted on the ClarkConnect website.

Numerous tools exist to burn the ISO image to CD-ROM. An ISO image is a compressed archive of the directories and files. One common error is to copy the single ISO file to CD using the burning software's "Create data CD" option. A CD containing just the .iso file image will not boot from your CD-ROM drive. Instead, use an options like "Burn Image to Disk" which will decompress the .iso archive and automatically create the directory structure and file system that will allow you to boot from the CD. A flash tutorial is available online using Nero (one of the more popular CD burn software packages for Windows) at:

http://www.clarkconnect.com/help/flash.php

If you are using Linux, you can burn an image using the command:

cdrecord -v -pad speed=1 dev=0,0,0 <*filename*>.*iso*

III. Installing the Software

The destination system must support booting from the CD-ROM drive. You may have to enable this option in your computer's BIOS.

Warning! Installing this software will overwrite all data on all harddisks available to the server.

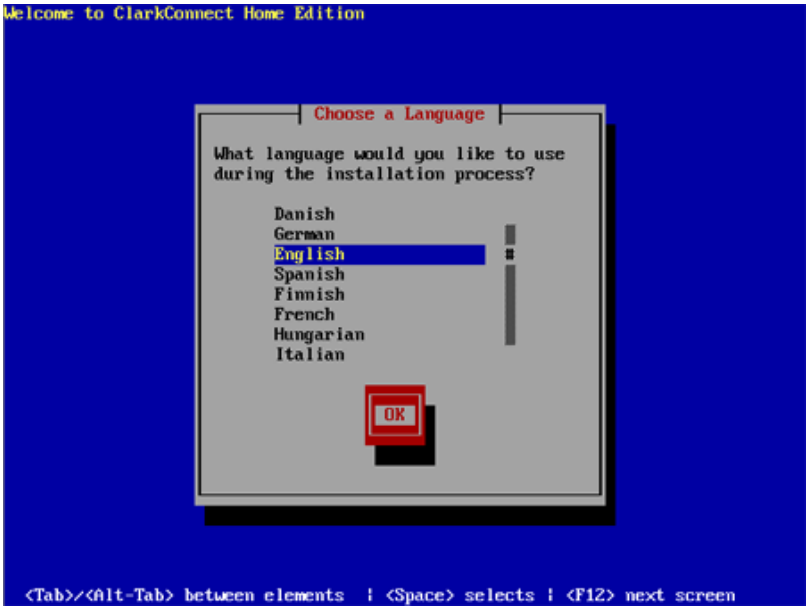
The following steps will take you through a standard installation configuration. You will need a monitor and a keyboard connected to your server during the install process. Once complete, however, ClarkConnect does require these peripherals as all configuration is done remotely from the web browser of a PC connecting to the server using standard client-server protocols.

First Stage Installer

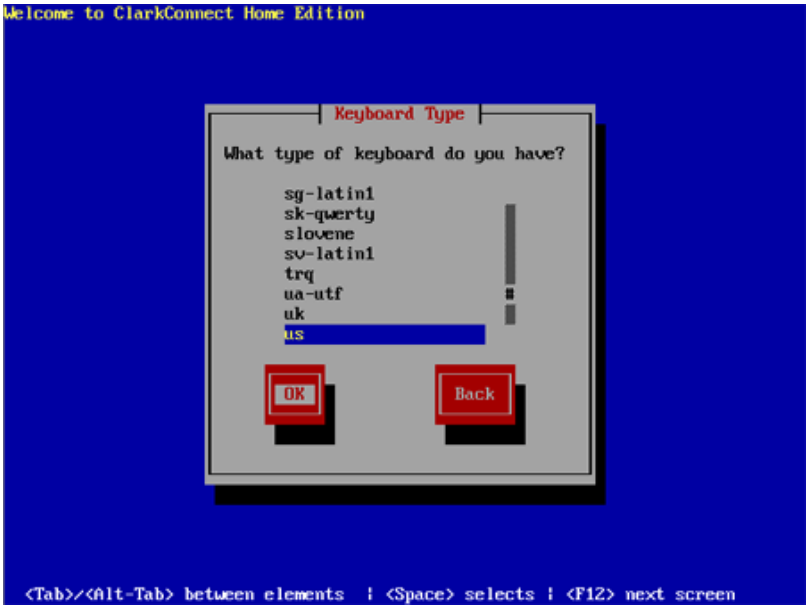
1. Insert the bootable CD in the CD-ROM drive of the target computer/server and power up (or reboot). The display of ClarkConnect's splash screen will indicate you have successfully booted from the CD-ROM.
2. A greeting and prompt will be displayed asking you what you want to do. For a new install or to upgrade an older version, type “linux”.

   The “rescue” command is only used in the event an existing installation fails to boot properly (ie. Due to harddisk malfunction etc.).

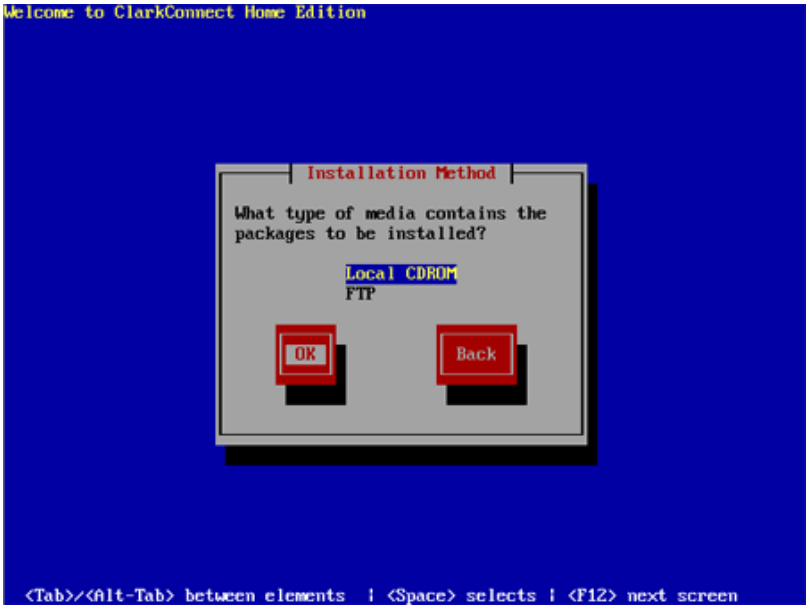
3. Once you have started your install by typing the confirmation word 'linux', you will be prompted to select your language preference. ClarkConnect supports over a dozen languages/locale. The language you select here will also become your default locale for the web-based User Interface once you begin using ClarkConnect's 'webconfig'.



4. Select a keyboard type to match your locale.

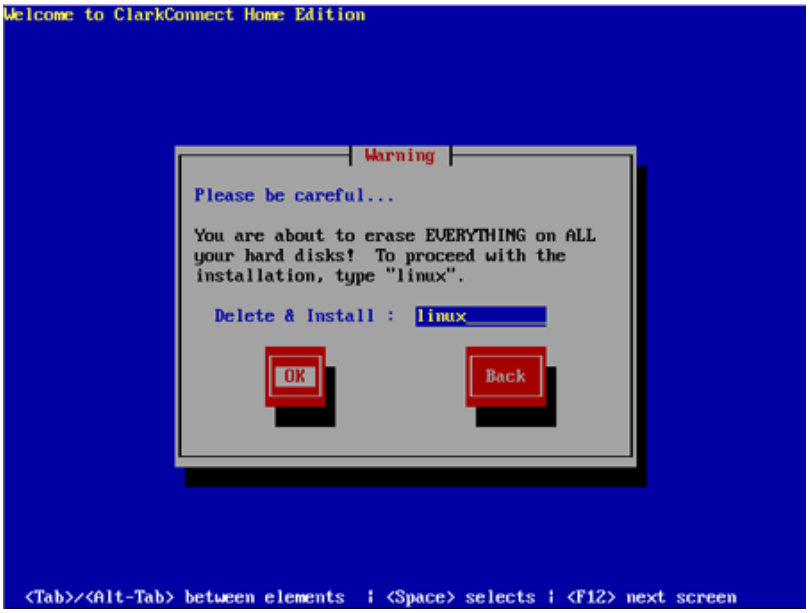


1. You will now be asked to select an installation method. Selecting "Local CDROM" will continue to use the CD-ROM that you have booted from. In some instances, you may want to use FTP:
   - PXE installation
   - Accessing up-to-date RPMs if there are newer revisions published since the time the CD was made



2. At this point, you have one final remaining opportunity to abort before any existing data on the destination harddisk is erased.

   Please note...this warning includes all drives – even those configured as slaves to the primary master.



3. If you are using your ClarkConnect server as an 'edge device', you will want to select "Gateway Mode". An 'edge device' is one that provides the gateway (or access point) to your Internet connection via your broadband ISP. A minimum of two network cards are required for this configuration – one for the *external* interface connecting you to your ISP – and one *internal* interface for your trusted Local Area Network (LAN).

   If you are using your ClarkConnect server as an application server behind a firewall, select the "Standalone mode". Only one network card is required in the case. Examples of applications you might want to run physically separated from your firewall are web, FTP, print, file sharing and/or proxy services.

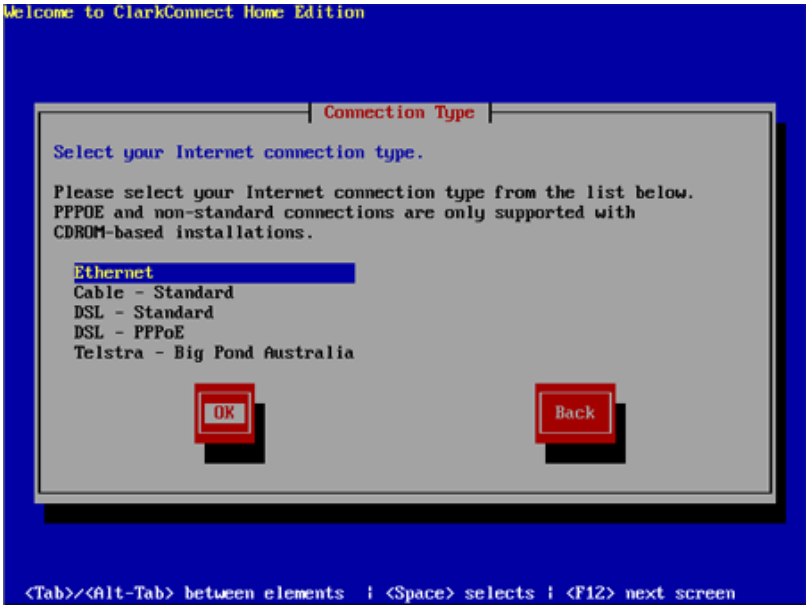
4. ClarkConnect *natively* supports five broadband connections types:

   - Ethernet
   - Cable
   - DSL – Standard
   - DSL – PPPoE
   - Telstra Big Pond (specific to Australia)

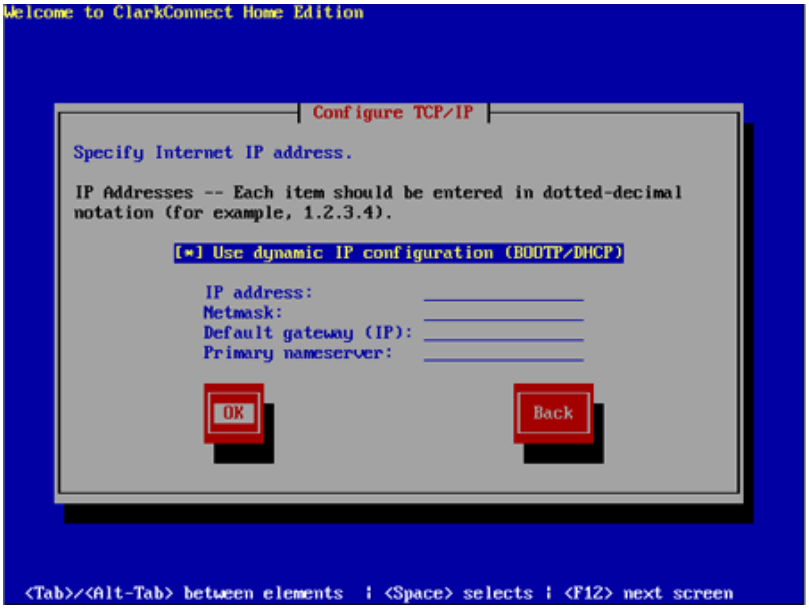
   Keep in mind, broadband Internet Service Providers using satellite, Wireless, WiMax or other medium may *inherently* be supported if the connection conforms to the Ethernet standard – which many do.

   ClarkConnect does not support dial-up connections.

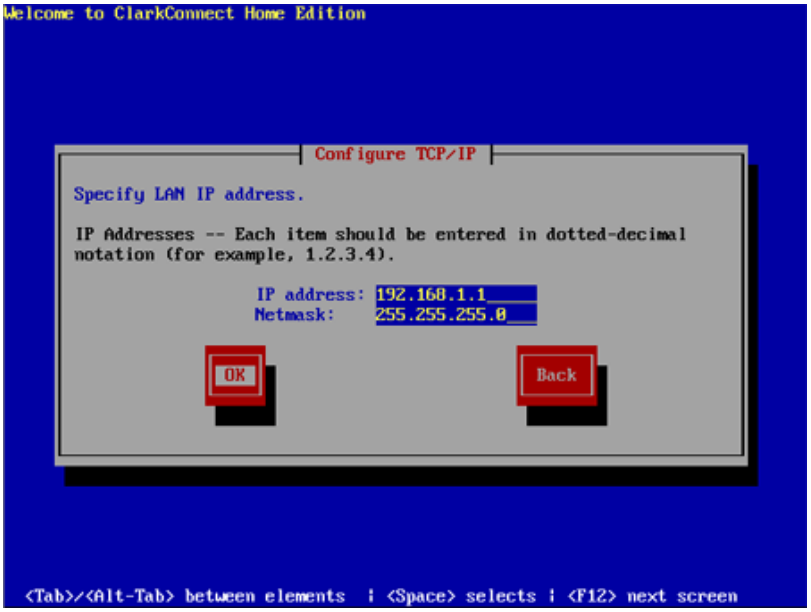
   If you selected DSL or Telstra as your ISP type, you will be prompted for the username and password information that is required in order to connect. This information is supplied by your ISP (and is usually provided on your install worksheet).



5. At this stage, the installer needs to know a little bit about the *external interface* (Internet Service Provider settings) . In most cases, you can leave the default setting (Use dynamic IP configuration selected) and continue. If your ISP assigns you a static IP, you will need to get these settings from your ISP (they are normally provided to you by the network installer on an invoice or account information sheet).

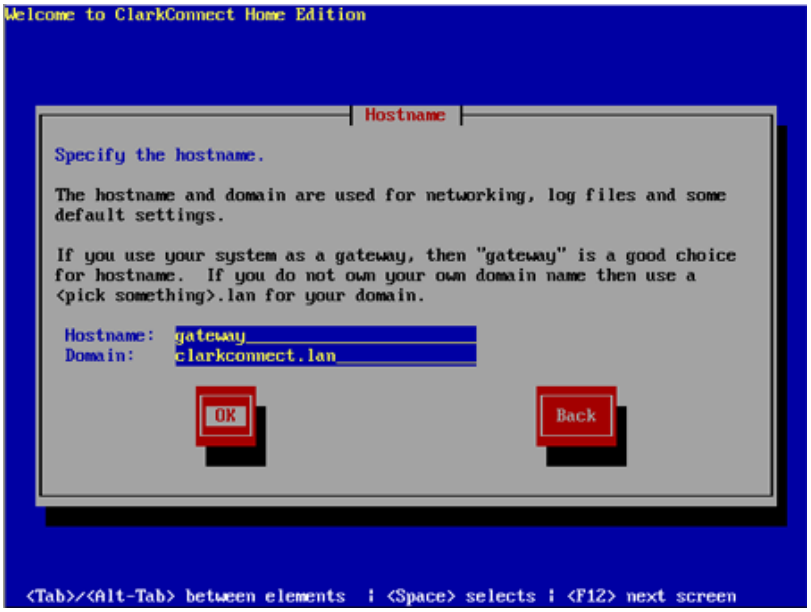


6. Similarly, the following step requires information about your *internal interface* (Local Area Network settings). If you are new to networking, you would be advised to leave the default settings in place.

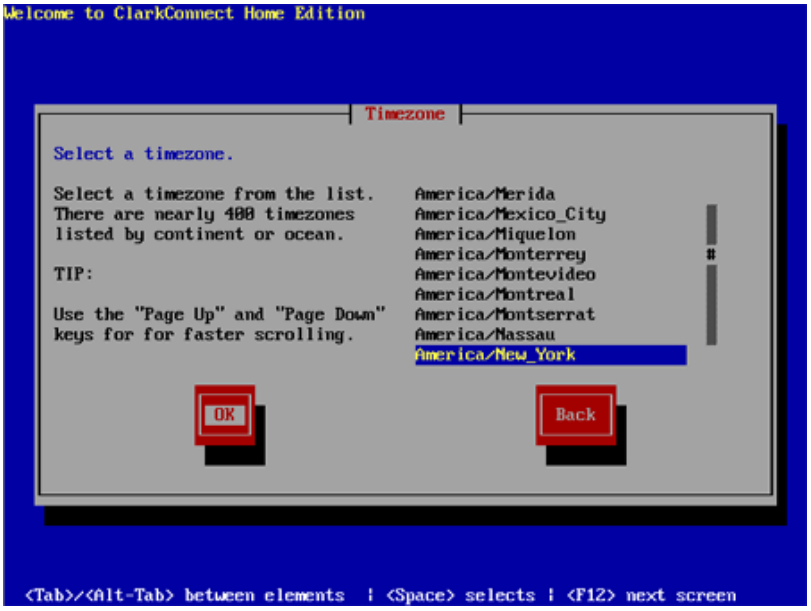


7. The hostname is a unique name by which the internal network can identify the ClarkConnect server.

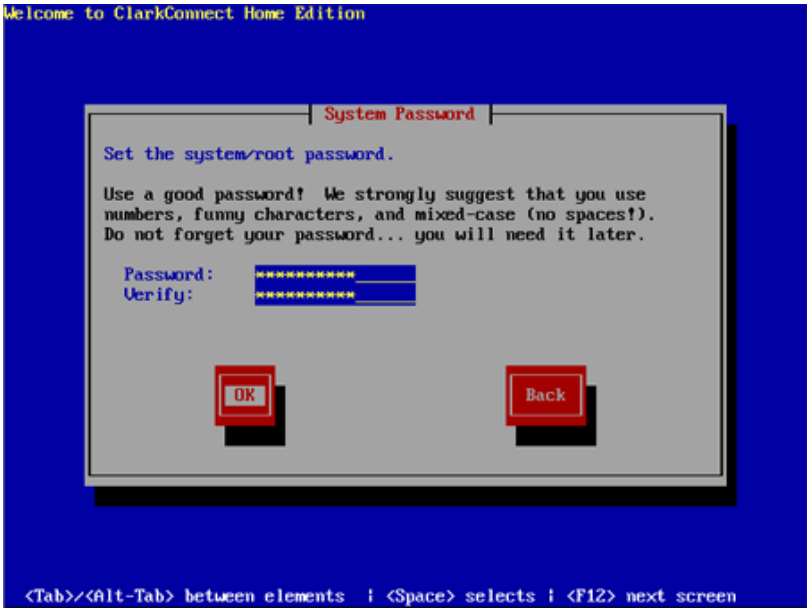
   Some services on a ClarkConnect server require a fully qualified domain name (FQDN) in order to run. If you have a domain that will be associated with this server, you can enter the FQDN in the "Domain" field. If you do not, add a domain like "1234broadway.lan". This *internal domain* will be mapped to your ClarkConnect server's internal IP address (provided by you in the previous step) automatically by ClarkConnect's internal DNS service.



8. Allows you to select a timezone to match your geographic location in the world.

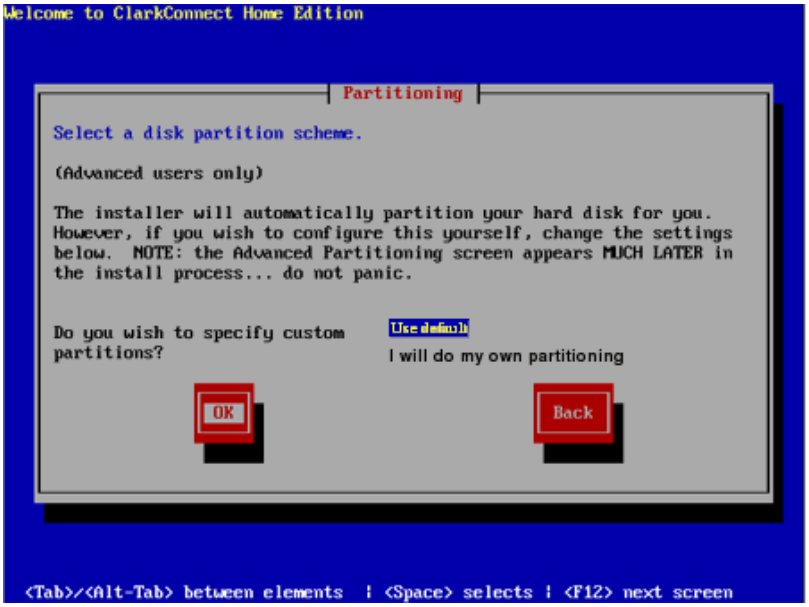


9. The system password is your 'root' account's password – the highest level of permission/ access to the server. **It is strongly recommended to use a *strong* password**, meaning a set of characters, numbers and punctuation (no spaces) that could not be guessed or be subject to a brute force attack.



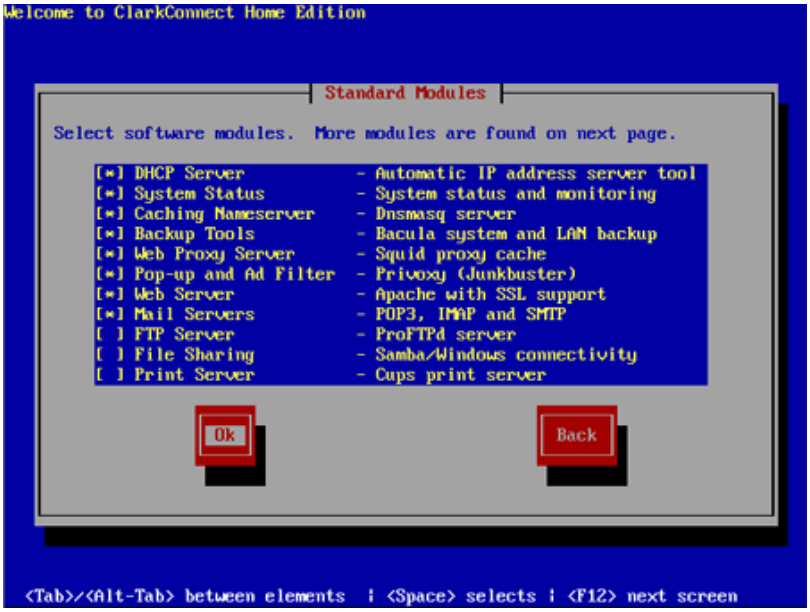
10. ClarkConnect offers an automatic harddisk partitioning option for users who do not have experience in harddisk setup.

    Most advanced users will want to customize the harddisk partitions and/or setup software RAID over multiple disks. This can be done by selecting the "I will do my own partitioning" option from the "Partitioning" screen menu. If selected, access to partitioning configuration will become available later on in the installation.

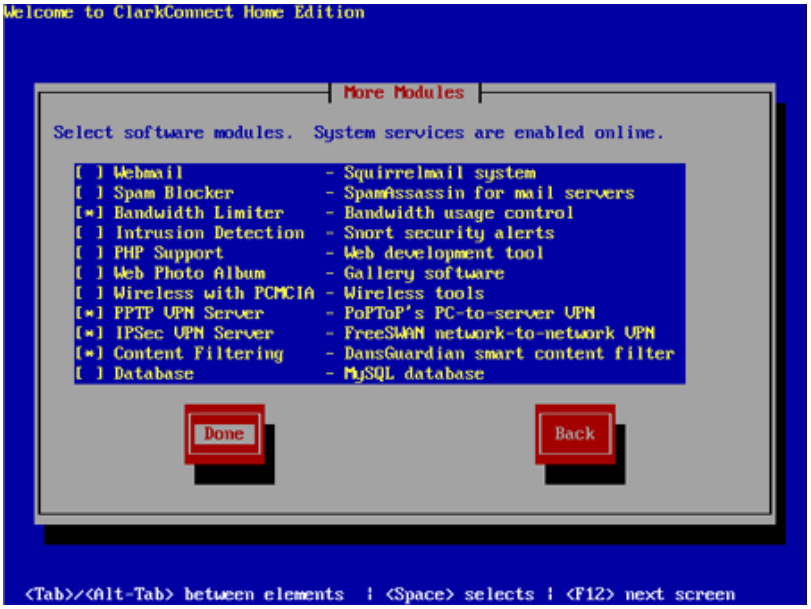


11. ClarkConnect modules are packages (RPMs) designed to provide a specific feature or function (for example, running a web server). They are available and maintained in ClarkConnect's APT repository along with packages that the RPM is dependent on.

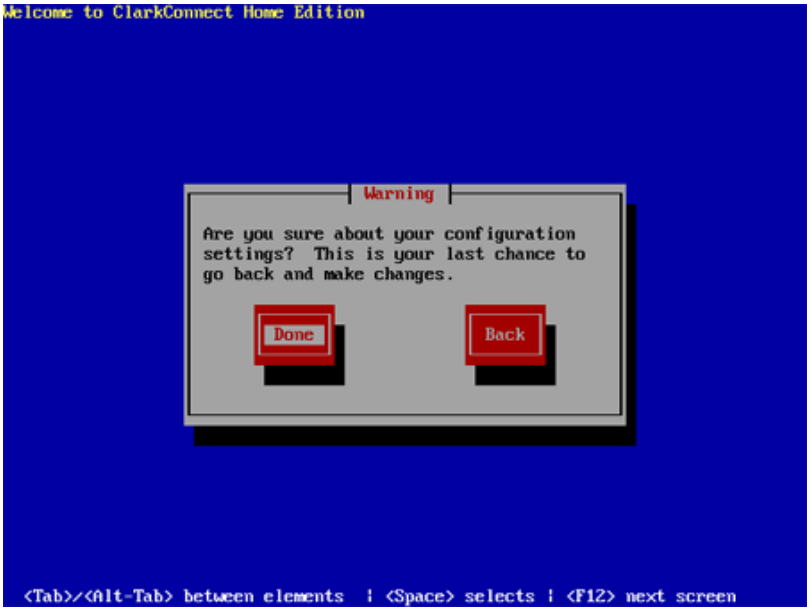
    Modules are designed around one or more Open Source Software (OSS) projects and selected based on security, stability, licensing, feature-set and ease of integration. There are currently over 50 ClarkConnect modules available to select from.



12. Modules can always be installed once your server is up and running using the UI or through a command line process.



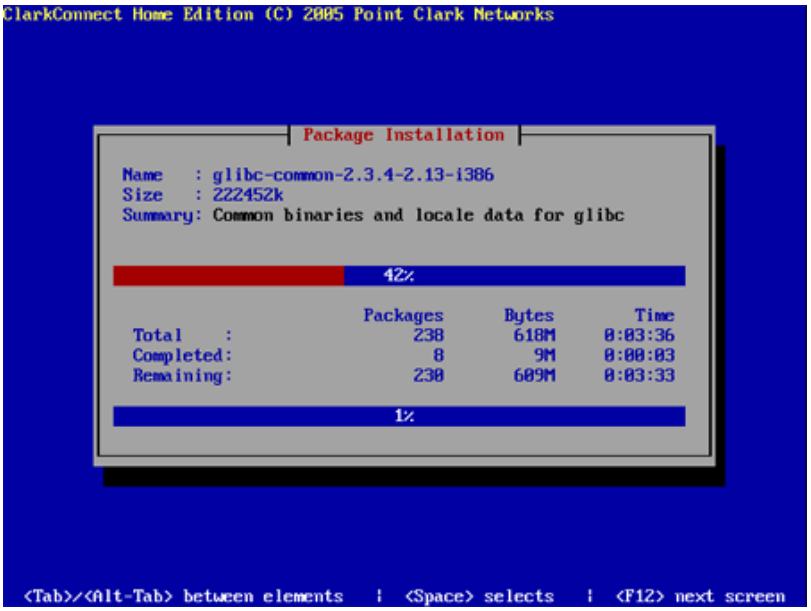
13. At this stage, you are asked to confirm your configuration settings and move on to the second stage installer. This is the last opportunity to abort the install and retain any data on the destination harddisks.



Second Stage Installer

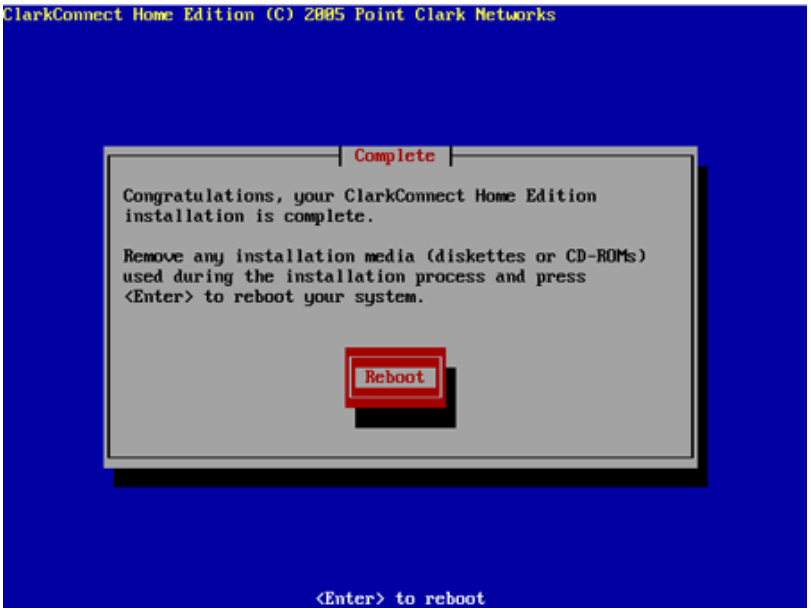
14. The second stage installer takes between 5 and 30 minutes depending on the modules you've selected to install by default and your server's hardware specifications.

    At this stage, there is no user-interaction until the completion of the install.



15. Upon completion, you will be asked to remove any CD-ROMs and reboot.

    Congratulations - your ClarkConnect server installation is complete.

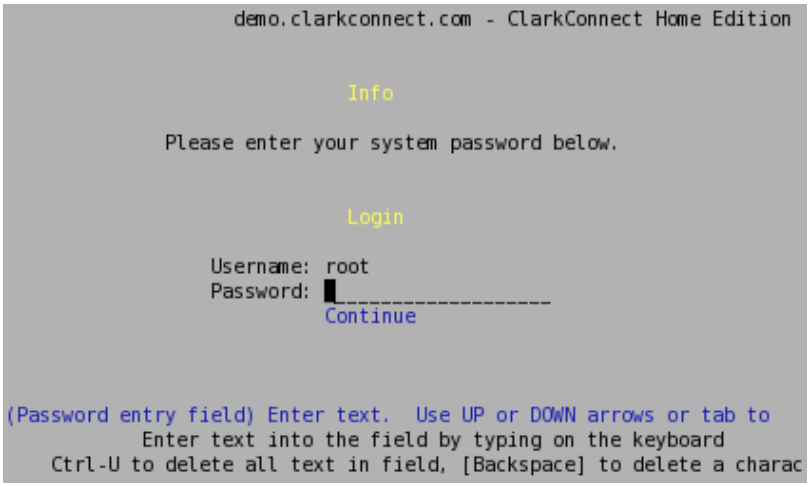


IV. First Time Bootup

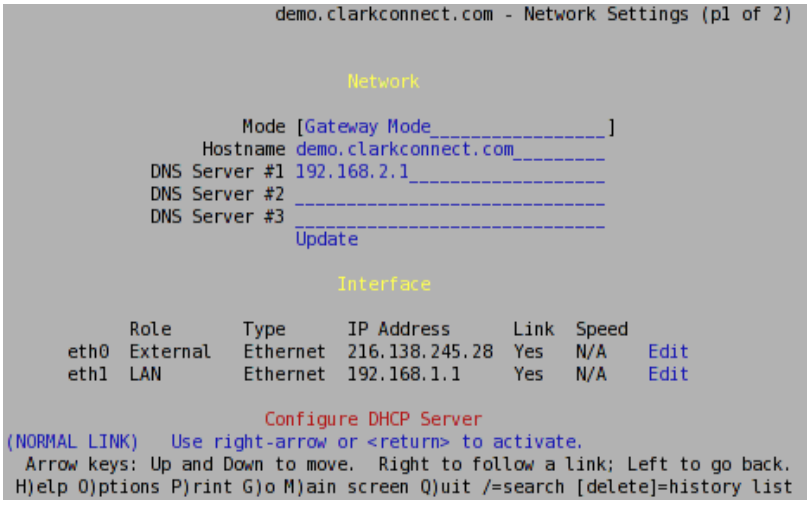
1. After rebooting your system (and provided you still have the monitor attached) you will be presented with a very basic console tool.

   This console should only be used if you cannot connect to the web-based User Interface from a PC on the LAN. One common connection problem is that ***ClarkConnect's DHCP server is disabled by default***.

   A DHCP server provides required configuration information to any computer (client) that wants to participate on the network. Commercial and residential routers often have a DHCP server enabled by default. Since having more than one active DHCP service on any given network causes serious connection problems on a network, ClarkConnect ships with its own DHCP server disabled.

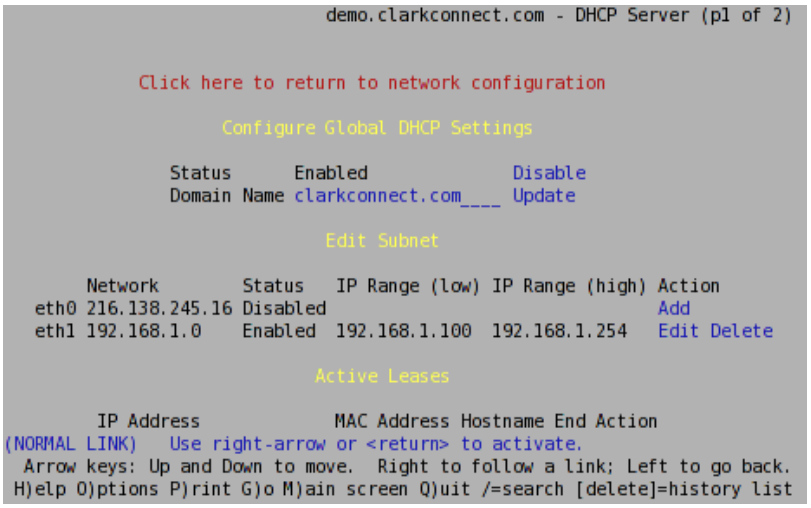


2. If you want to start ClarkConnect's DHCP server, login with 'root' as the username and your root password that you provided during the install process. Select "Configure DHCP Server" from the menu by using the down arrow key until this menu is highlighted. Hit 'Enter' on your keyboard.



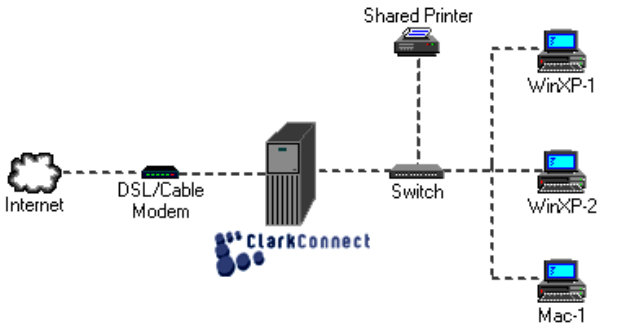
3. Arrow down until “Enable” is highlighted and click “Enter”. The DHCP server will then become active, allowing PCs on the LAN to request and obtain lease information to join the network.

4. You will be presented with a screen similar to the one on the right showing a running DHCP server along with some additional network information.



V. Configuring PC's to Use ClarkConnect as the Internet Gateway

If you've enabled ClarkConnect's DHCP server, you should be able to connect to the network using the DHCP setting on your PC. If you will configuring PC's on the LAN with static IP addresses, you'll need to provide the network information appropriate to your set-up.



A very simple network diagram to the right shows how one might setup the Local Area Network. One interface (designated *external*) on the ClarkConnect is connected to the Ethernet connection originating from you ISP (usually via a DSL/Cable modem provided by your ISP). The second network card (designated *internal*) will connect the rest of your network to the ClarkConnect server. A switch (or router running in switch mode) is used to connect multiple PC's to the LAN or provide a wireless access point.

VI. Using ClarkConnect's Webconfig

If you've made it to this point, the hard part is behind you! Congratulations.. The ClarkConnect web-based interface is one of the simplest User Interfaces available to manage a Linux-based server. A web-based User Interface - often referred to as 'webconfig' - allows you to use any PC (running any operating system) on your LAN to configure and manage your server. By making adjustments in your firewall, this functionality can be extended to a computer located anywhere on the planet, provided the user has been allowed access using a secret username/password.

Webconfig listens for client requests on a non-standard port [port 81]. This means you'll need to add the port identifier in your browser. In general, the URL that will provide you with initial access to the webconfig pages is:

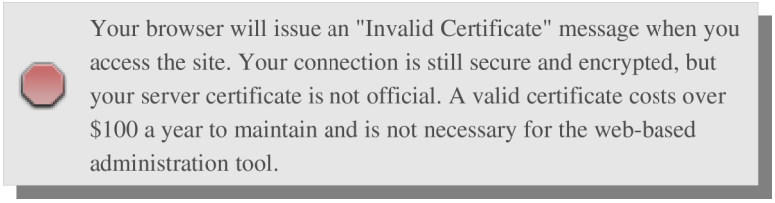
Note the protocol uses HTTPS which means communication between the client and server uses 128bit encryption at all times. The use of this protocol allows secure remote management or a server from a PC outside the LAN, however, when not being used, it is a good idea to keep this port (81) closed.

The address or domain name comes after the protocol. In this example, 192.168.1.1 is the internal IP address of the ClarkConnect server. You set-up may differ depending on what you entered in step 6 of the installation notes above. If you are using the DNS caching nameserver, you can also use the server's domain name set in step 8 which is a little easier to remember.

Next in the URL is the port specifier. This isn't usually required in your day-to-day browsing of websites on the Internet, but because we use a non-standard port, it must be provided. In this case, you will add ":81" to specify the request be made to port 81.

Finally, the folder location is specified. The administration area requiring 'root' privileges is located in the 'admin' directory.

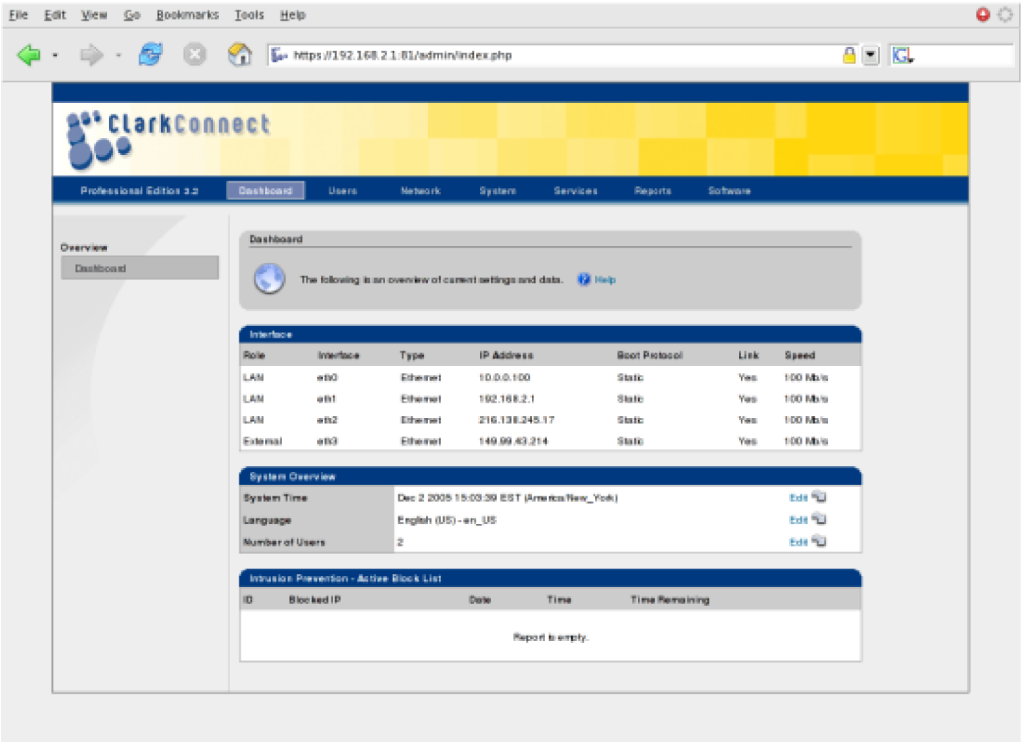
Provided your PC is setup on the network correctly, enter the above URL (modified for your custom settings) into any client browser.



Next, your browser will pop-up an authentication dialog window requesting a username and password. Enter:

Username:	root
Password:	<your system password entered in step 9 of the installation notes above>

The system 'Dashboard' – an overview page – will be displayed similar to the screenshot on the following page. From this page, you will see group headings along the top and a sub-menu displayed down the left hand navigation bar that will guide you through the various configuration and reporting features of ClarkConnect.



ClarkConnect Dashboard

VII. Conclusion

We hope this quick start guide has assisted you through the installation and initial configuration phase of your ClarkConnect server. Whether you are protecting your home network or using ClarkConnect as a firewall and application server for your business, school or organization, you can be assured that a properly configured ClarkConnect server will provide network security, high reliability and ease of use for years to come.

Thank you for choosing ClarkConnect.

The ClarkConnect Team

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