Virtual Appliance and License Server Quick Start Guide

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LOAD DYNAMIX

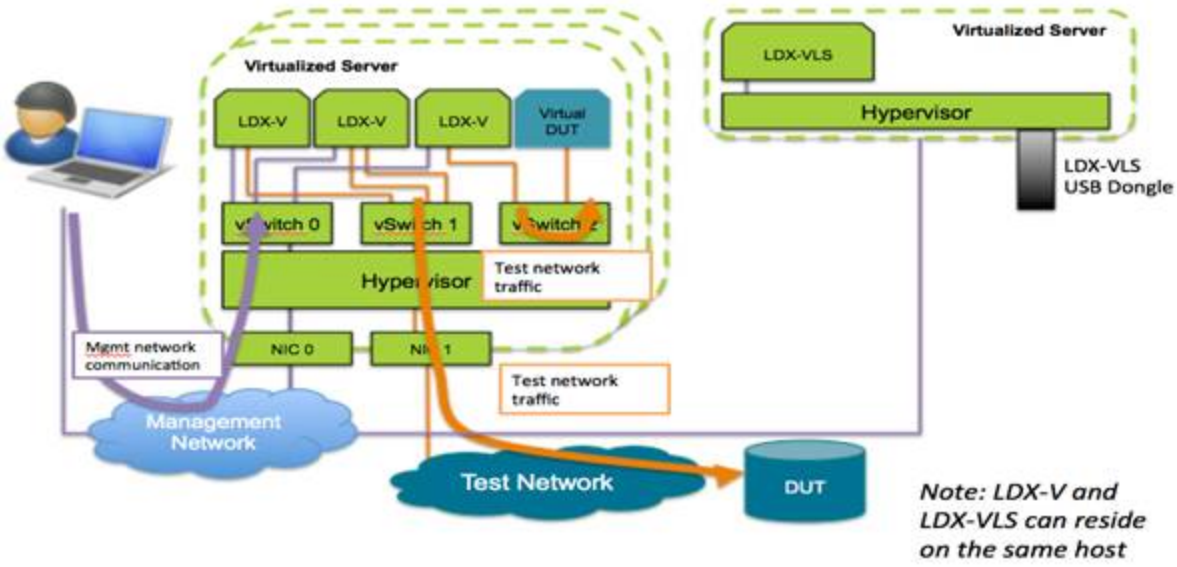
Virtual Appliance and License Server Quick Start Guide

Support
Open support cases by sending an email to: support@loaddynamix.com

Load DynamiX product contents

- Load DynamiX USB thumb drive containing
  - LDX-V (Virtual Appliance) OVA to be installed on a VMware ESXi server
  - LDX-VLS (Virtual Appliance License Server) OVA to be installed on a VMware ESXi server
  - TDE .exe file to be installed on a Windows workstation
  - PDF of this document
- Load DynamiX USB License Key dongle
- Hard copy of this document

Load DynamiX Virtual Appliance and Virtual License Server deployment model.



How to use this document:

First time Load DynamiX Virtual Appliance/License Server installation: follow the steps in sections

- Virtual License Server Installation,
- Virtual License Server Network Configuration,
- Virtual Appliance Installation,
- Virtual Appliance Network Configuration and
- Initial System Configuration

to first install and activate the Load DynamiX Virtual License Server and then install and activate the Load DynamiX Virtual Appliance. The Load DynamiX Virtual Appliance must have a Load DynamiX Virtual License server running to be deployed.

Additional Virtual Appliance installation: follow steps in sections

- Virtual Appliance Installation,
- Virtual Appliance Network Configuration and
- Initial System Configuration

to install and activate a new instance of a Virtual Appliance.

Virtual License Server Installation

(Follow these steps if the Load DynamiX Virtual License Server has not previously been installed)

The Load DynamiX Virtual Appliance's ability to execute as a virtual machine is controlled by a Virtual License Server (the LDX-VLS). The VLS manages licenses for the Virtual Appliances that provide the Virtual Appliance with three pieces of license information:

1. The Protocols that the Virtual Appliance is licensed to support (like the licensing mechanism used on the Load DynamiX hardware Appliance)
2. The number of Virtual Appliances that are currently holding a License
3. The number of Standard and Plus Licenses (see section E for details)

The VLS requires a physical USB key installed on the EXSi Server that it runs on to hold the License information. If the USB key is not present, the VLS will not allow any Projects to be started on the Virtual Appliances that it manages.

Installation on a VMware ESXi Server

The LDX-VLS is delivered as a VMware OVA file which is intended to be deployed on a VMware ESXi server.

VMware ESXi Server Requirements

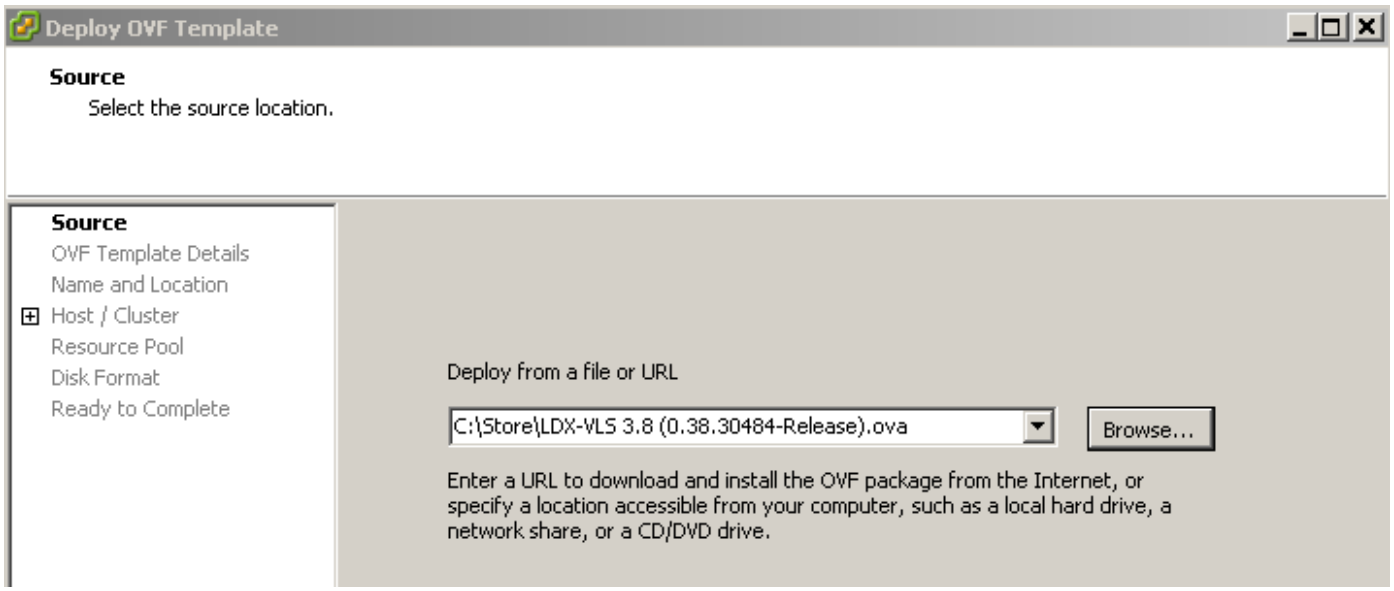
1. ESXi 5.1+
2. 1CPU for the LDX-VLS
3. 2 GB memory for the LDX-VLS
4. Same management network access as the LDX-V appliances
5. 4 GB disk space
6. NTP (Network Time Protocol to keep Virtual Appliance and Virtual License Server time and date synchronized)
7. One physical USB port for the LDX USB License Key dongle
8. Single E1000 NIC for the Admin Port

Assumption: Someone with a working knowledge of deploying VMware applications is responsible for the installation of the LDX-VLS.

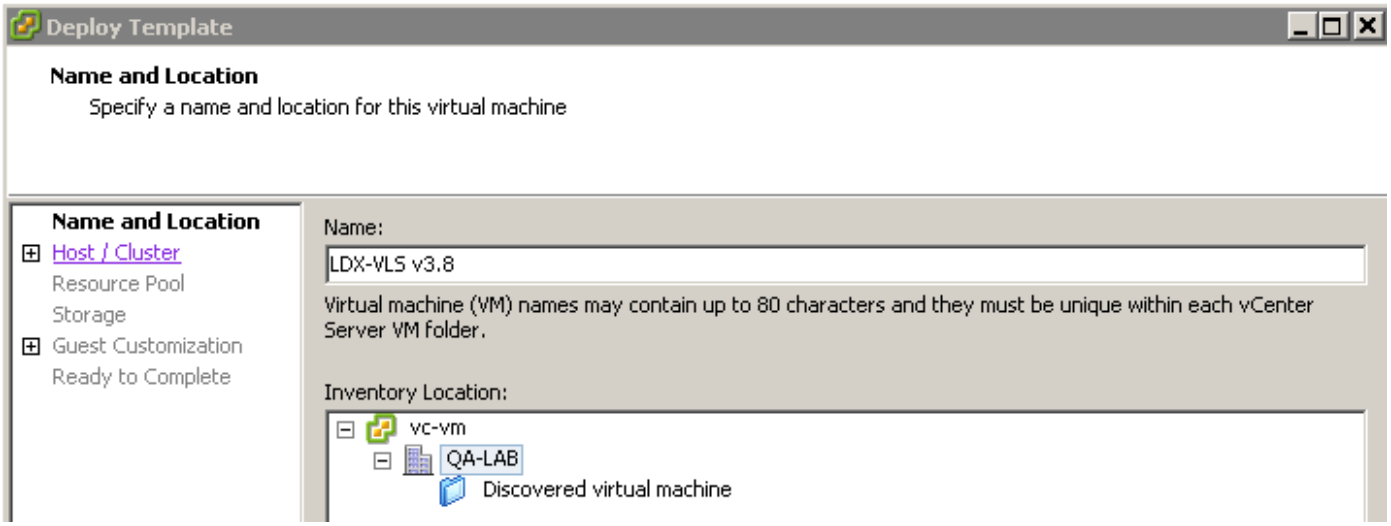
Installation of the VLS

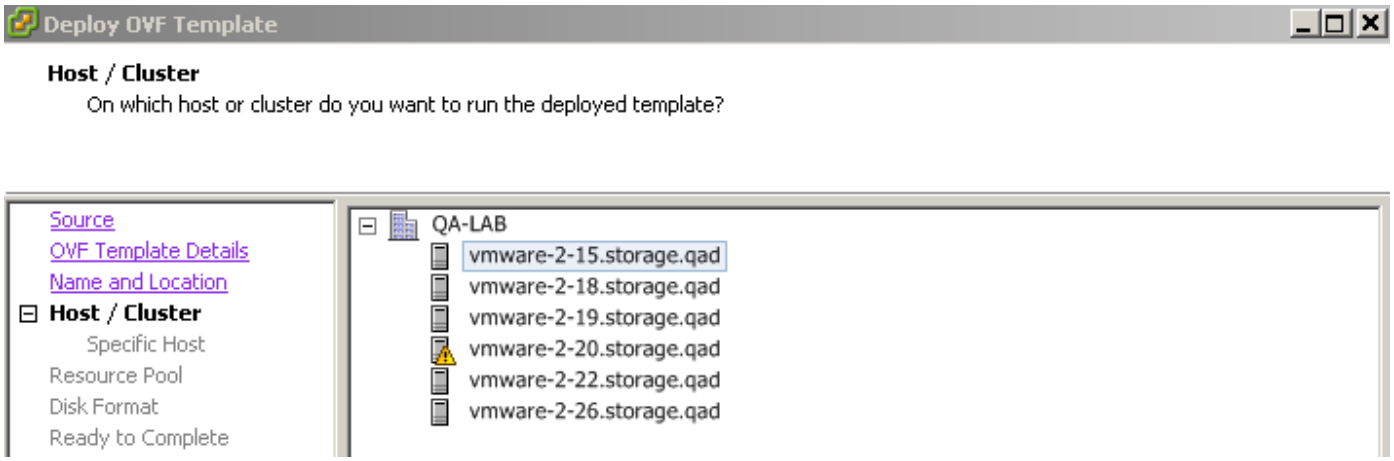
Before installing the Virtual License Server, be sure that the VMware EXSI server that is hosting the Virtual License Server and Virtual Appliance is running the NTP protocol so that the time and date of both virtual machines is the same.

As with the Virtual Appliance, open the vSphere client application and select the Deploy Template feature from the File Menu



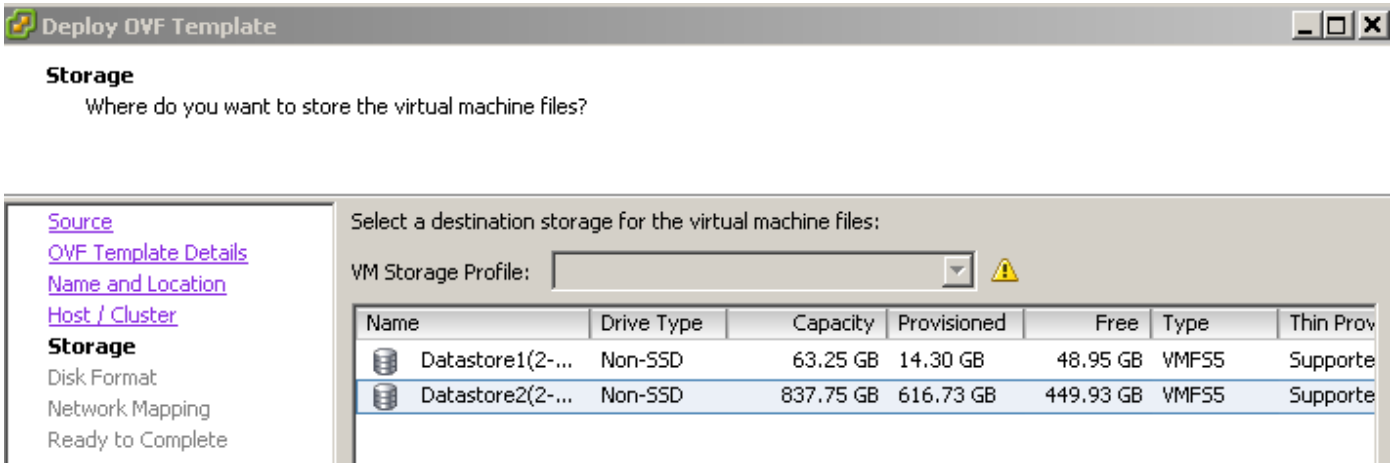
Use the Browse button to find the Virtual Server template file and click NEXT to see the Virtual Server template details.



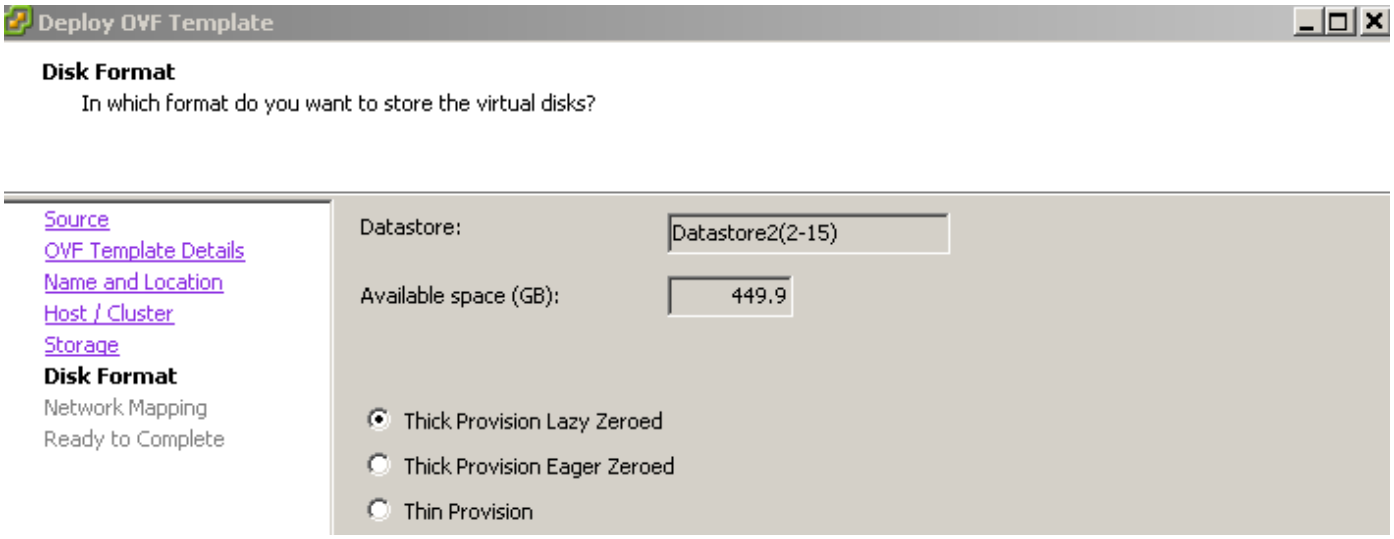


Click NEXT to specify the name of the Virtual Machine and to specify the Host in the EXSi hierarchy for the virtual machine.

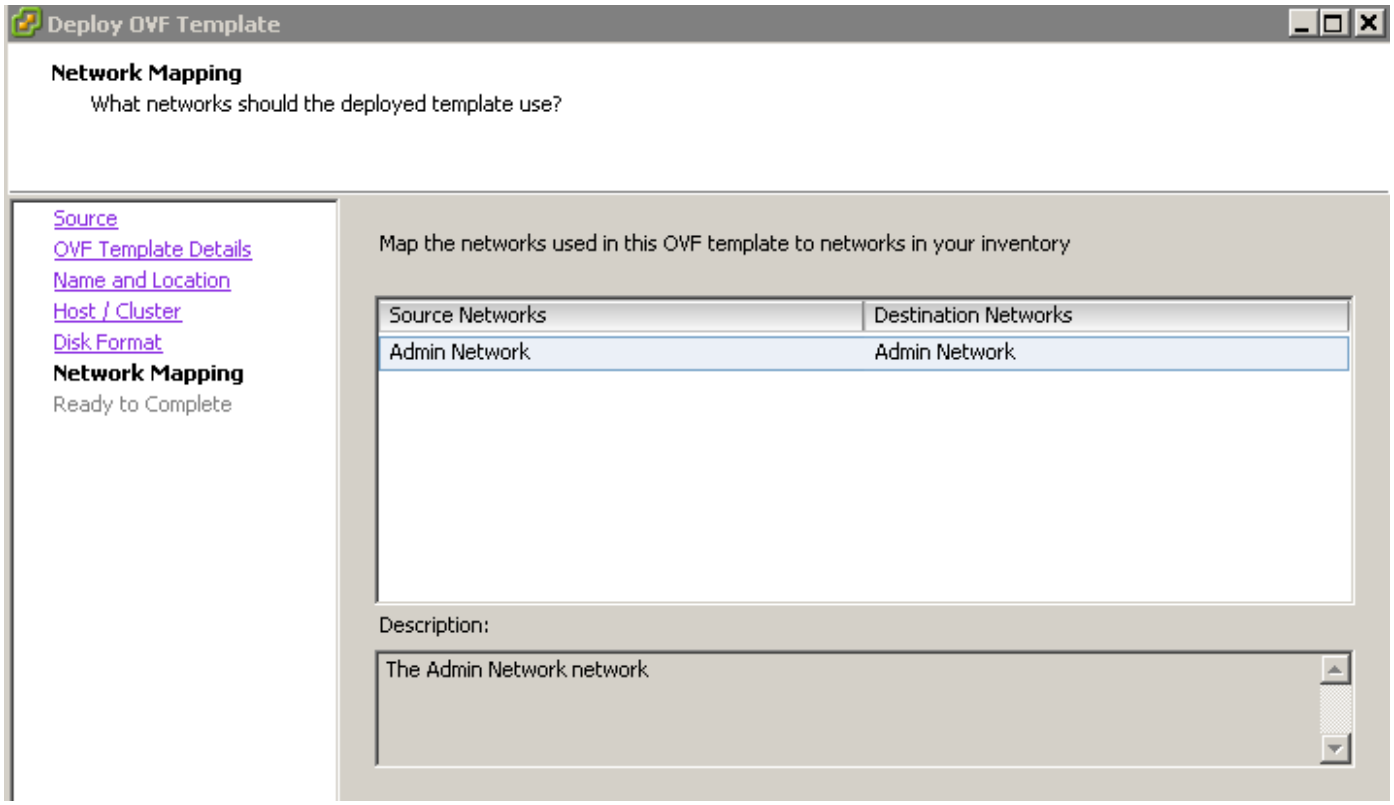
Click Next to specify the Storage resource for the virtual machine.



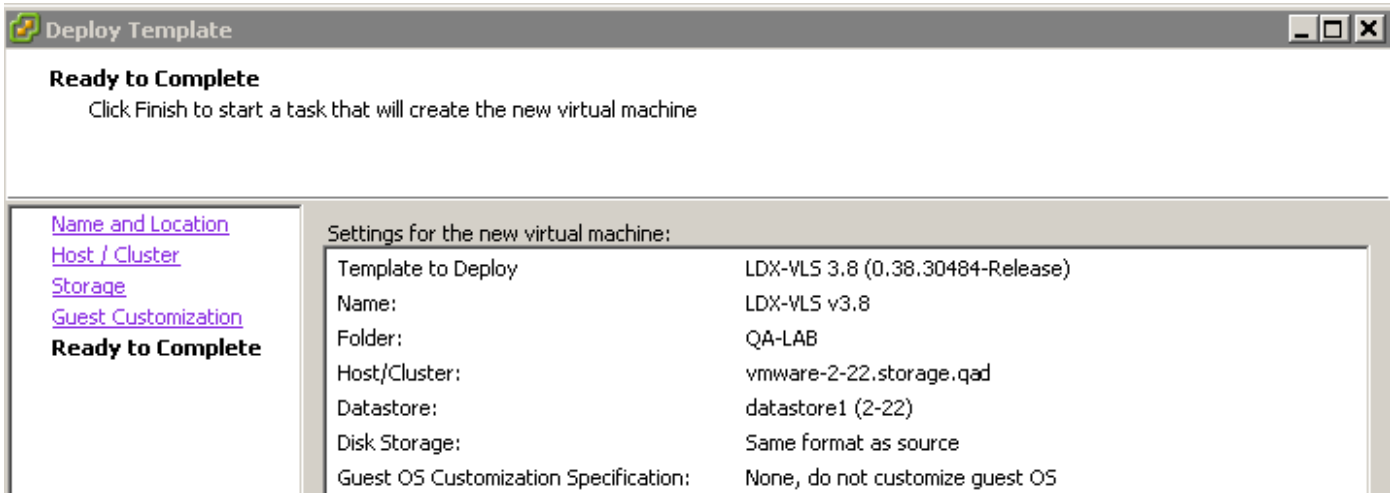
Click NEXT to specify the disk format to be used. Load DynamiX recommends that the default value THICK PROVISIONING Lazy Zero be selected but other provisioning choices are acceptable according to the virtual machine policies in use.



Click Next to define the Network Mapping

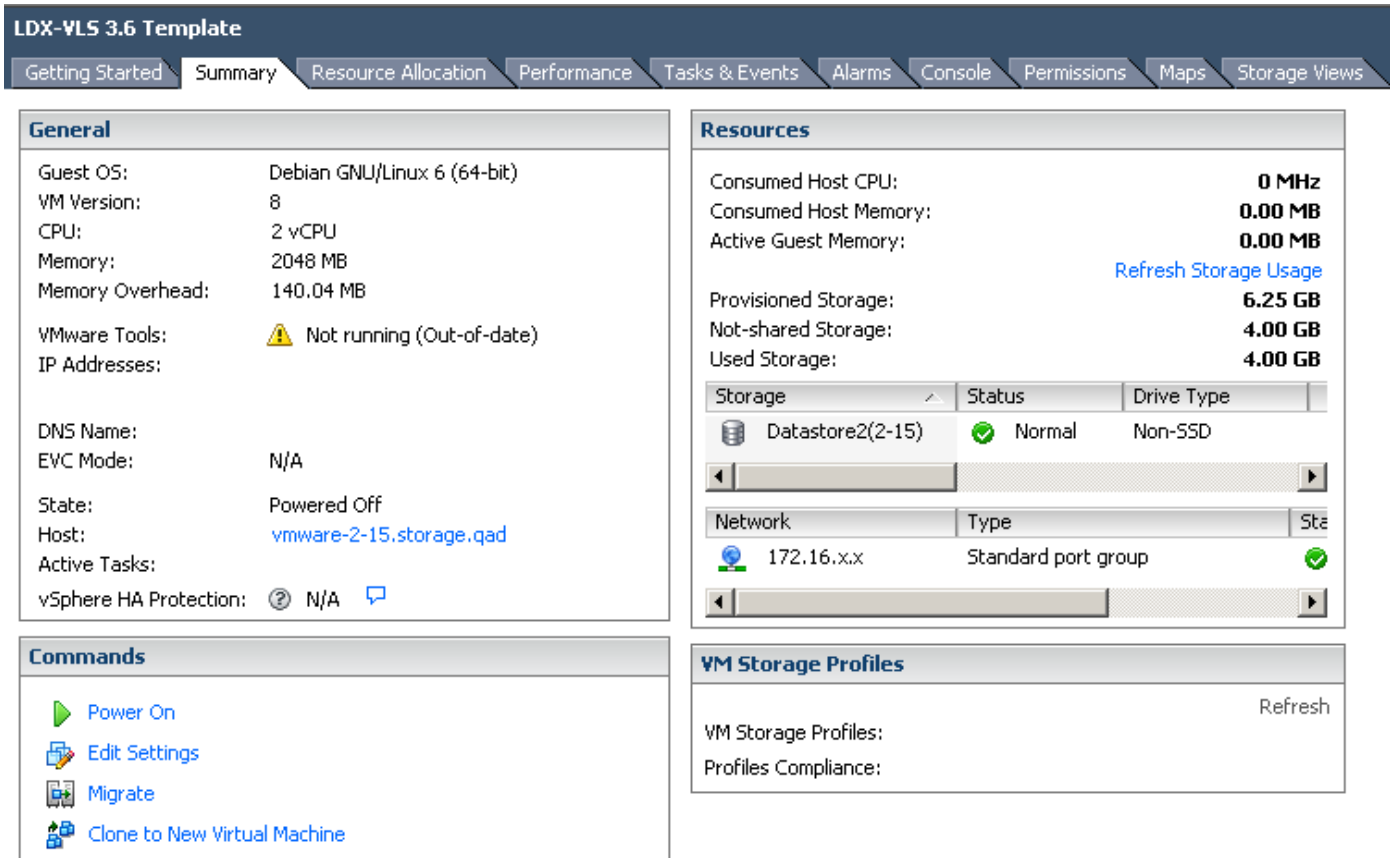


Click NEXT to summarize all of the settings and complete the virtual machine set up.



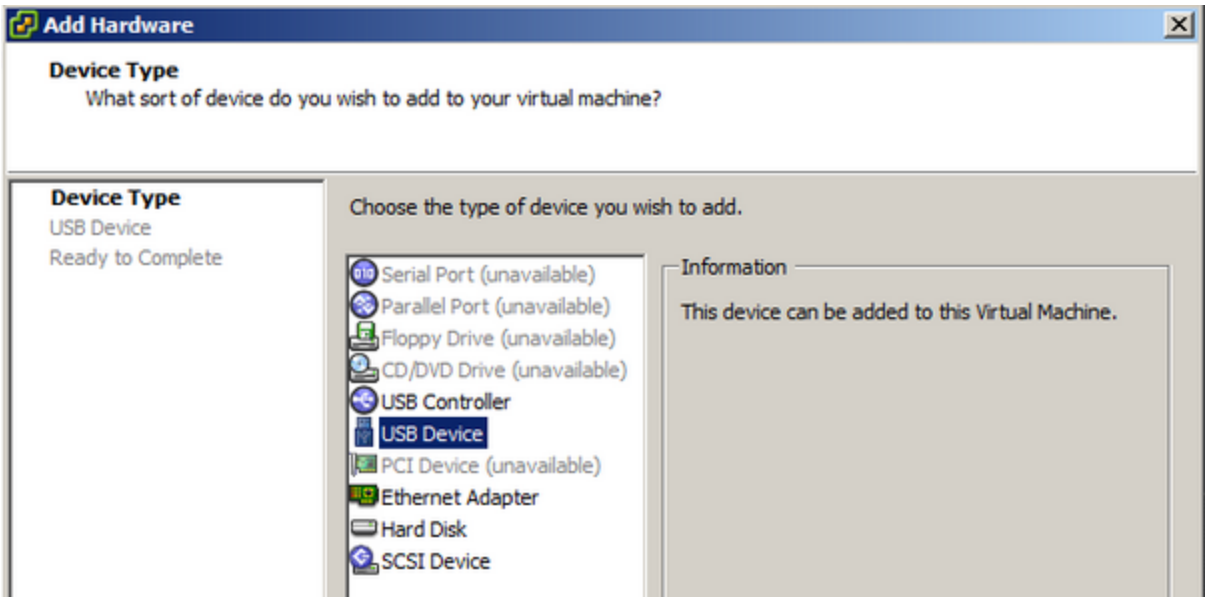
Click NEXT to complete the virtual machine setup.

Now power on the Virtual License Server virtual machine. Click on the virtual machine line in the left column of the vSphere application and then click on the Summary tab.

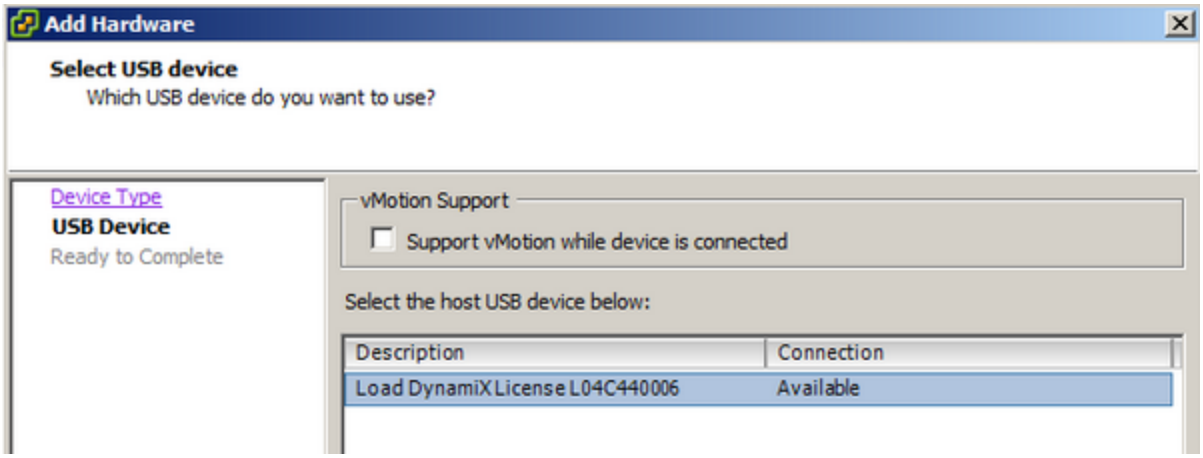


Be sure that the USB Key device is plugged into the EXSi server and then click the Power On link in the lower left hand corner. Once powered on, click the Edit Settings link to see that the USB Key has been discovered by the Virtual Server. If the USB key has not been discovered, it must be added manually using the ADD... button.

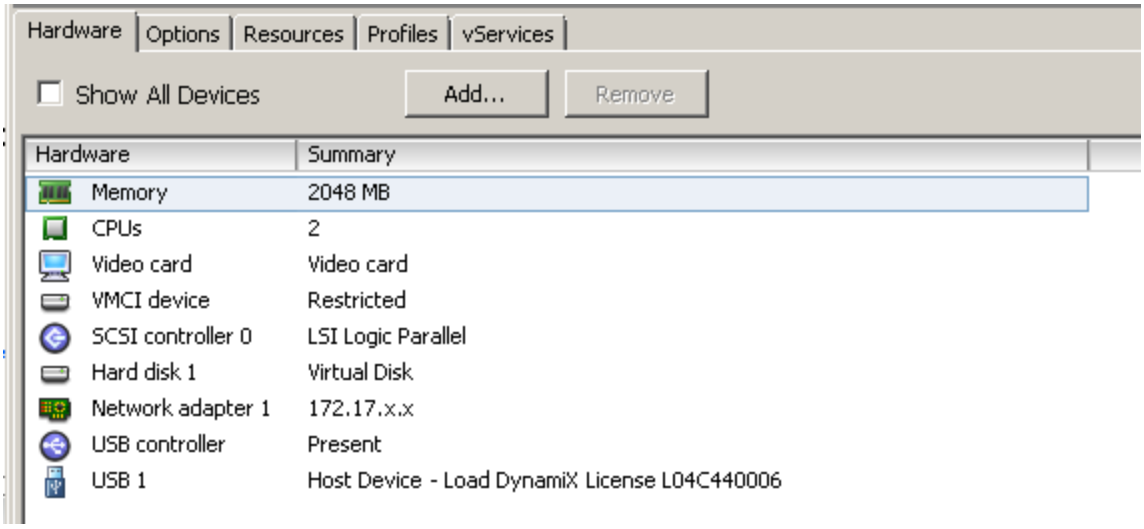
1. Click Edit Settings
2. In the Hardware tab, click Add,,,
3. Highlight USB Device



1. Click Next

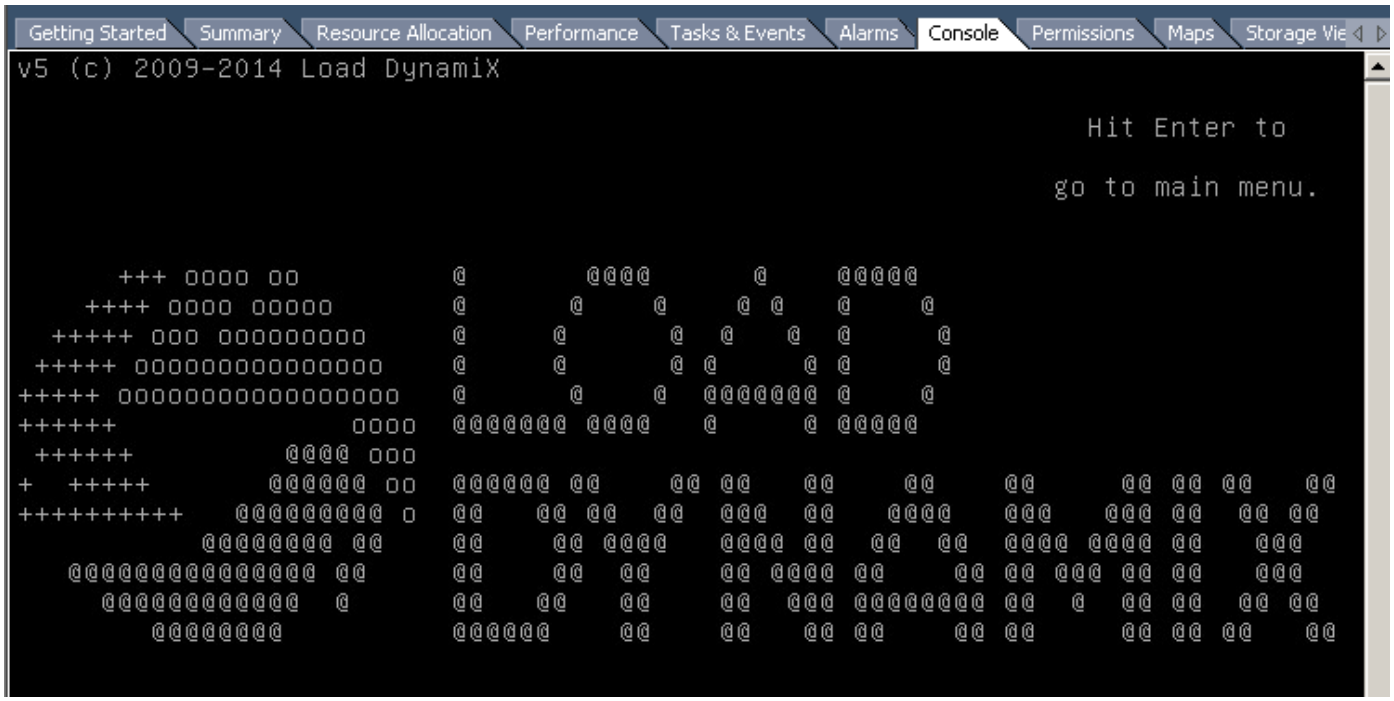


1. Highlight USB Device “Load DynamiX License L04C4400XX...” and click Next

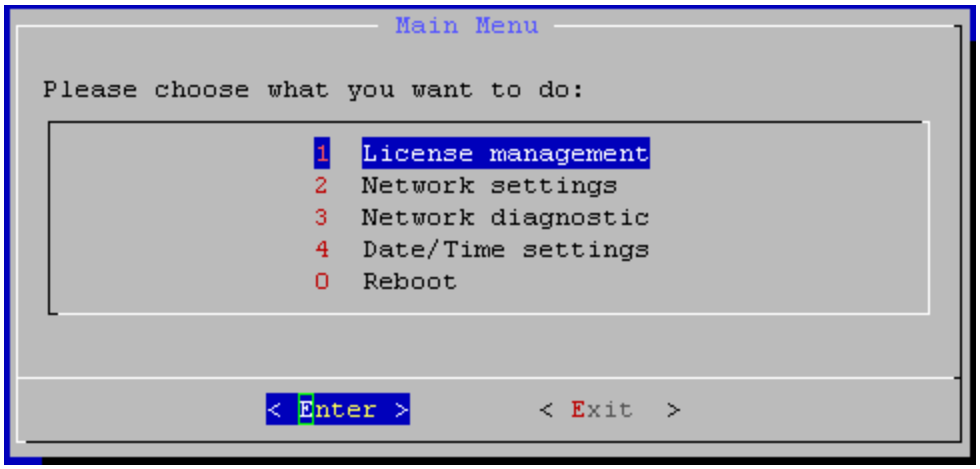


Virtual License Server Network Configuration

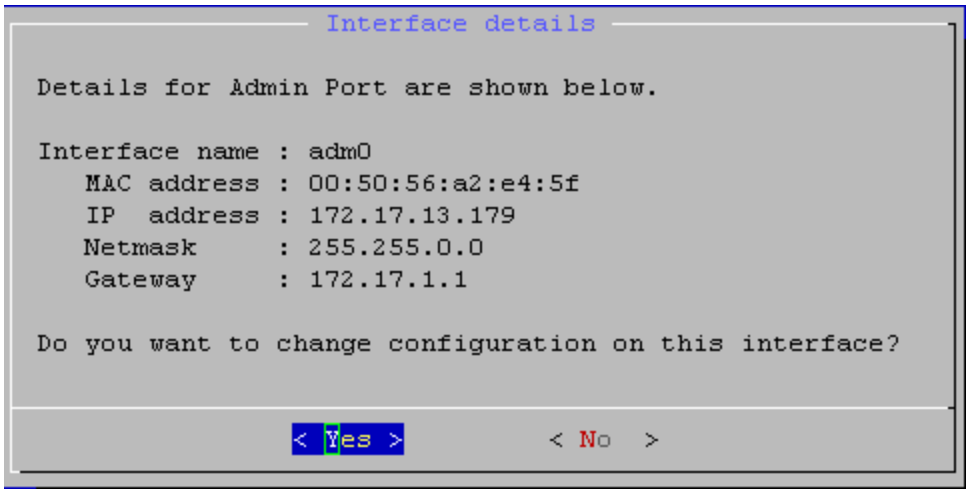
At this point, the Virtual Server is running and needs to have its IP Address set. From the Edit Settings window click OK to return the virtual machine Summary tab. Now click on the Console tab.



Hit Enter to get the Main Menu



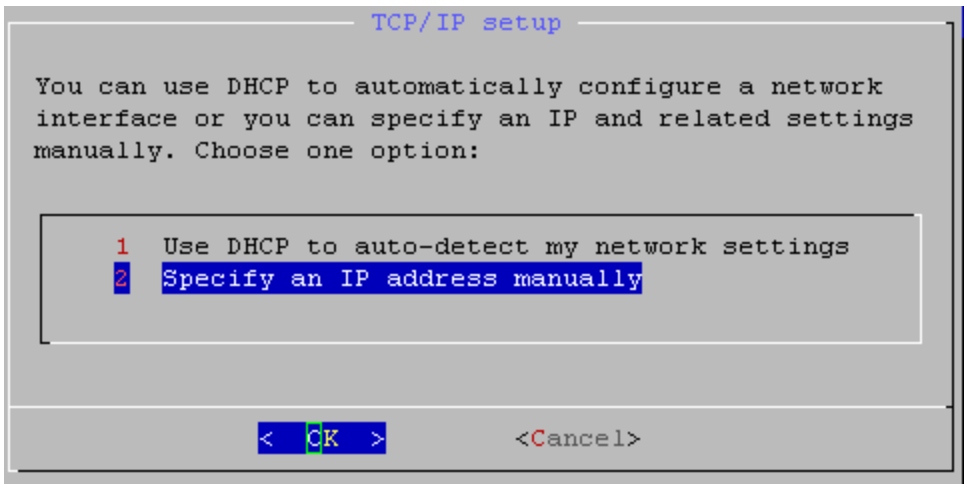
Click Down Arrow to select **Network Settings** and click Enter



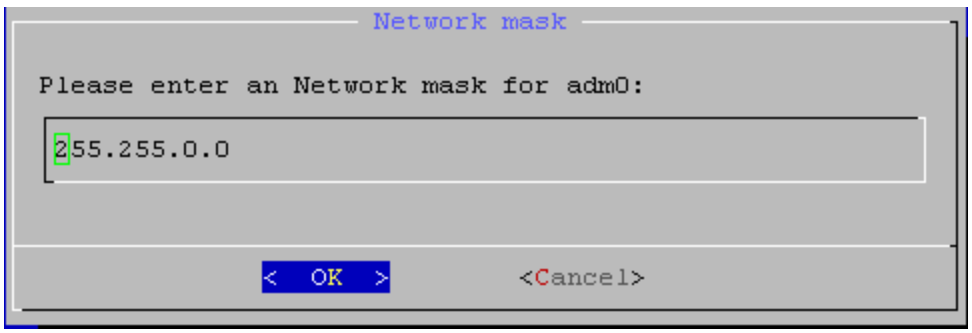
Click Yes

Note: The IP Address for the Virtual License Server defined in this step will be used in Section E when installing and activating the Load DynamiX Virtual Appliance.

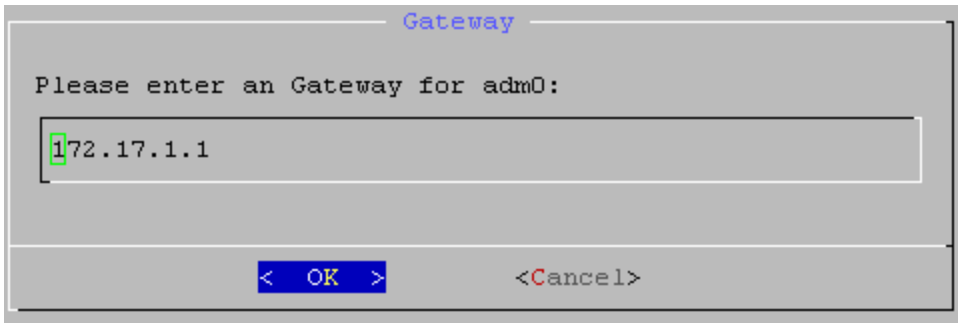
Select Specify an IP address manually to give the Virtual License Server a permanent IP address. Click OK



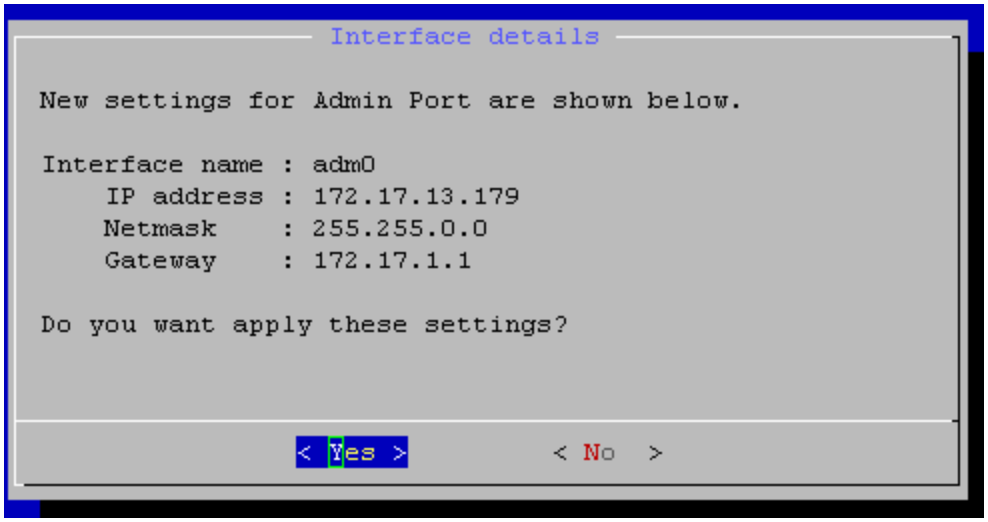
Enter the IP address of the Virtual License Server into this field and click OK.



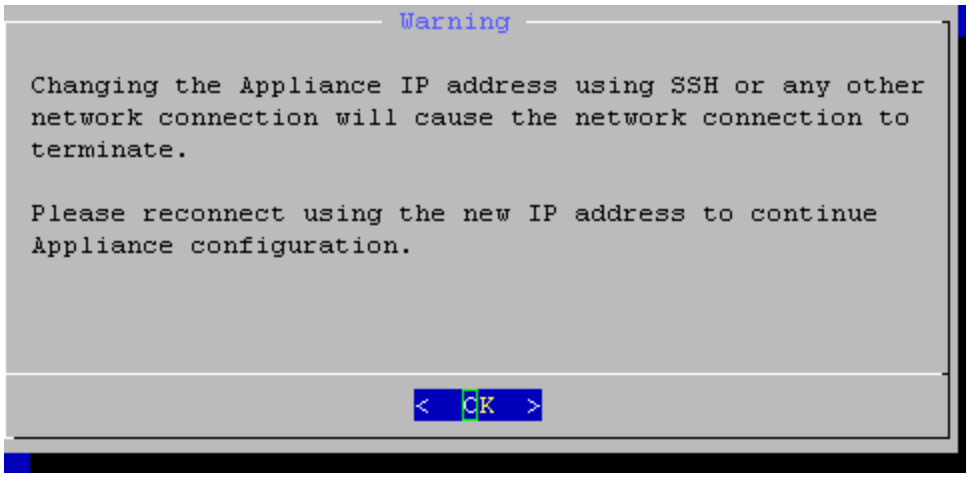
Enter the Netmask for the Virtual License Server and click OK.



Enter the Gateway (if there is one) for the Virtual License Server and click OK.



Click Yes and then answer OK to the warning message



Enter OK, OK once more and then Exit to close the session.

The VLS now is configured to host licenses. Next install the Virtual Appliance and then install and use the TDE to execute a test Project to verify that the Virtual Appliance and Virtual License Server are operational.

Do not use the Virtual License Server's administrative interface to set the Date and Time for the Virtual Appliance. Rather, allow the NTP service running on the EXSi server to provide this information to the Virtual License Server (and the Virtual Appliance).

Virtual Appliance Installation

Installation on a VMware ESXi Server

The LDX-V is delivered as a VMware OVA file which is intended to be deployed on a VMware ESXi server. The number of active Virtual Appliances is controlled by the License Server which tracks the active usage allowed by the available licenses. This document describes the process to Deploy an OVA file (virtual machine template) into a running Virtual License Server and Virtual Appliance.

VMware ESXi Server Pre-Requisites

1. Pre-defined VMware ESXi virtual switch for the management network (must be reachable by LDX workstations and **should be distinct from the Test Network virtual switch**)
2. Pre-defined VMware ESXi virtual switch(s) for the Test Network(s)
   - VM-only virtual switch for testing Virtual DUT (LDX-VM acting as a server port)
   - VM-external virtual switch for testing real DUT

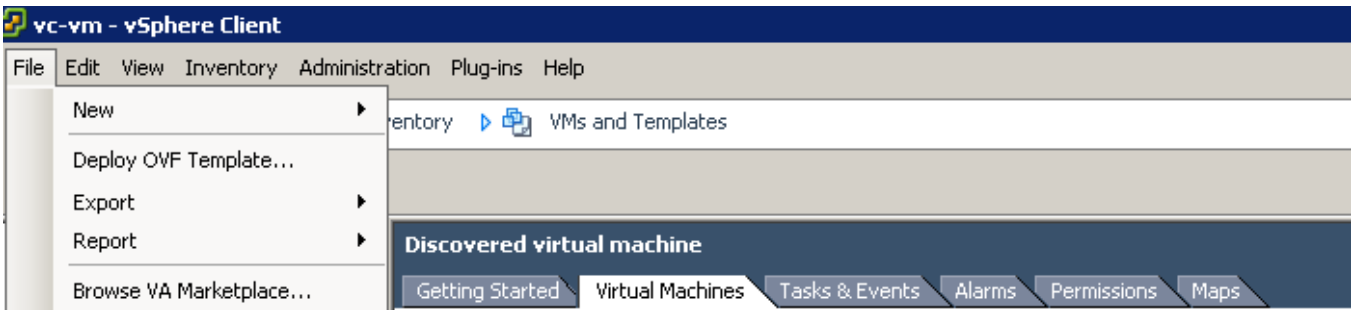
VMware ESXi Server Requirements

1. ESXi 5.1+
2. 5 vCPUs per LDX-V appliance
3. 5 GB RAM per LDX-V appliance
4. 5 virtual interfaces (one management network and four Test Network) per LDX-V appliance
5. 4 GB disk space
6. NTP (Network Time Protocol to keep Virtual Appliance and Virtual License Server time and date synchronized)
7. Single E1000 NIC for the Admin Port
8. vmxnet3 NIC for each Test Port (up to 4)

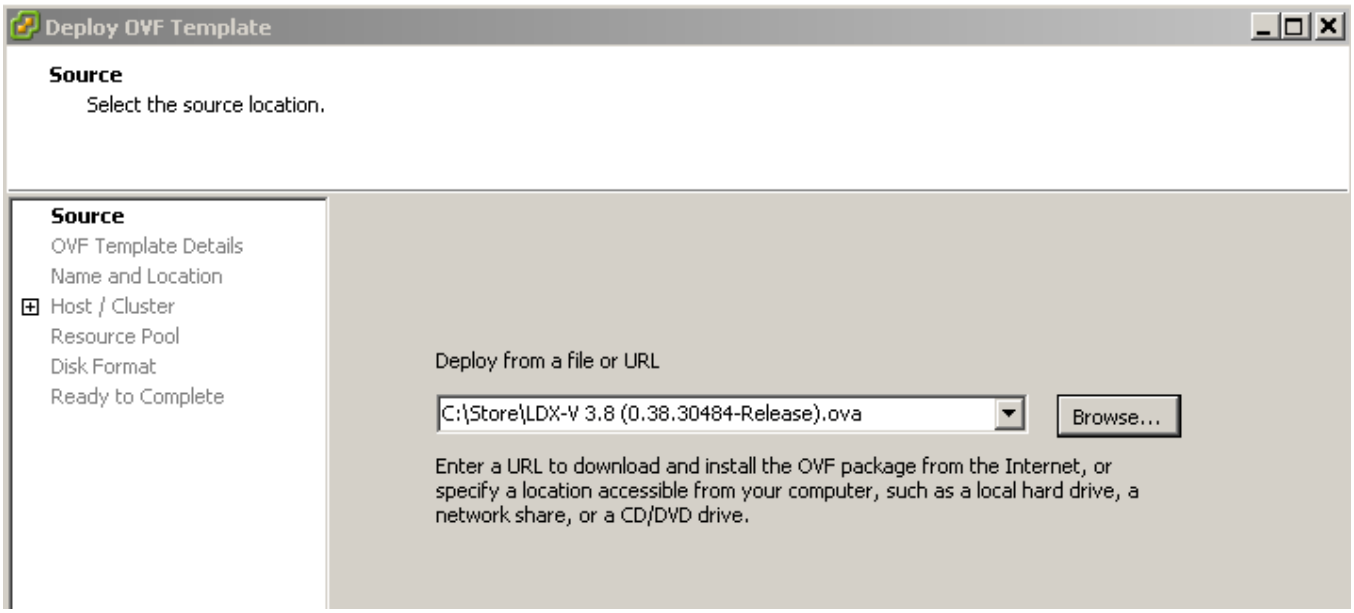
Assumption: Someone with a working knowledge of deploying VMware applications is responsible for the installation of the LDX-V.

Deploy the Virtual Appliance Template

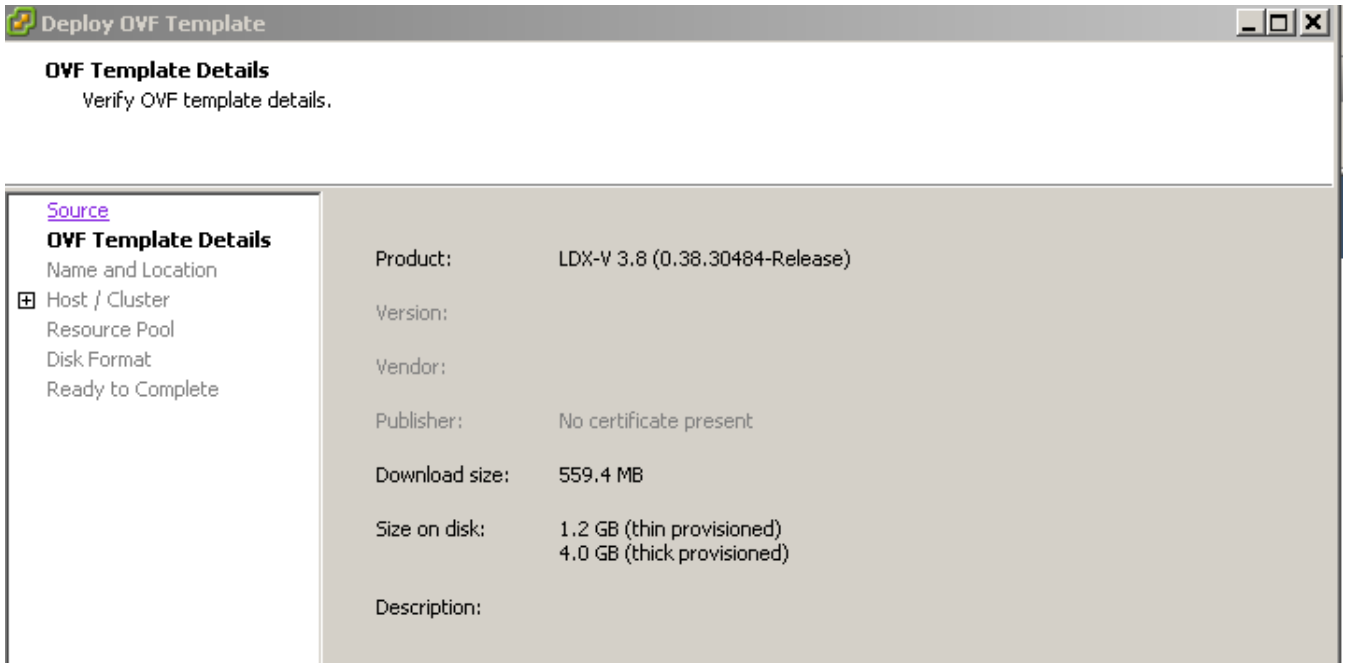
- Open the vSphere client application and select the Deploy Template feature from the File Menu



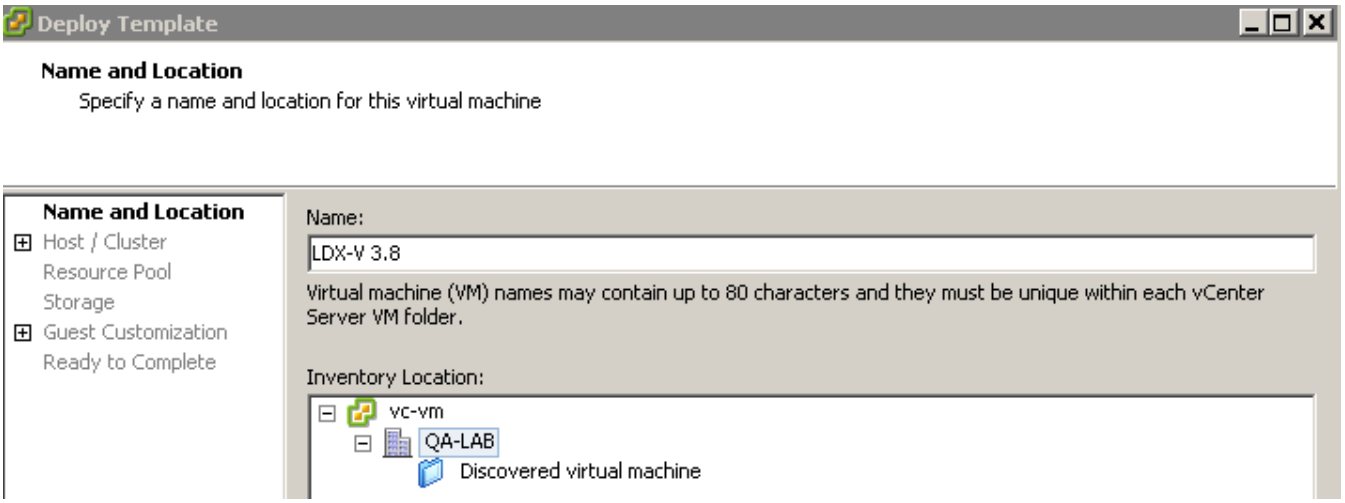
- Provide the location of the Virtual Appliance OVA file copied from the Load DynamiX USB thumb drive or downloaded from Load DynamiX's download site



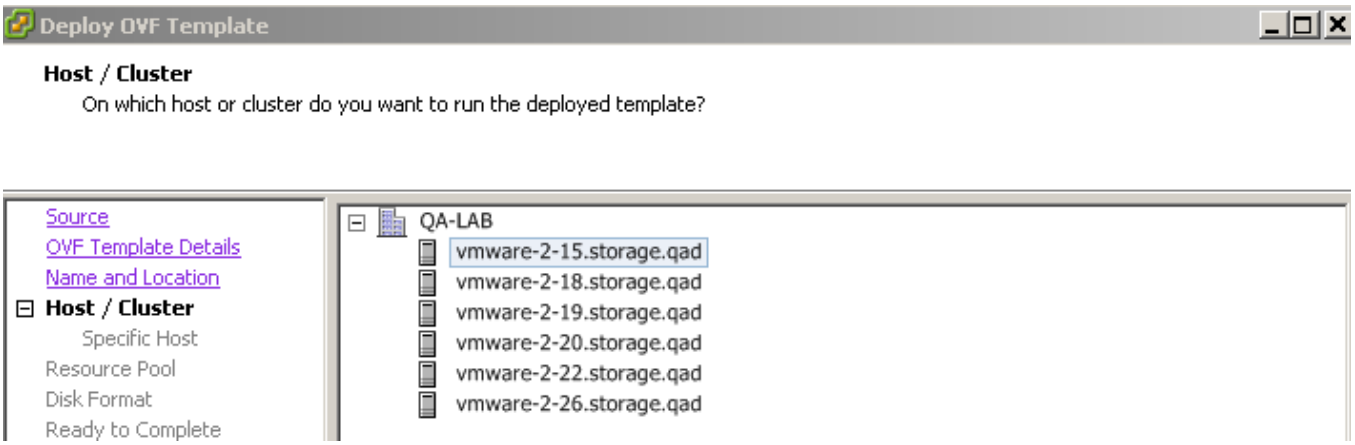
- Click **NEXT** to view OVF Template details



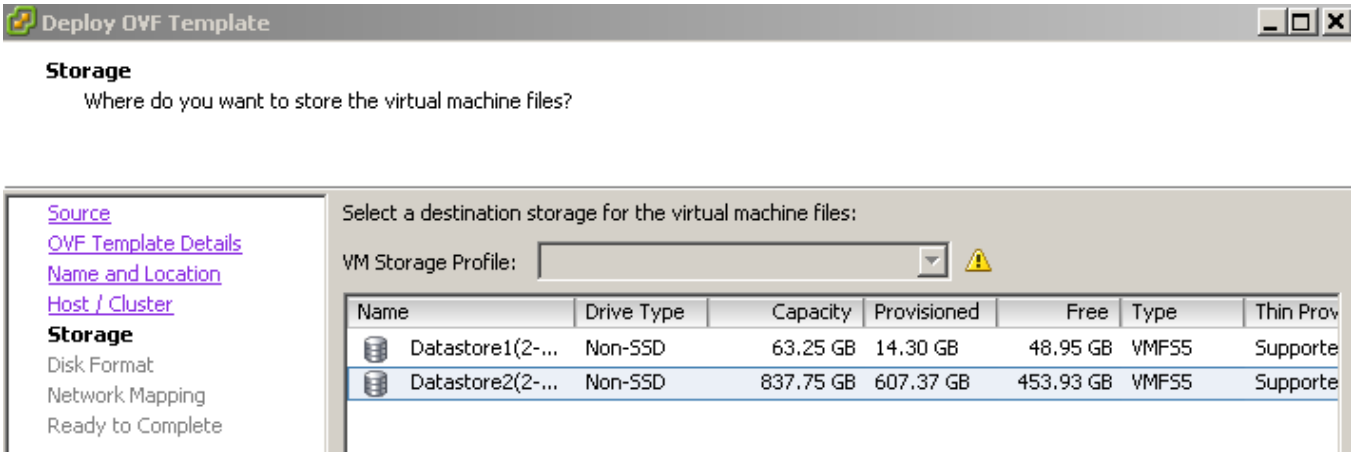
- Click **NEXT** to give the Virtual Machine a Name



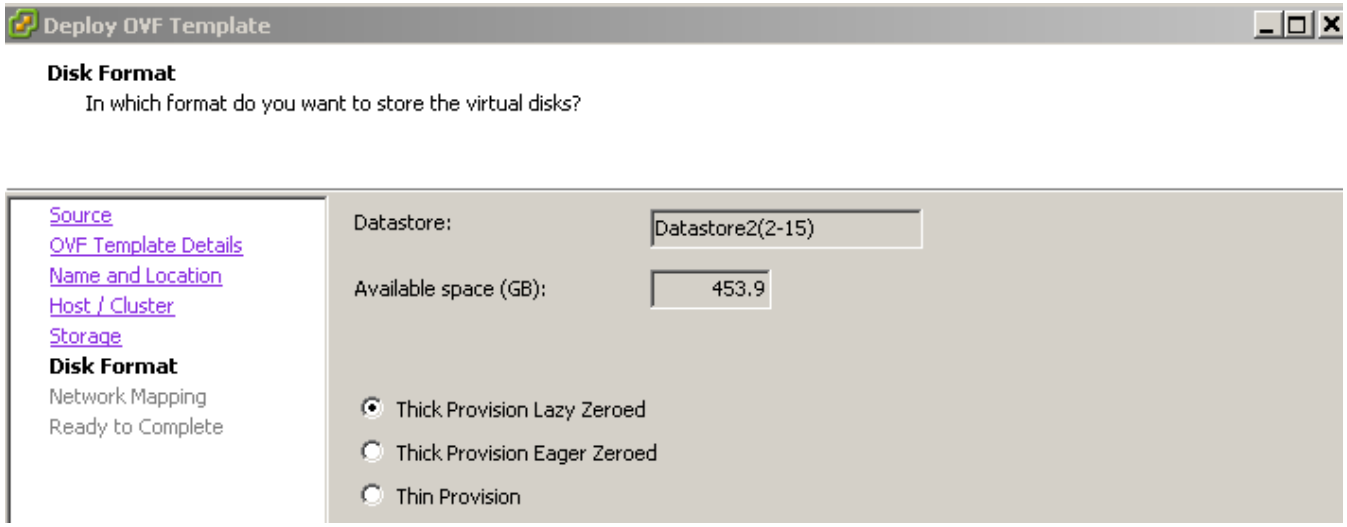
- Click **NEXT** to assign the Virtual Machine to a Host



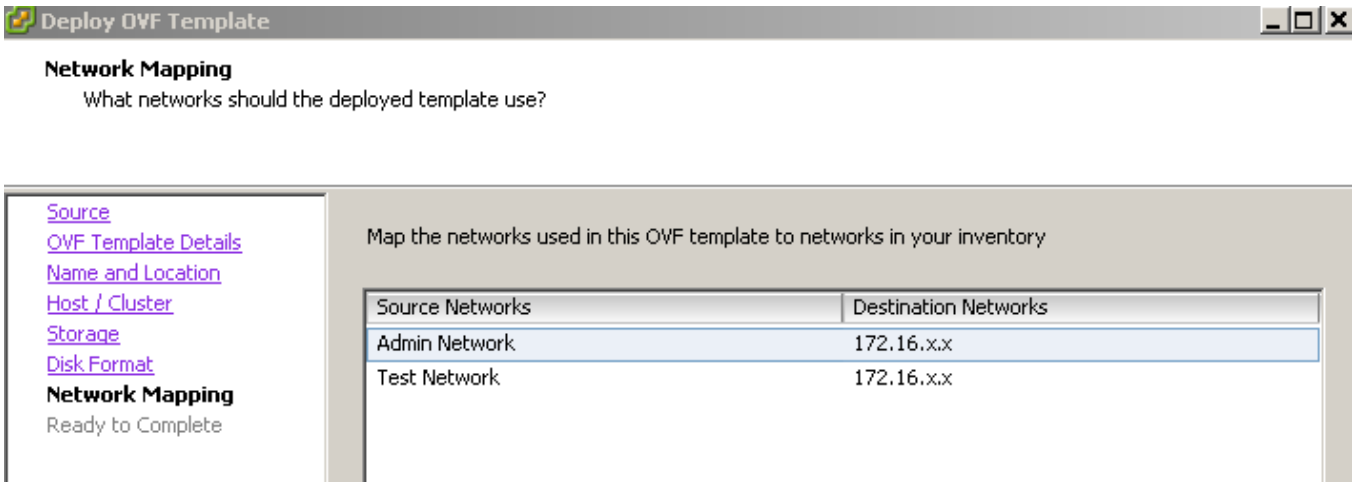
- Click **NEXT** to assign the Virtual Machine a Storage pool which will be determined by the configuration of the VMware Server. No matter how big a partition is given to the Template, the LDX-V is constrained to a 4GB file system which means that data written to a filesystem during project execution, pcap files and ::DataContent files must all fit in the 4GB limit. There is no benefit what so ever given this constraint to choosing a higher value.



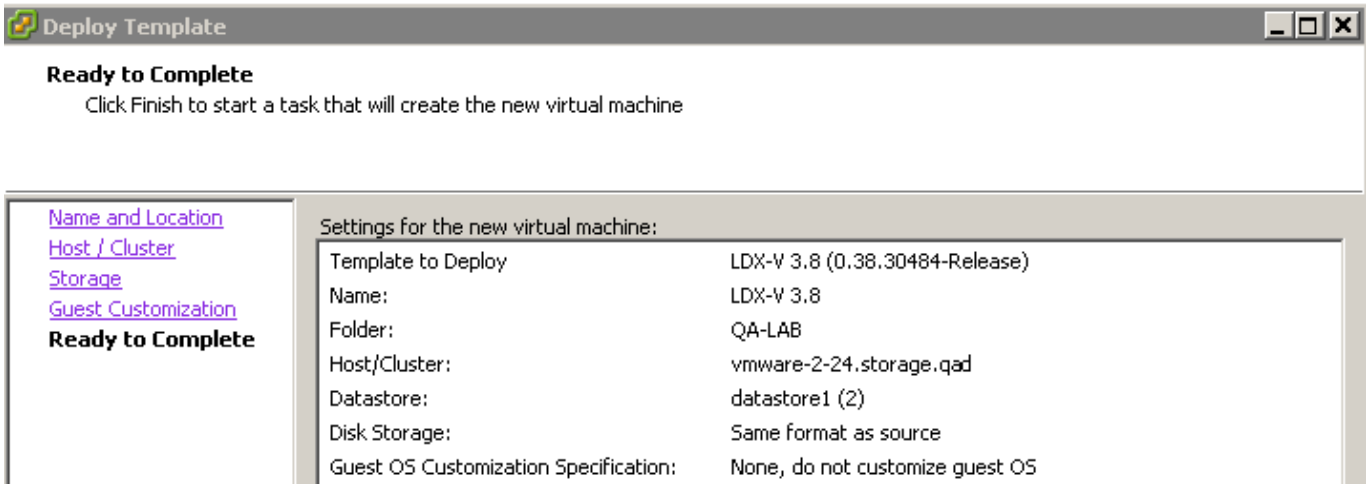
- Click **NEXT** to specify the disk format for the Virtual Appliance. Load DynamiX recommends that the default value THICK PROVISIONING Lazy Zero be selected but other provisioning choices are acceptable according to the virtual machine policies in use..



- Click **NEXT** to provide Network information to the Virtual Machine. The Network information will be very dependent on the IP addresses of the management network and Test Networks. The management network and the Test Network shown below are the VMware virtual switches mentioned in the VMware ESXi Pre-Reqs discussion above. **The Admin and Test Networks can be separate networks or the same network, however separate networks is recommended.**



- Click **NEXT** to see the configuration of the Virtual Machine

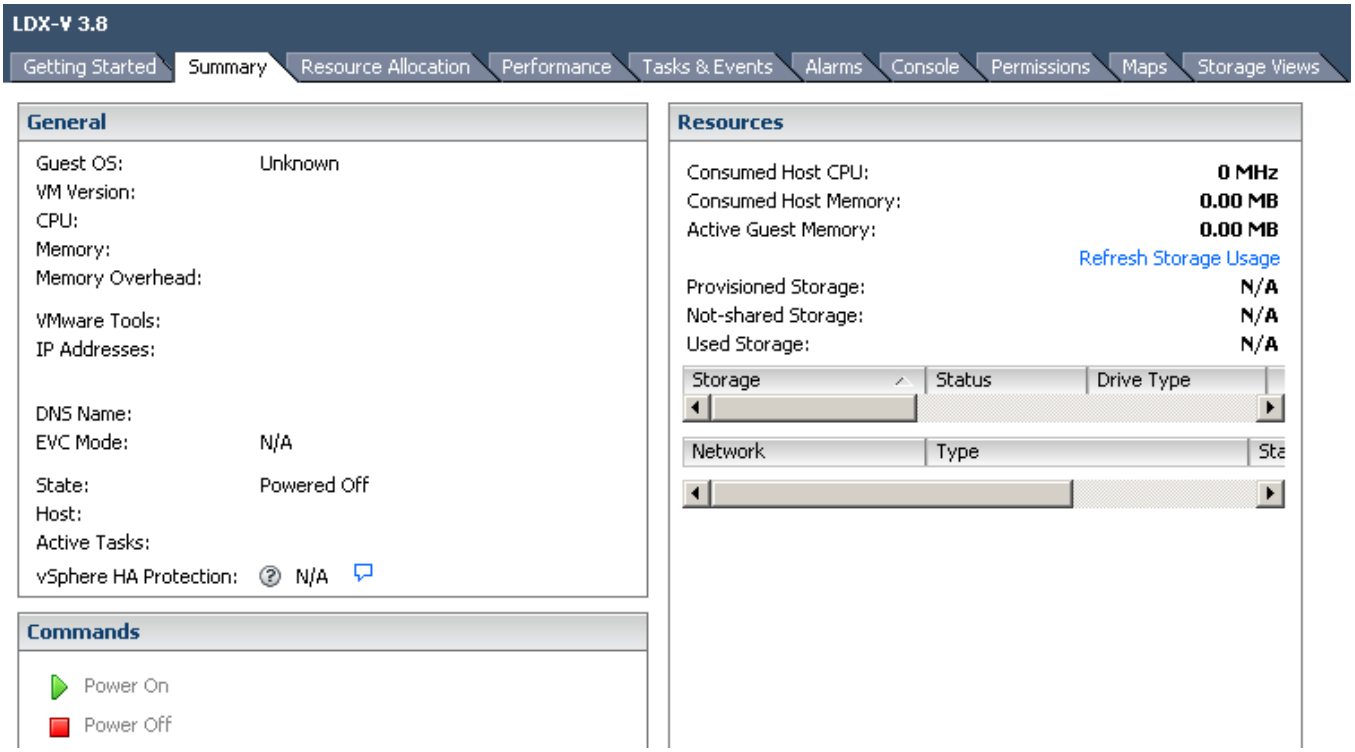


Click **FINISH** to complete the Virtual Machine deployment. If the 

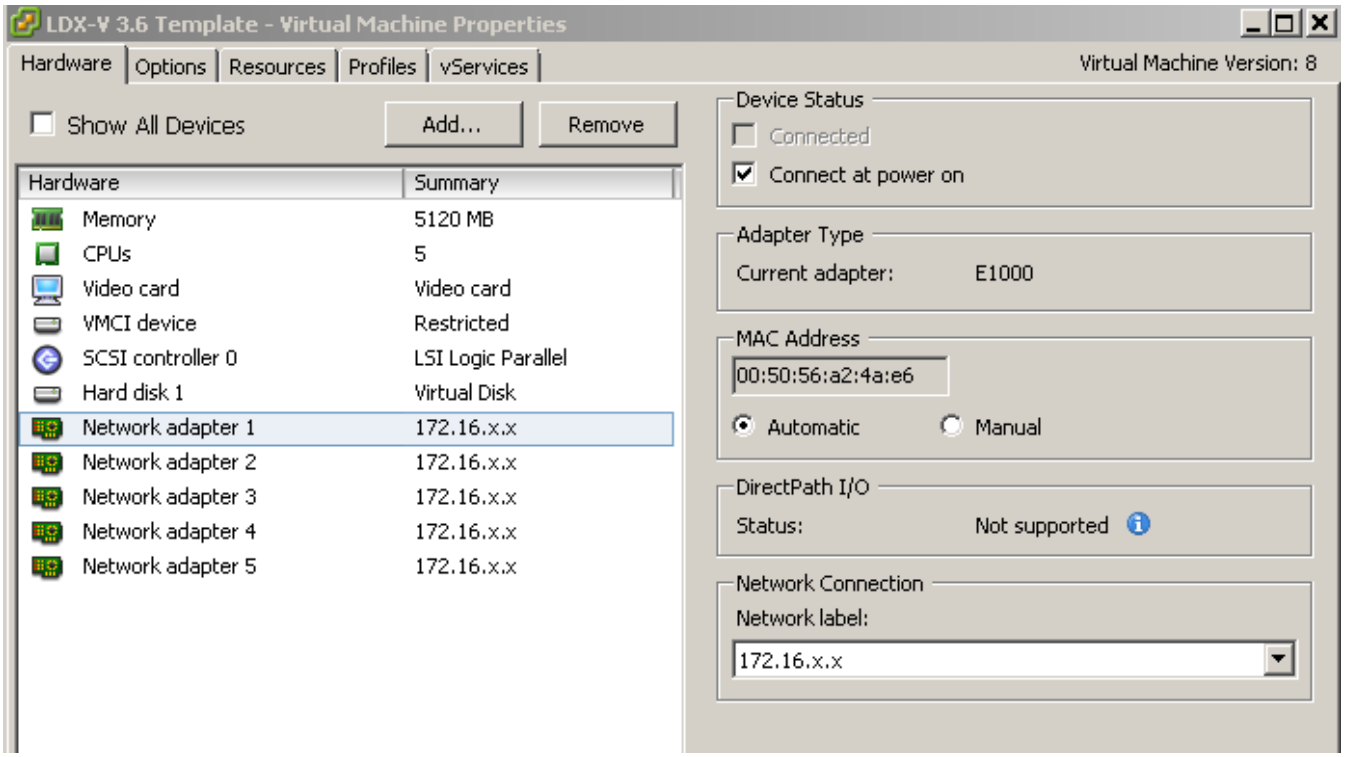
is checked, a Virtual Appliance based on the Template will be started on the VMware ESXi server. At this point VMware will finish creating the Virtual Machine

- When the Virtual Machine creation process has completed, verify that the Virtual Appliance network configuration is ready – click on the virtual machine created in the VSphere interface and click on the Summary tab.

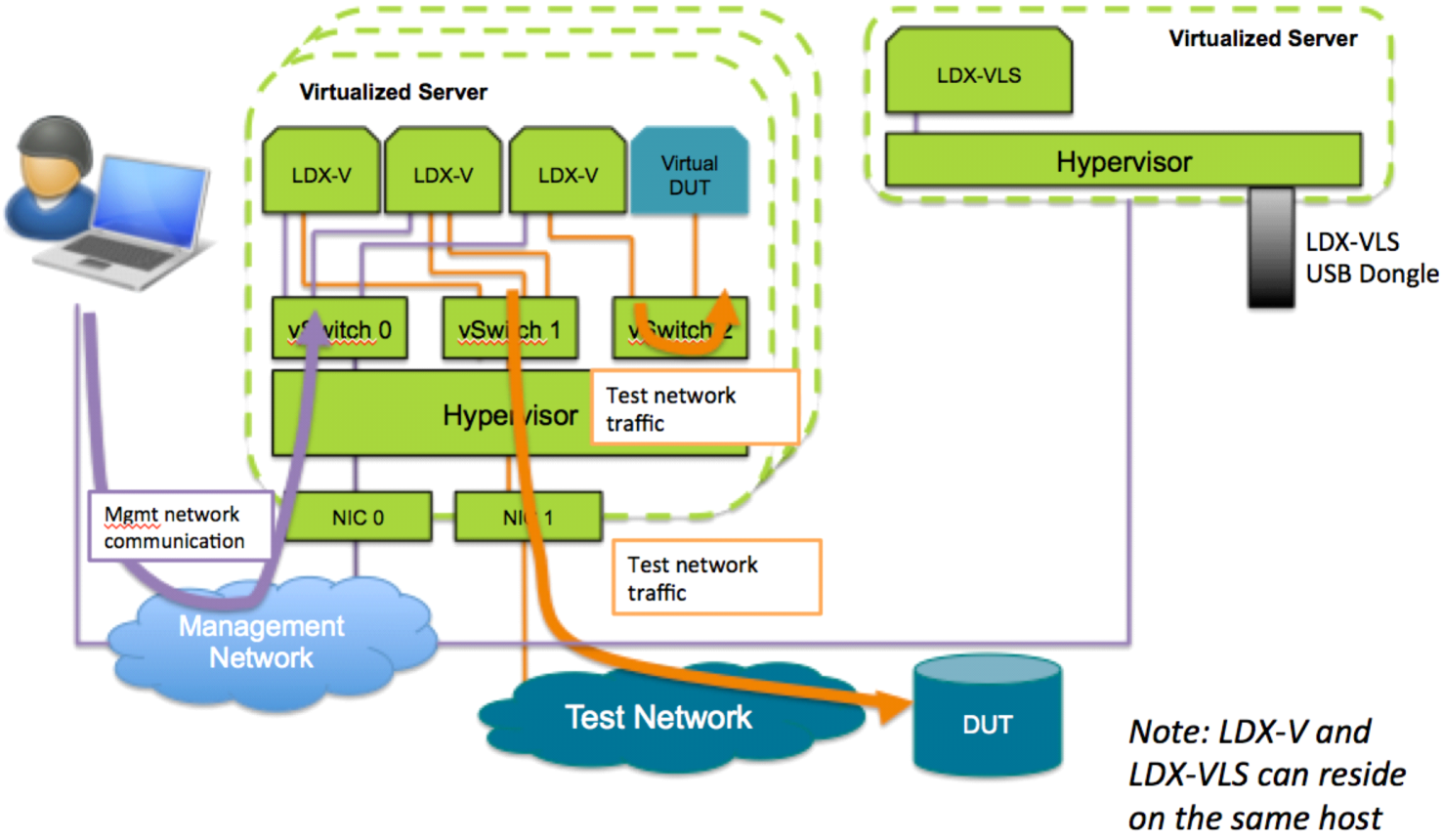
- Power On the Virtual Machine (right click on the Virtual Machine name > Power > Power On) and then click on the Virtual Machine name and click the Summary Tab.



- Make sure that the Network interfaces are connected to the correct virtual resources. The management network Port (**Network adapter 1**) must be connected to an interface that is accessible outside the VMware ESXi server.
  The Test Network Ports (Network adapter 2,3,4,5) must be connected as desired for testing. The configuration shown below has the four Test Network Ports connected to a VMware ESXi virtual switch so that they can communicate in a back-to-back configuration which will be used to validate the installation below.



Virtual Appliance Network Configuration

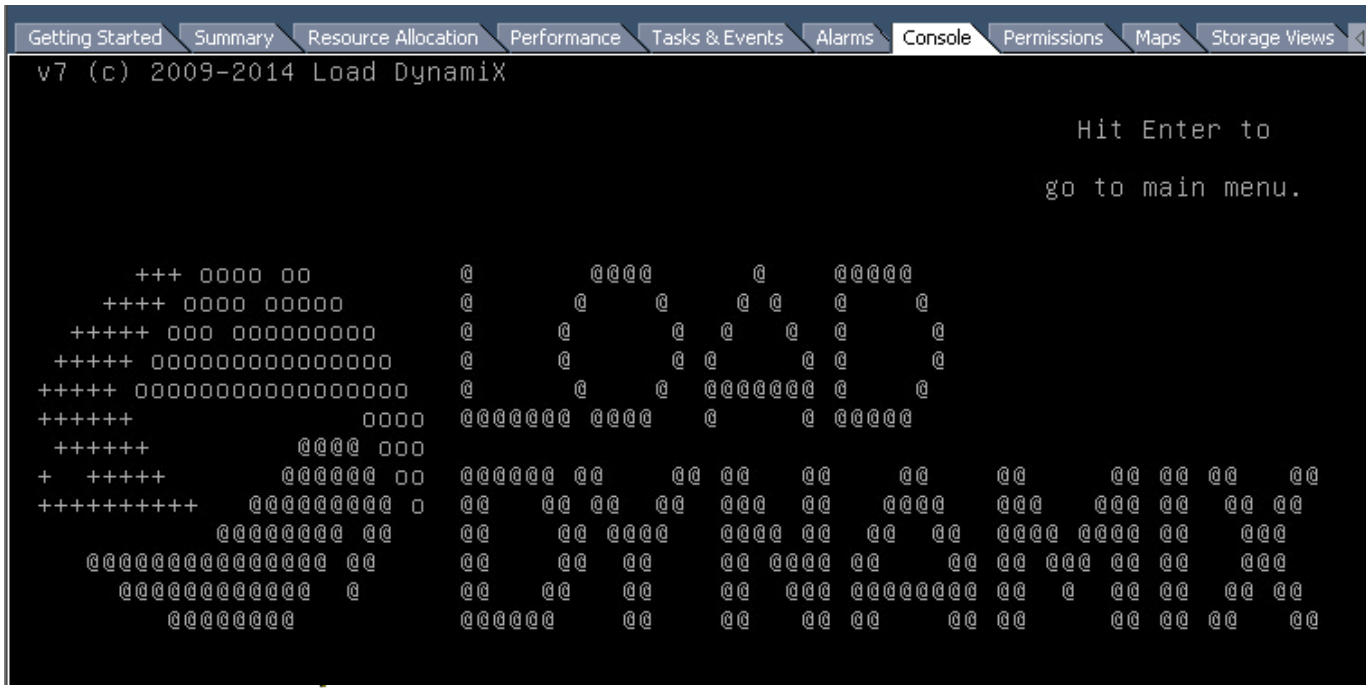


The LDX-V has two types of ports - Management Network and Test Network Ports. It is recommended that the Test Network Ports and Management Network Ports be connected to different networks, as Test Network Ports can generate significant amounts of traffic, and can potentially overwhelm the network on which they are connected.

Ping- LDX-V Test Network Ports are only active during test execution so pinging them prior to running a test will not produce a positive response. If it is necessary to Ping the LDX-V Test Network Ports during test execution to verify that the Test Network Port is active, please limit the frequency and size of Ping requests as it can impact Test Network Port performance during test execution. Load DynamiX suggests setting the Ping packet size to less than 32 bytes (-s option on the linux/unix ping command or -l option on the Windows ping command)

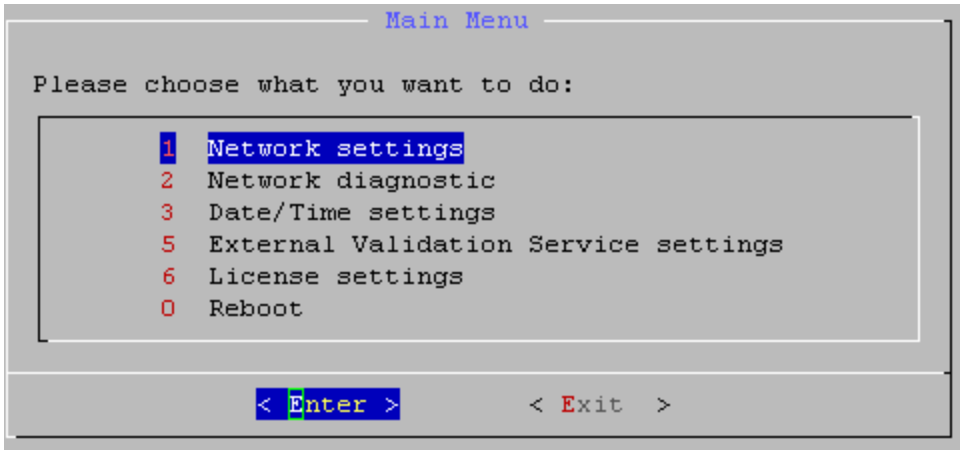
Load DynamiX Virtual Appliance

- In the vSphere client application in the running Virtual Appliance Summary tab as seen



- above, click the Open Console link to open the Virtual Appliance's console.

- Hit Enter to get the Virtual Appliance Admin Interface (see section K below for the details of this interface). The following are the steps to define the Virtual Appliance's management network.



- Change the network configuration of the Appliance to be on a network accessible by the Load DynamiX TDE. Select **Network settings** and follow the configuration prompts to change the IP address, netmask, and default gateway address of the Appliance. This process sets the Virtual Appliance's Management IP address which will be used by the Load DynamiX TDE to interact with this Appliance. Unless specified by the customer, DHCP is the default for the IP address setting. However, unless the DHCP server is configured to give the Appliance a static IP address, it is not recommended that DHCP be used.

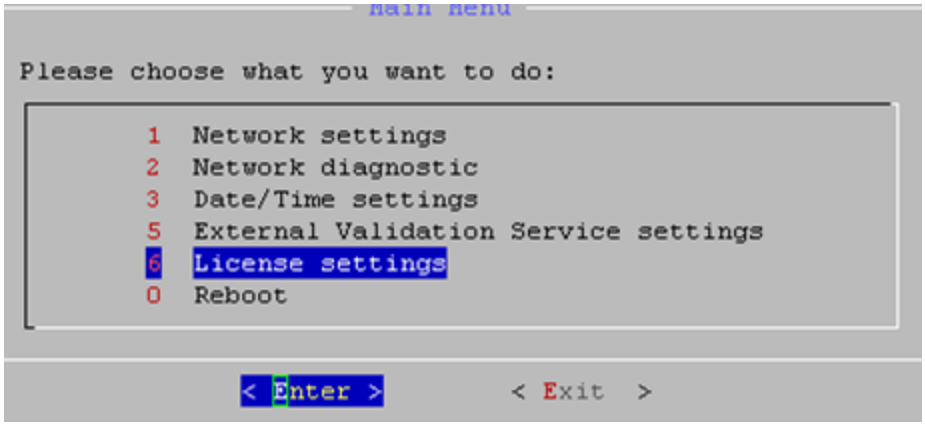
- Now the Virtual Appliance has its management network configured, it can be managed from the TDE.

- To check the setup, ping the Management IP address of the LDX-V from the Windows workstation that does or will host the Load DynamiX Test Development Environment (TDE).

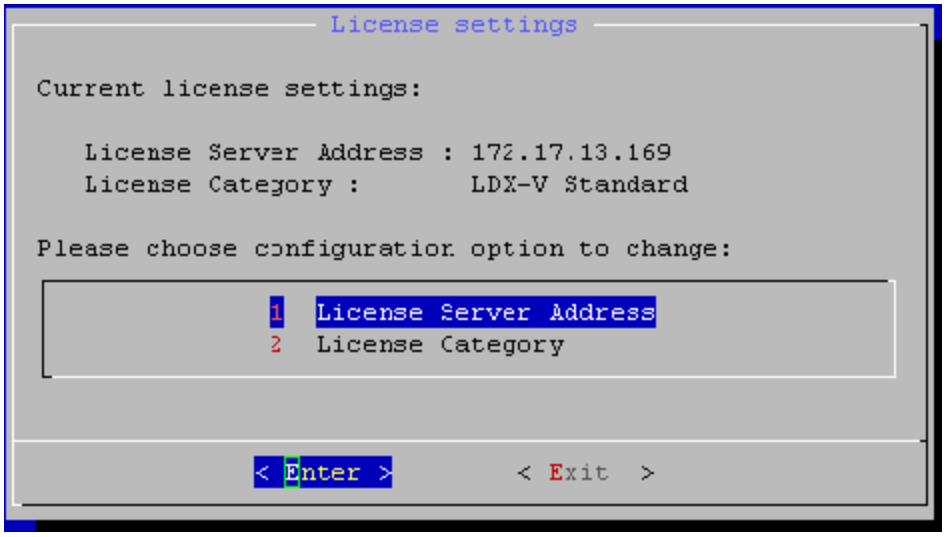
- Open a browser on the Workstation and type the Appliance Management management

network Port IP Address into the address bar and hit return. The text “Load DynamiX” should appear in the browser window.

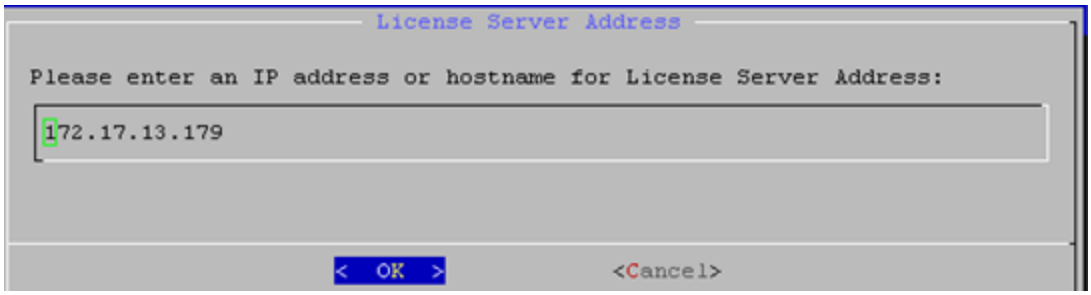
- If a. fails, Ping the Load DynamiX Appliance Management IP address (C:\Windows\System32\ping <IP Address>).
- If the Ping is unsuccessful run the Trace Route command (C:\Windows\System32\tracert <IP Address>) to see where the routing process fails then go back to step 4 and verify the IP address, netmask and gateway address assigned to the Appliance. If these are correct, ensure that the Management Workstation is connected to a network that can access the network that the management network Port is connected to.
- **The Virtual Appliance must have the IP address of the Virtual License Server**. In the config/config menu of the Virtual Appliance select License Settings.



Click <Enter>



Click <Enter> to set the License Server IP address



Enter the IP Address of the Virtual License Server that was defined in Section C when the Virtual License Server was Installed and Deployed, and click <OK> to return to the License Settings menu. Use the Down Arrow to select License Category and click <Enter>. There are two kinds of License Categories for Virtual Appliances:

1. Standard
2. Plus

LDX-V Standard Licenses have the following per-Port constraints:

- Max Concurrent Scenarios: 1250
- Max Concurrent Connections: 300
- Max Actions/Sec: 1250#
- Max Bandwidth: 250 Mbps#
- Max IP Addresses: 256
- Max MAC Addresses: 100
- Max Test Duration: 72 hours
- PCAP Trace Limit: 100MB
- PCAP Circular Trace Limit: 32MB

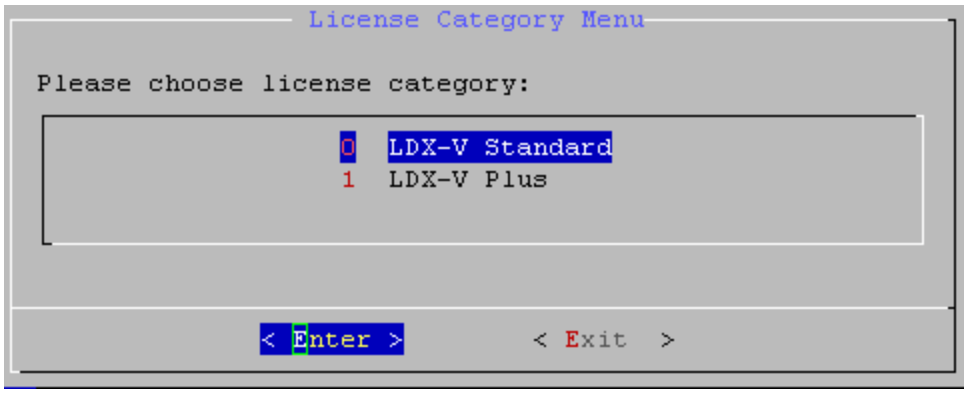
LDX-V Plus Licenses have the following per-Port constraints:

- Max Concurrent Scenarios: No Limit
- Max Concurrent Connections: No Limit
- Max Actions/Sec: No Limit#
- Max Bandwidth: 1Gbps#
- Max IP Addresses: No Limit
- Max MAC Addresses: 100
- Max Test Duration: 72 hours
- PCAP Trace Limit: 100MB
- PCAP Circular Trace Limit: 32MB

Observed Bandwidth and Actions Per Second are dependent on the resources available from the Host.

LDX-V Licenses contain a specification of the number of Instances that the License supports (e.g. the number of distinct LDX-V Instances that the single license supports). A Virtual Appliance License can contain both LDX-V Standard and LDX-V Plus Licenses. The number of LDX-V instances holding an LDX-V Standard license cannot exceed the number of LDX-V Standard Licenses in the License. The number of LDX-V instances holding an LDX-V Plus License cannot exceed the number of LDX-V Plus Licenses in the License.

When selecting a License for a Virtual Appliance Instance it is necessary to specify the Category of the License. In the License Settings menu select License Category and click <Enter>.



Select the Category of License desired and click <Enter>. Now work your way back to the Main menu and exit the Virtual Appliance's administrative interface.

Do not use the Virtual Appliance's administrative interface to set the Date and Time for the Virtual Appliance. Rather, allow the NTP service running on the EXSi server to provide this information to the Virtual Appliance (and the Virtual License Server).

TDE Software Installation

Management Workstation Hardware Requirements

1. Windows PC, 2 Gigahertz processor clock speed or higher
2. 4 Gigabytes (GB) of RAM or higher
3. 4 Gigabyte (GB) of available hard disk space or higher

Software Requirements

1. Windows 7, 8, 8.1 and 10 operating systems, Installation Folders:
    a. Windows 7, 8, 8.1 and 10 plus .NET framework version 4.x
        - Program executables: C:\Program Files\LoadDynamiX\{InstallationFolder}
        - ProgramData: C:\ProgramData\LoadDynamiX\{InstallationFolder}
        - Projects: C:\Users\{UserLoginName}\Documents\LoadDynamiX\My Projects
        - Resources: C:\Users\{UserLoginName}\Documents\LoadDynamiX\My Resources
        - User Guides and Documents: C:\Program Data\LoadDynamiX\{InstallationFolder}\LoadDynamiX Docs
        - Scripts: C:\Program Data\LoadDynamiX\{InstallationFolder}\LoadDynamiX Docs\scripts
        - Mono: C:\Program Data\LoadDynamiX\{InstallationFolder}\Mono

2. Windows .NET version 4.x framework from Microsoft must be installed on the Management Workstation.

    To verify that .NET v4.0 is installed on the Management Workstation, from a command window prompt, issue the following commands in a command window:

    - dir C:\WINDOWS\Microsoft.NET\Framework\v*
    - dir C:\WINDOWS\Microsoft.NET\Framework64\v*

Management Workstation to Appliance Communications

The Load DynamiX TDE and Automation tools communicate with Load DynamiX Appliances using the HTTP protocol. For the TDE to function properly, the TDE must be able to send and receive HTTP packets from the Appliance. To test communications between Workstation and Appliance try the following:

1. From a browser on the Workstation, type the Appliance <IP Address> into the address bar and the text “Load DynamiX” should appear in the browser window.
2. If #1, does not work: From a command prompt on the Workstation, Ping the Appliance IP address (Windows command: ping <IP Address>)
3. If #2 does not work: From a command prompt on the Workstation, run a trace route (Windows command: tracert <IP Address>)

If any of the above tests fail, the Workstation and Appliance will not be able to communicate.

Management Workstation HTTP Proxy Configuration

If an HTTP proxy has been enabled for the computer running the TDE, be sure to either add the address(es) for the Load DynamiX appliance(s) to the HTTP proxy or disable the proxy setting for the computer running the TDE.

HTTP access

The Load DynamiX TDE and command line Automation both use the HTTP protocol to communicate with the Appliance. If the system running the TDE or Automation cannot communicate with the Appliance via HTTP, no Projects will be executable. A simple test of HTTP access o the Appliance from any system is to open a browser on that system, enter the Appliance's IP address in the browser's address bar. What should be seen is the text “Load DynamiX” in the upper left hand corner of the browser.

Software Installation

1. The software is available on a Load DynamiX USB thumb drive or from the Load DynamiX FTP site (see support@loaddynamix.com for details).

If you are downloading the GUI software from the Load DynamiX FTP site, copy the Load DynamiX .ZIP file to your computer.

- Uncompress the .ZIP file. If you do not have a program to uncompress the file you can download winRAR from rarlabs.com or other RAR sites.
- Copy the .exe file to your computer.

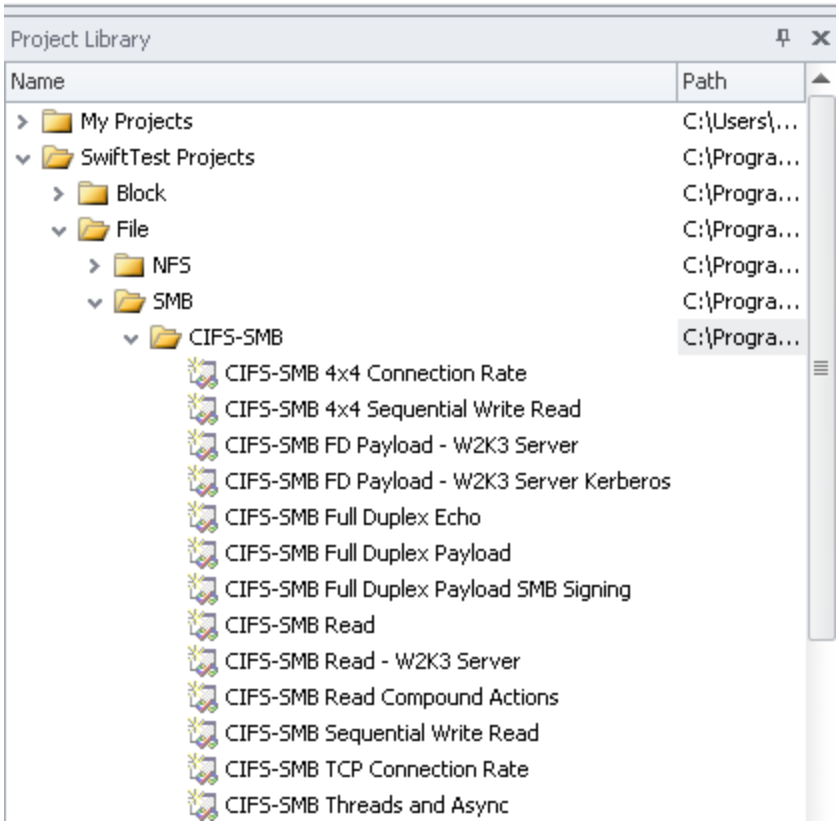
If you have the Load DynamiX TDE thumb drive, insert the thumb drive into the Management Workstation's USB port.

2. Double click the Load DynamiX TDE.exe file. Follow the setup instructions.

Initial System Configuration

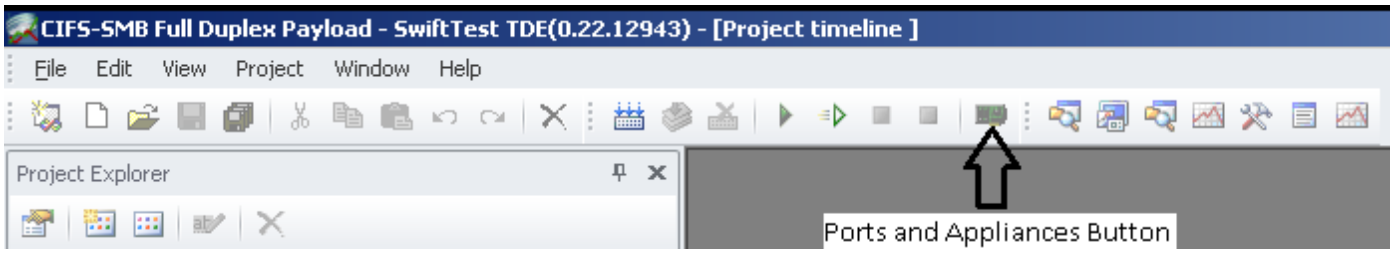
Start the Load DynamiX Test Development Environment (TDE) by double clicking on the icon on your desktop or in the Start menu.

Click Project Library window in the lower left corner of the main GUI window.

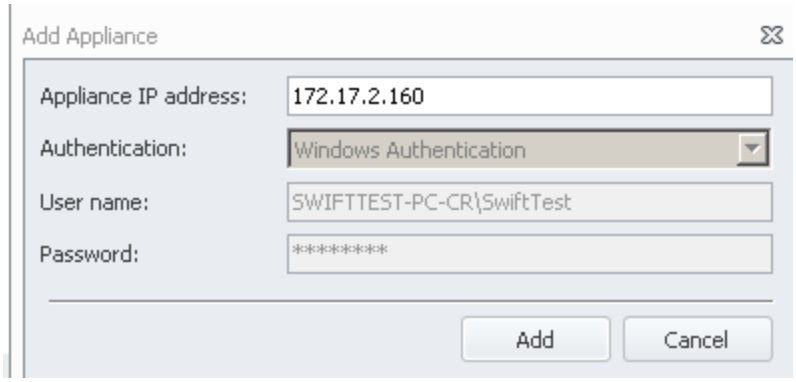


Click Sample Projects then open the File then SMB then CIFS-SMB folders.
Double click the CIFS-SMB Full Duplex Payload project.
The sample test is Read-Only. Save a copy in your My Projects directory.

Establish a connection from the TDE to the Appliance:



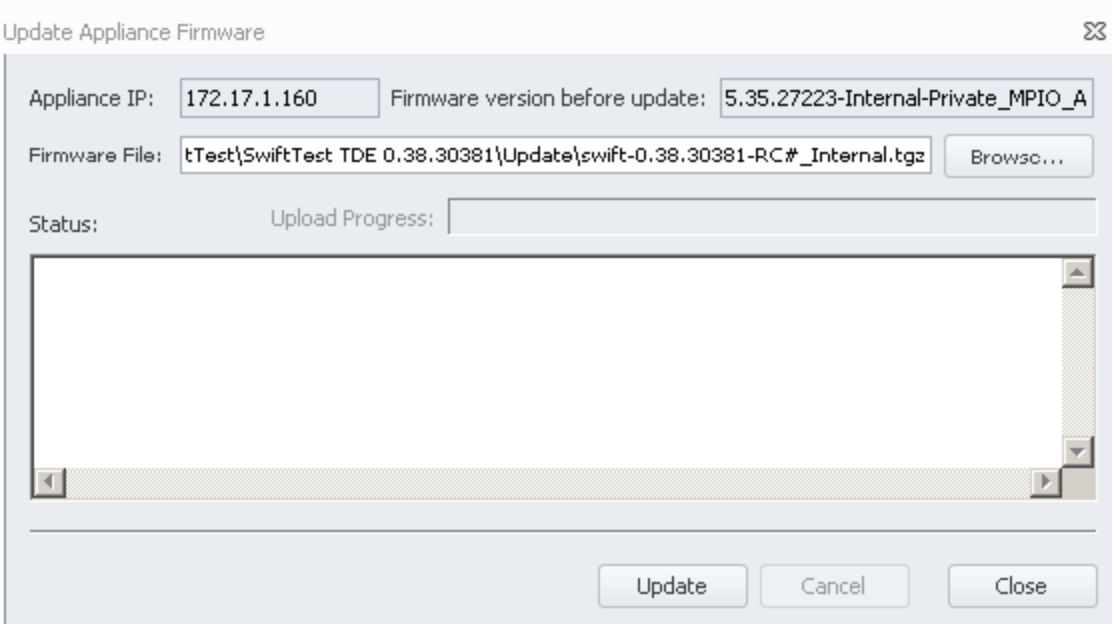
- Click the Ports & Appliances icon in the TDE Toolbar.
- Select the Appliances tab in the Ports & Appliances window.
- Click the Add Appliance icon  at the top left of the window.
- Type the Management IP address of the Appliance and click Add.



Ensure the Appliance is running the latest software:

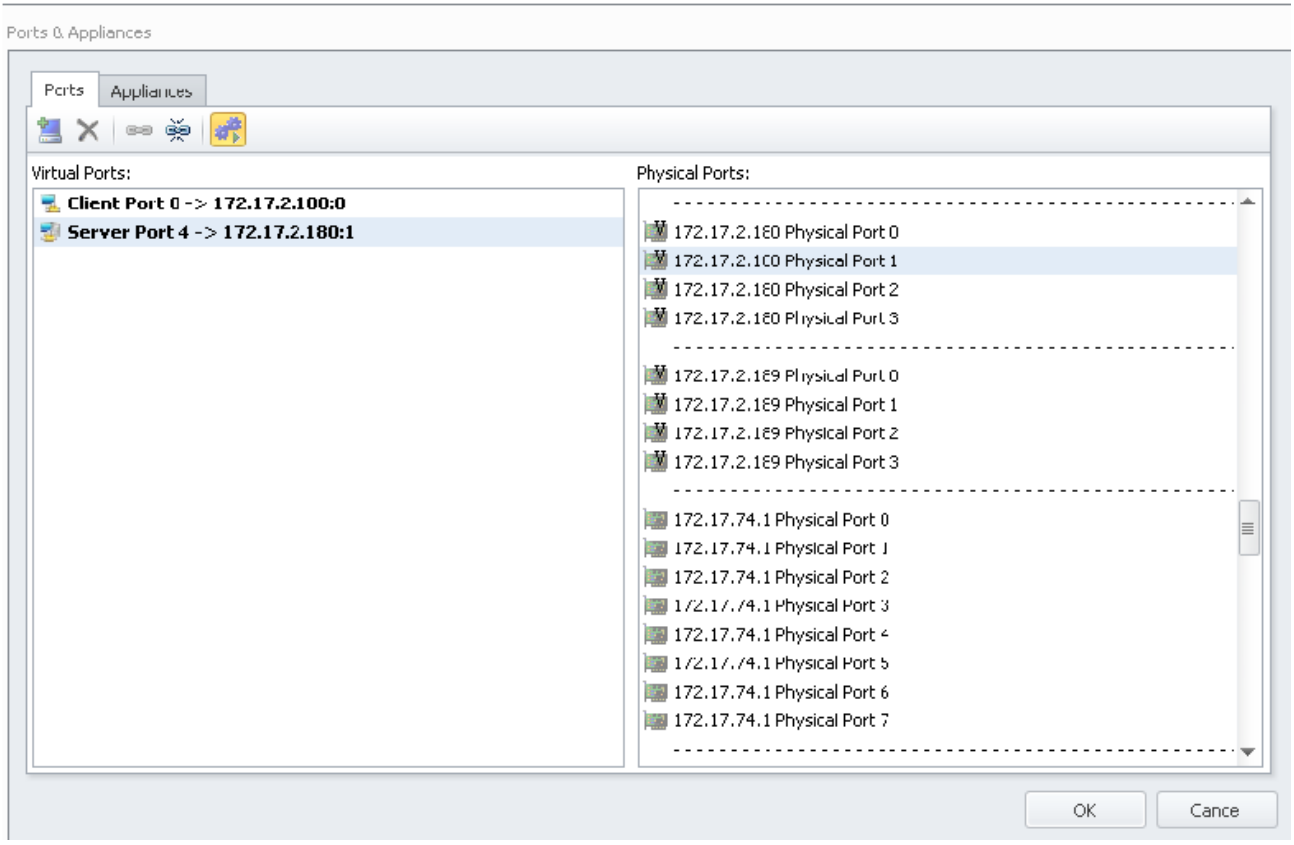
- Click the IP address of the Appliance and click the Update Appliance Firmware icon.

- The Firmware File input field will be loaded with the path to the Load DynamiX Appliance firmware (swift-*.tgz) that is delivered with this TDE.



- Click the Update button to download the firmware to the Virtual Appliance. Browsing for the swift.tgz file is only required if a different firmware version is to be uploaded to the Virtual Appliance.
- When the update finishes click Close.
- Click the Reboot icon. (Steps e. , f. and g. are not required but recommended)
- Click Reboot in the Reboot Appliance window.
- When the reboot finishes, click Close.
- Return to the Ports tab and connect the Appliance Client Port 0 and Server Port 4 to the physical ports on the Appliance that are connected to each other (back-to-back). Assume that on the Appliance physical port 0 is connected to physical port 4:

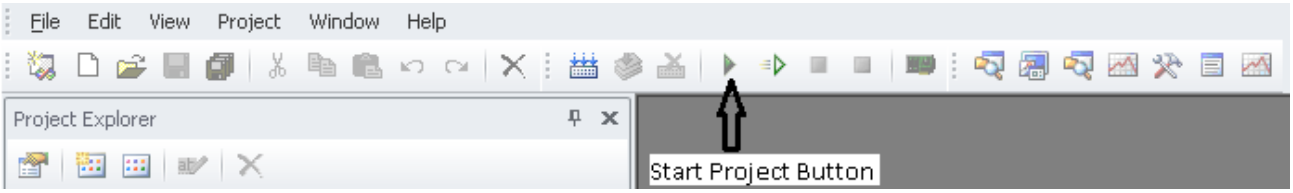
- Click Ports on the Ports & Appliances window.
- Drag Physical Port '0' to Client Port 0.



- Drag Physical Port '1' to Server Port 4.
- Click OK.

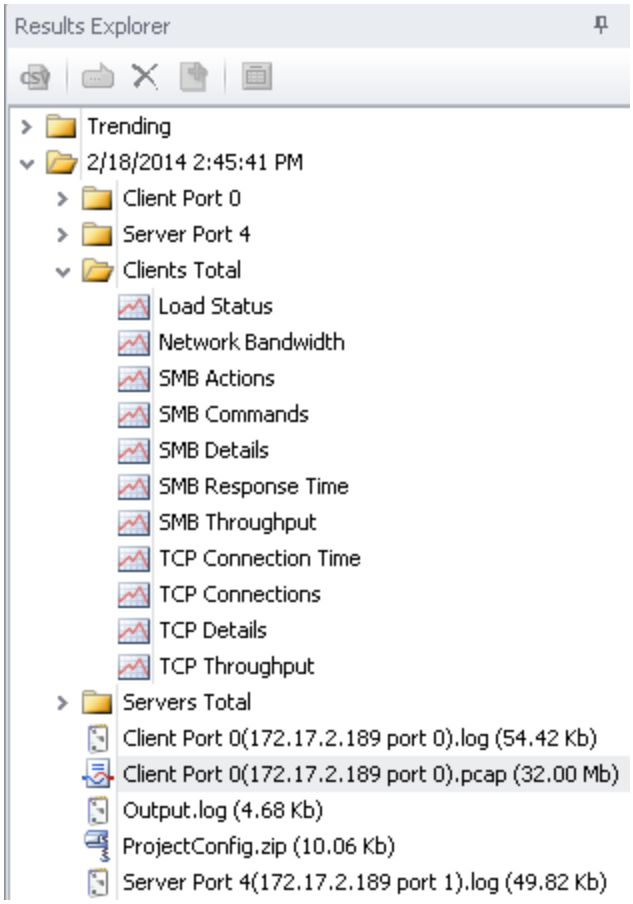
Run the Sample Test

After following the steps described above in Initial System Configuration and in the TDE Help Appendix: Virtual Appliance Constraints, Licensing and License Server to set the Virtual License Server IP address for this Virtual Appliance, click the Start Button icon in the TDE Toolbar or press F5 to begin the test.



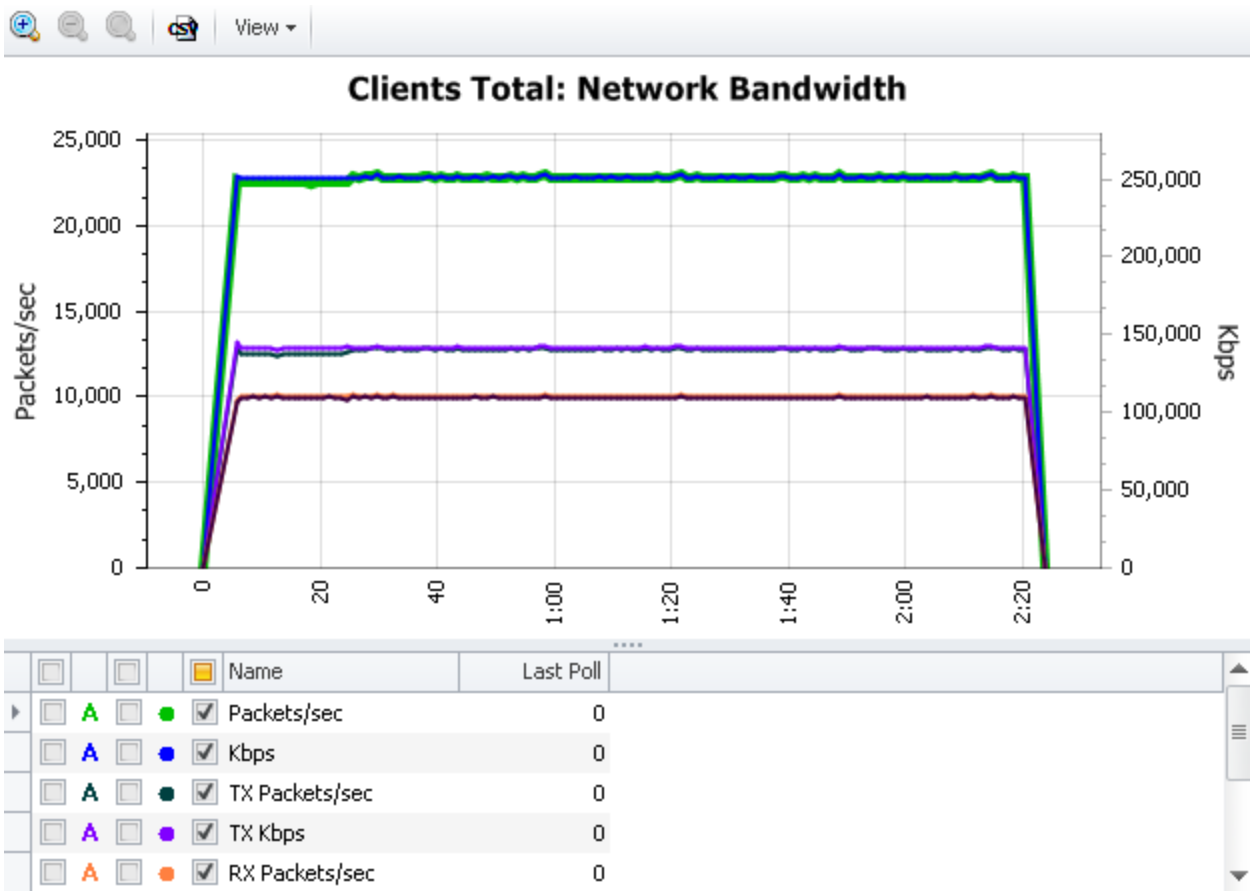
View statistics during and after the test:

- Click View->Results Explorer to view test statistics.
- Expand the Results folder with the current date and time.



- Expand Clients Total folder.
- Double click the SMB Throughput report to view CIFS-SMB throughput.
- If no results display, it's likely that the Network adapter settings in the VM Template are not correct.
- If you see results for SMB (e.g. you see SMB Actions, SMB Throughput, etc. graphs), continue to the next step. If not, check to ensure that Network Adapter 1 and 2 are connected to a VMware ESXi virtual switch.

Double click the Network Bandwidth report to view total Ethernet bandwidth or TCP Throughput. Click the blue A at the top of the window to view the total throughput for each polling interval. You should see 250Mbps. 250Mbps is the maximum Throughput that the LDX-V will produce.



If the back-to-back test is successful, the Load DynamiX Test Development Environment and the LDX-V are operating correctly. If you see low/zero bandwidth or errors, there is likely a problem with the assignment of VMware resources to the Network adapters. The VMware administrator may be required to get the Network adapter settings correct.

Running Load DynamiX Projects

The GUI Software Installation, Initial System Test and Run Sample Test steps above ensure that your Load DynamiX TDE is installed correctly, can communicate with your Load DynamiX Appliance and that the Appliance is functioning correctly.

To ensure that you are able to move forward with more relevant testing, consider these suggestions.

1. Ensure that the Load DynamiX clients have the appropriate permissions necessary to log into the desired the Device Under Test.
2. Configure any intervening network infrastructure to allow the Load DynamiX Client IP addresses to route or switch to the desired the Device Under Test.

Information Typically Required to Design a Load DynamiX Project

Some pieces of information that will be helpful to know before beginning to design a Project using the Load DynamiX TDE

Device Under Test IP Address(es): Load DynamiX Projects require a device under test to connect to and that device is specified by its IP Address. Is just a single IP address required (for example, NFSv3 tests require three separate connections, are these connections to the same IP Address)?
Protocol: Which Protocol (CIFS-SMB, SMB2, NFSv2, NFSv3, NFSv4, NFSv4.1, Fibre Channel, iSCSI, HTTP, etc.) is to be tested?
TCP Ports: Which TCP Ports will be used (CIFS-SMB:445, SMB2:445, NFSv2:2049, NFSv3:111/627/2049, NFSv4/4.1:2049, iSCSI:3260, HTTP:80 or others)?
Domain/Machine Name: CIFS-SMB and SMB2 allow input of Domain and Machine Name in their authentication commands. What values are to be used, if any?
Authentication Method: All Load DynamiX supported protocols require some form of authentication . Be sure to know what authentication method the device under test uses to authenticate access.
Users: How many and what are the User names and passwords that will be used during the test.
Filesystems and Files: Most Load DynamiX protocols are are file-oriented (CIFS-SMB, SMB2, NFSv2, NFSv3, NFSv4, HTTP). What filesystem (volume or share name) and files are going to be used? Are the files going to be created or must they exist in advance? What type of files are required (regular, device, link, pipe, stream, etc.)?
URI: The HTTP protocol requires URI information to access files.
IQN: The iSCSI Protocol requires ISCSI Qualified Names for Clients to log in to iSCSI Servers.
LUN: The iSCSI Protocol requires specific Logical Unit Numbers for data read and/or write operations.
Size: How many megabytes, gigabytes, or terabytes of storage are going to be required for the test? Does the filesystem or LUN have the capacity that is required?
Load: How much load does the test need to place on the device under test?
Duration: How long should the test run?
Throughput: What throughput (packets/sec, kilobytes/sec, etc.) is required or desired?

Information Required Decision Matrix

Protocol	IP Addr /WWPN	Ports	Dom/Mach Name	Auth	User Names	File-systems	Files	URI	IQN	LUN	Size	Load	Duration
CIFS-SMB	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	YES	YES	YES
SMB2	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	YES	YES	YES
NFSv2	YES	YES	NO	YES	YES	YES	YES	NO	NO	NO	YES	YES	YES
NFSv3	YES	YES	NO	YES	YES	YES	YES	NO	NO	NO	YES	YES	YES
NFSv4	YES	YES	NO	YES	YES	YES	YES	NO	NO	NO	YES	YES	YES
iSCSI	YES	YES	NO	YES	NO	NO	NO	NO	YES	YES	YES	YES	YES
HTTP/S	YES	YES	NO	YES	YES	YES	YES	YES	NO	NO	YES	YES	YES
Fibre Ch.	YES	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES
Obj Stor	YES	YES	NO	YES	YES	YES	YES	YES	NO	NO	YES	YES	YES

Load DynamiX Automation on Linux

For more details on Automation, please see the discussion in the TDE online help:

Appendix: Test Automation.

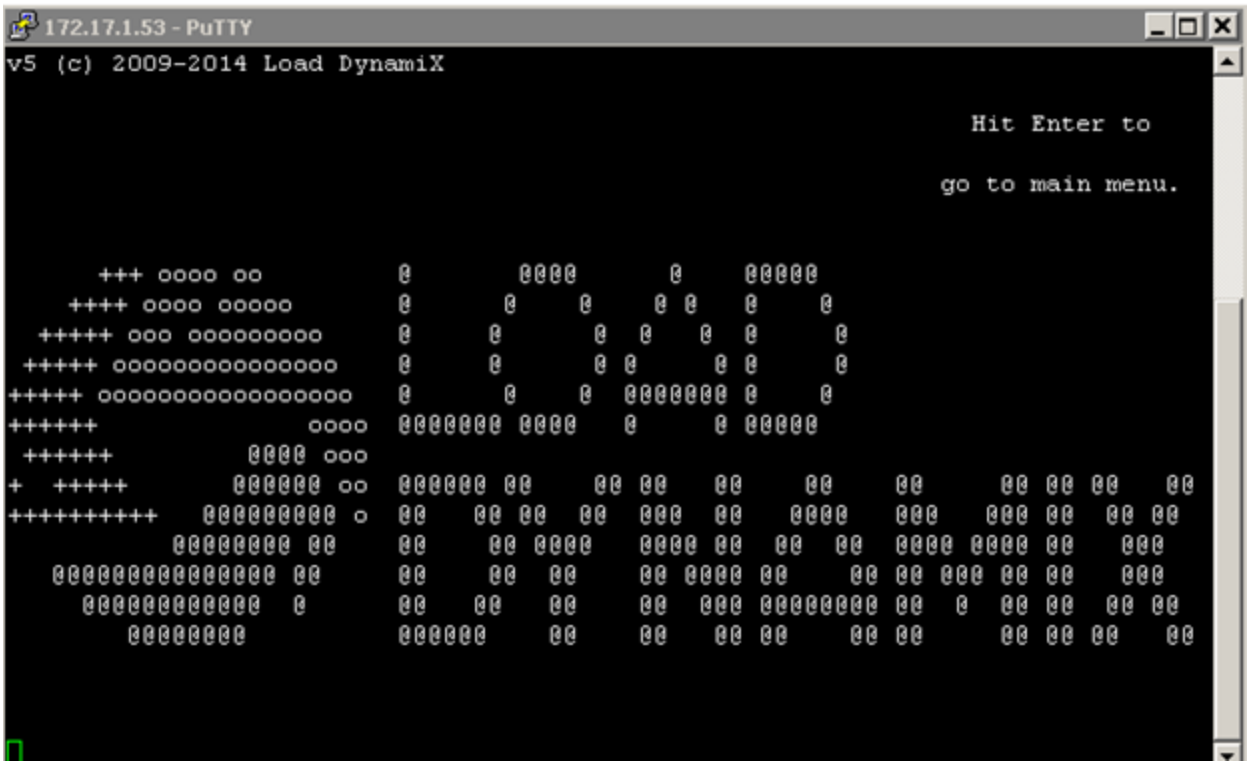
Appliance Admin User Interface

When Telneting/SSH into a Load DynamiX Appliance, the user is presented with a Login prompt for User ID and Password. The User ID and Password for the Load DynamiX Appliance are:

User ID == config
Password == config

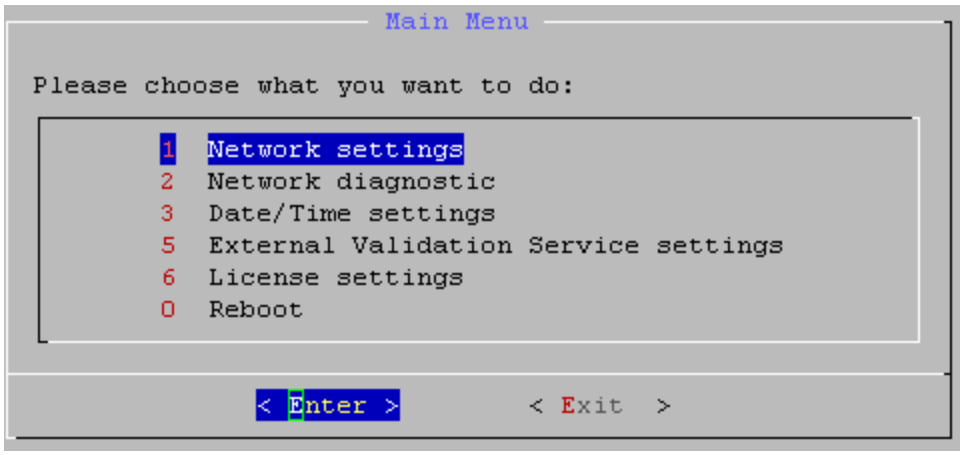
The user interface that appears when logging in as config/config is:

Splash Screen

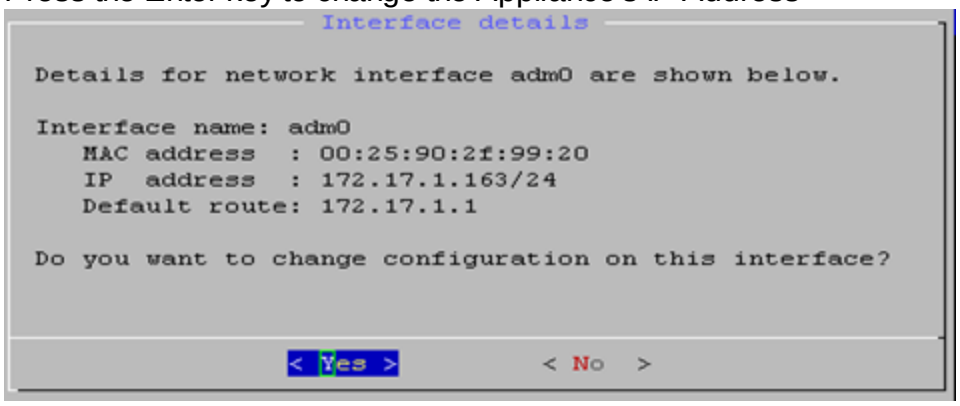


Button Legend for all menus:
< OK > - complete the current selected operation
<Cancel> - Return to the Main Menu (or to splash screen if in Main Menu)
< No > - do not complete the current operation
< Back > - return to the previous screen or menu
<Left/Right Arrow or Tab> - move left or right between buttons
<Up/Down Arrow> - move up or down on Menu items

TO SET APPLIANCE IP ADDRESS
Press the Enter key to get the Main Menu

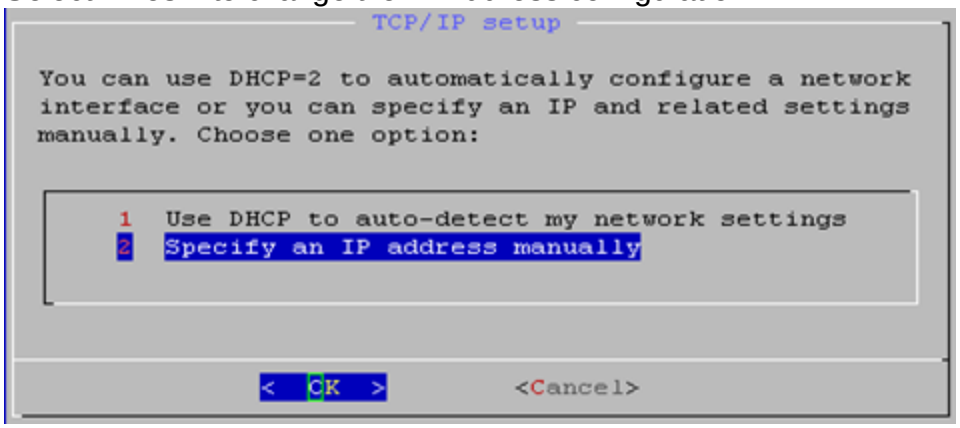


Press the Enter key to change the Appliance's IP Address

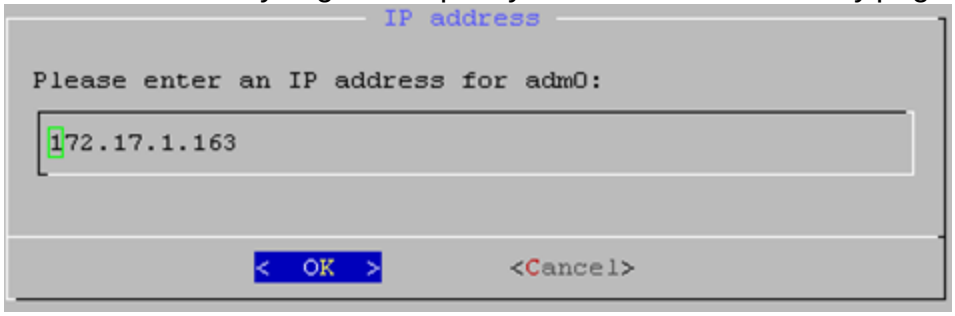


Press the Enter key for < Yes > or <Right Arrow>/Enter for < No >

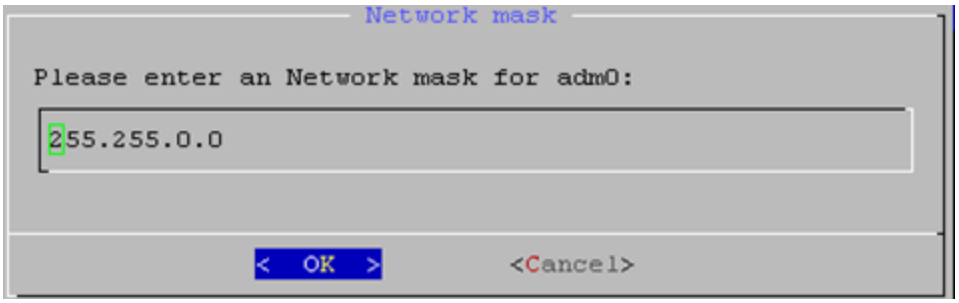
Select < Yes > to change the IP Address configuration



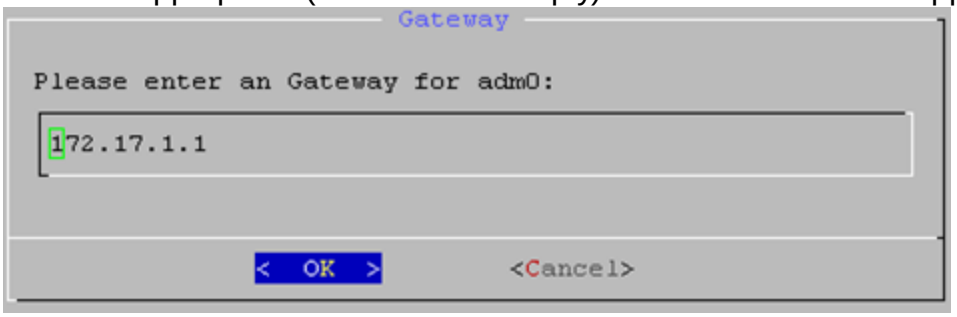
Press the Enter key to get the Specify and IP address manually page (recommended)



Enter the new IP address into this field and press the Enter key.



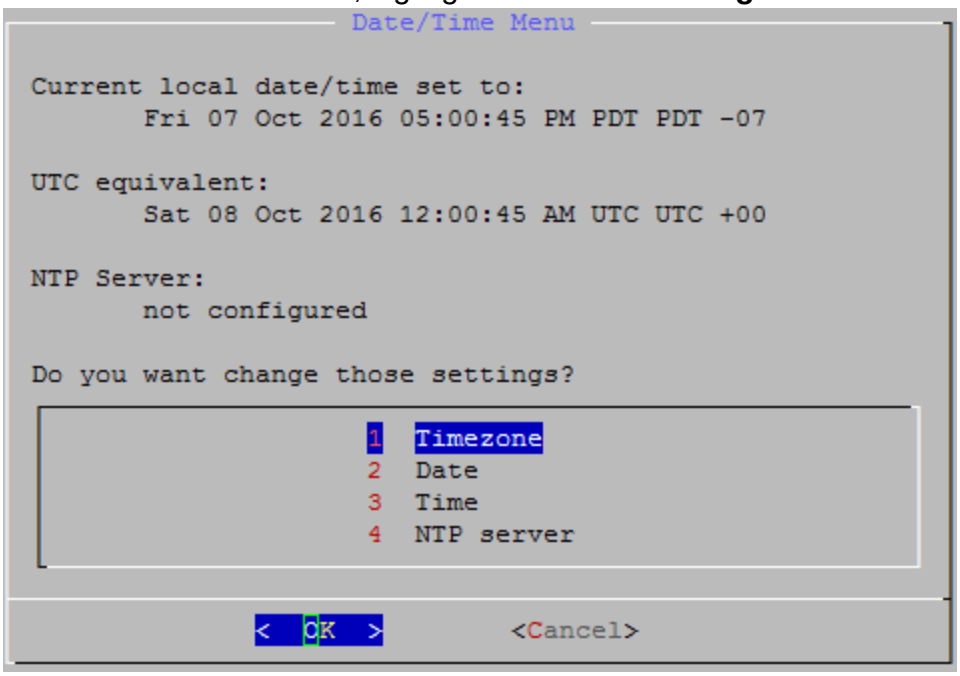
Enter the appropriate (valid and non-empty) Network mask for the Appliance and press the enter key.



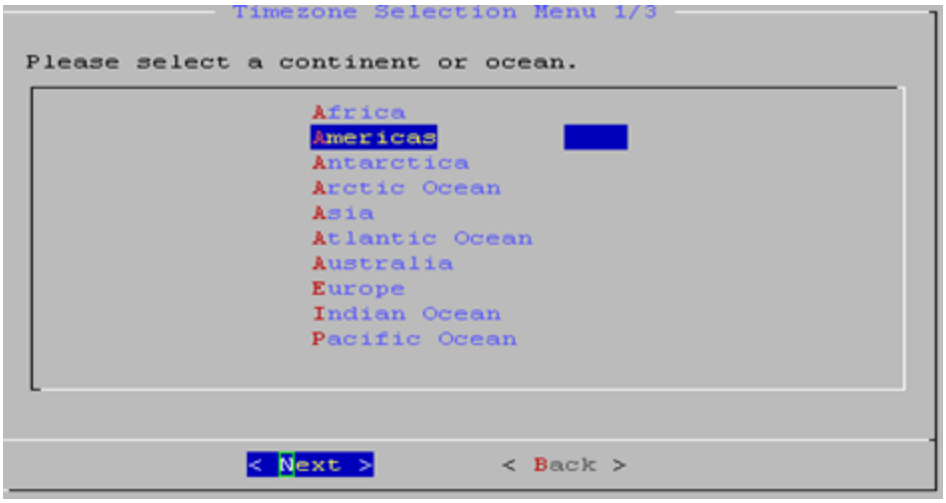
Enter the Gateway router IP address for the Appliance or empty (if there is none) and press the Enter key.

TO SET APPLIANCE TIME and DATE

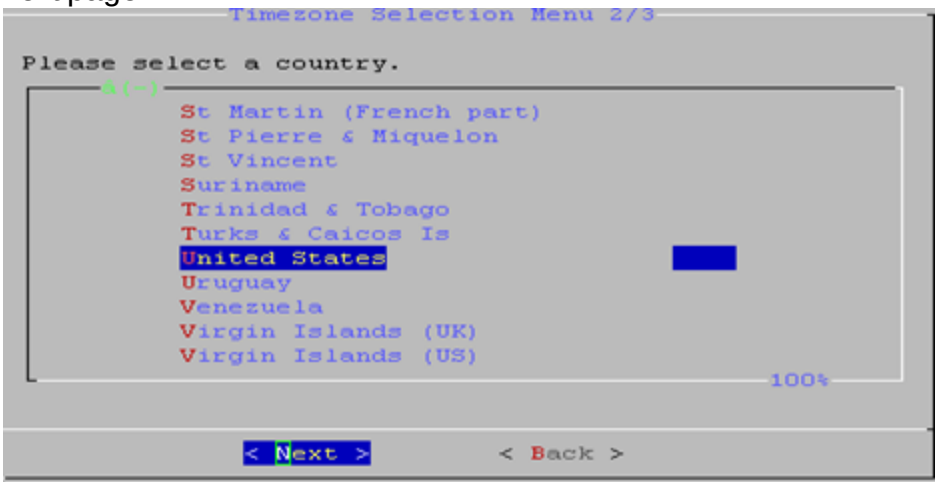
To set the Date and Time, highlight **Date/Time settings** on the Main Menu and press the Enter key.



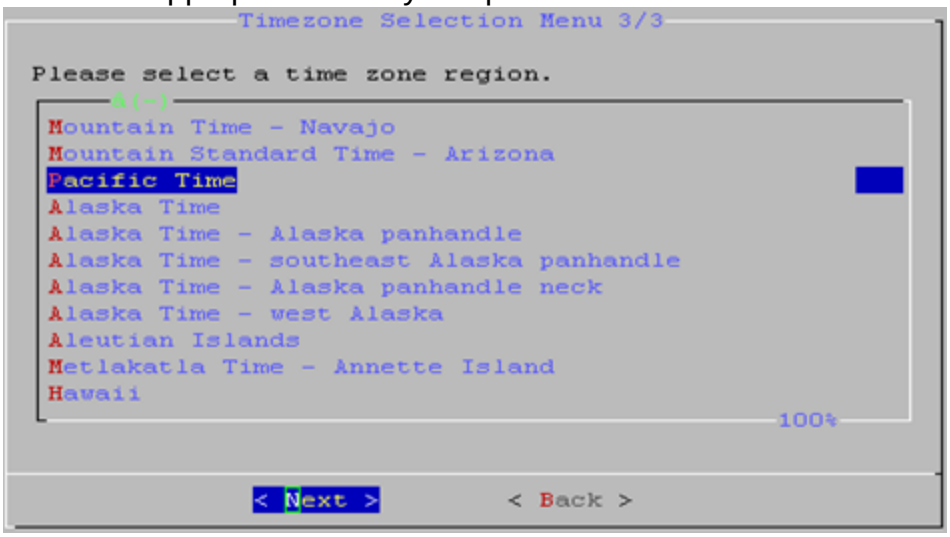
If the Date, Time and Timezone are not correct, press the Enter key to set the Timezone



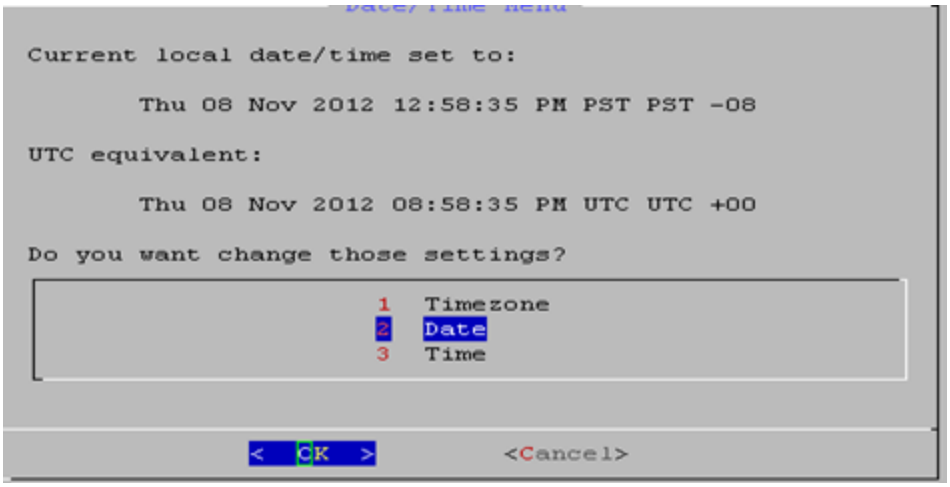
Select the appropriate continent or ocean using the Up or Down Arrows and press the Enter Key for the next page.



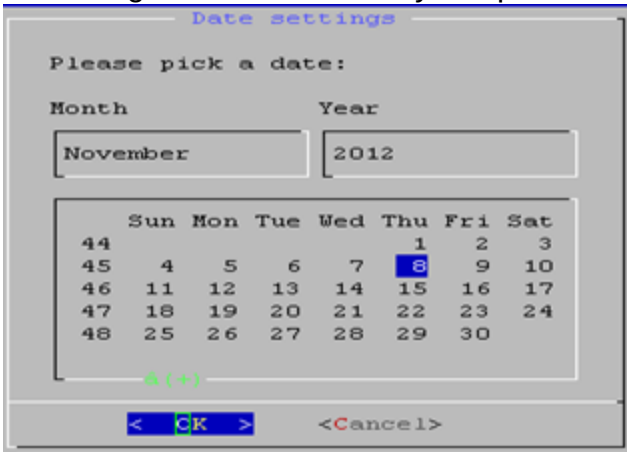
Select the appropriate country and press Enter.



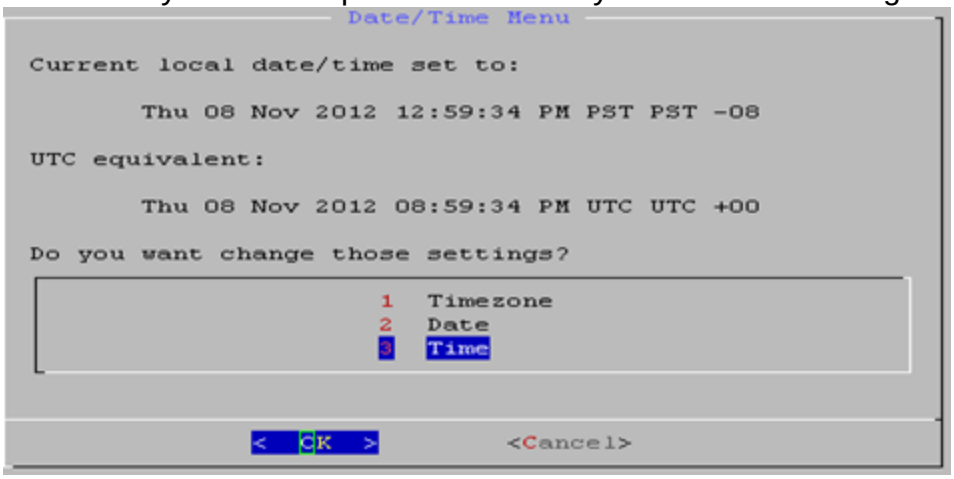
Select the appropriate Timezone and press the Enter key.

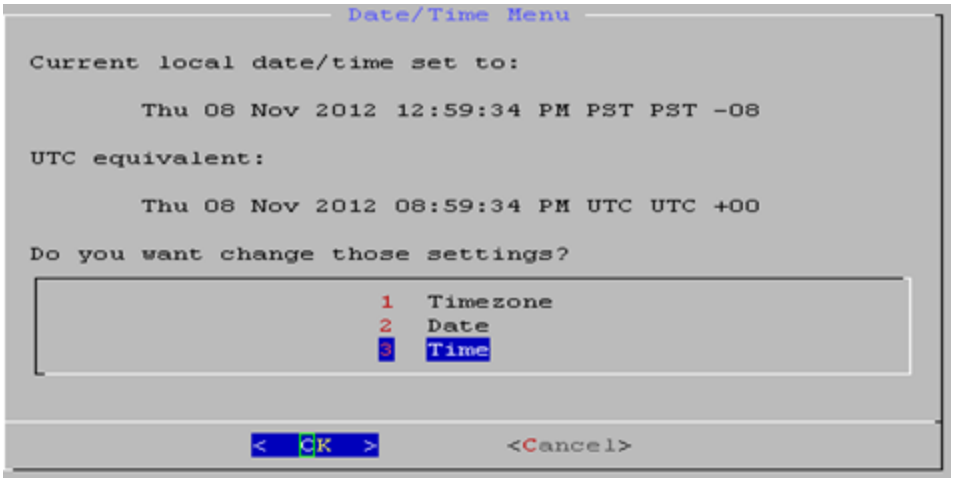


If the Timezone and Time and Date are correct, press the Right Arrow key to select <Cancel> and press the Enter key to return to the Main Menu. If the Date and Time are not correct then highlight the Date menu item using the Down Arrow key and press the Enter key.

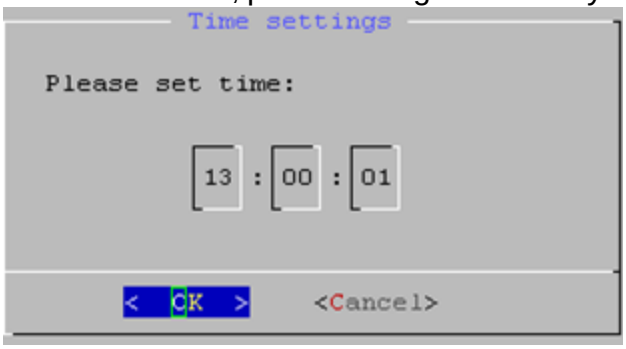


Select today's Date and press the Enter key to move on to setting the Time.



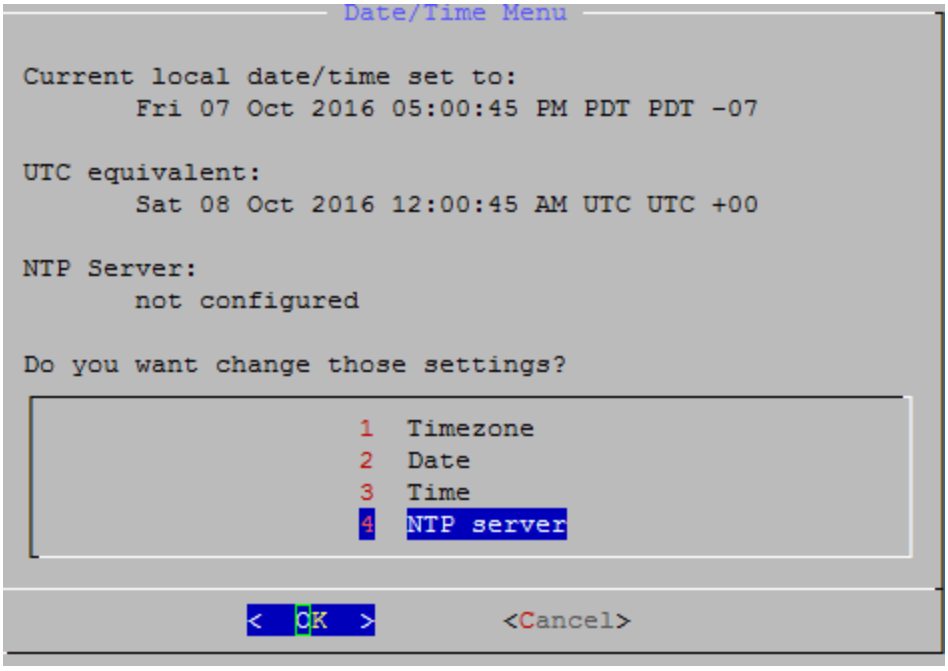


If the Time setting is incorrect, highlight the Time menu item and press the Enter key. If Timezone, Date and Time are correct, press the Right Arrow key to select <Cancel> and press the Enter key.

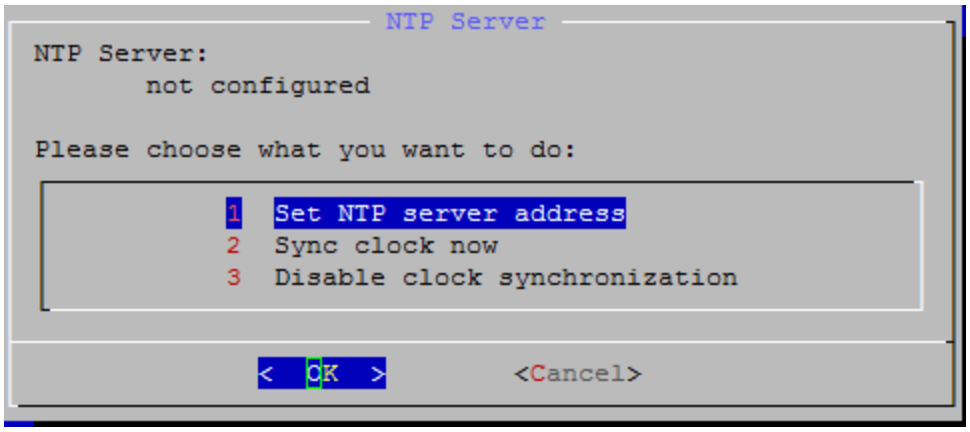


Click on the Hour Minute and Second windows to change the 24 hour time setting and then press the Enter key to select this time and return to the Main Menu.

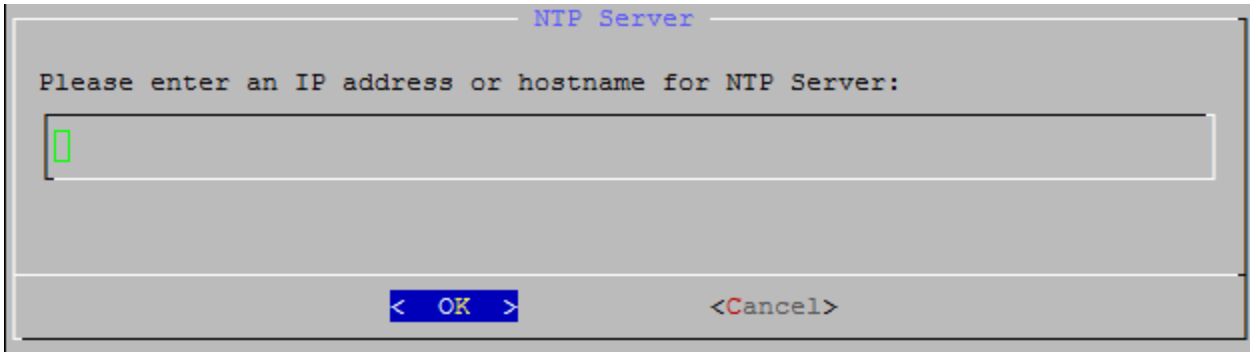
If it is desired to use an NTP (Network Time Protocol) server to provide the Appliance with time, timezone and date information automatically, use the NTP Server interface.



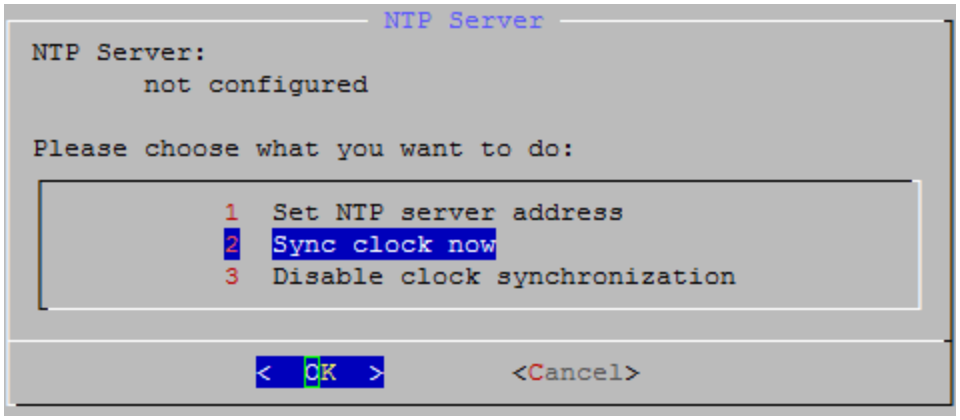
Click OK to get to the NTP Server interface.



Click OK to enter the address of the NTP server.



Enter the IP address or hostname of the NTP Server and click OK.

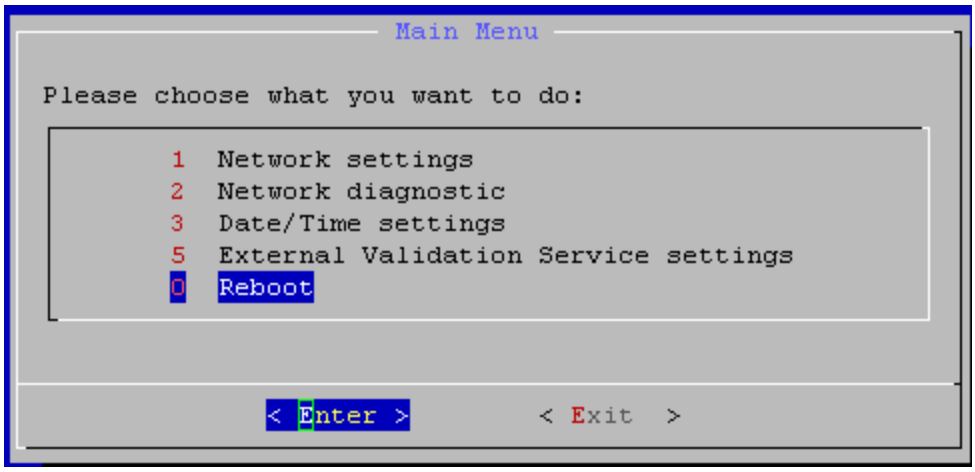


Click Sync clock now to synchronize the Appliance and NTP Server and click Cancel, Cancel and Exit to complete the session.

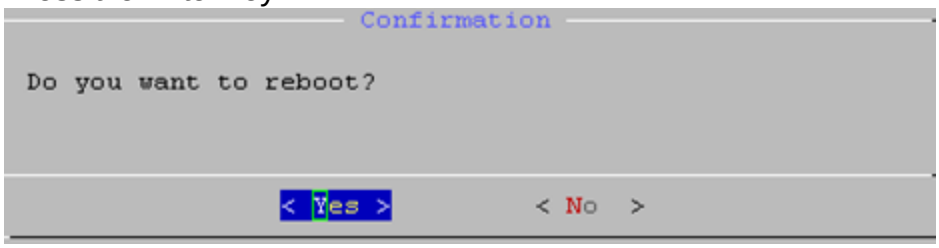
The Appliance Admin User Interface also provides three additional capabilities:

1. Reboot the Appliance
2. Network Diagnostics
3. External Validation Service settings

To Reboot the Appliance
From the Main Menu, highlight the Reboot menu item

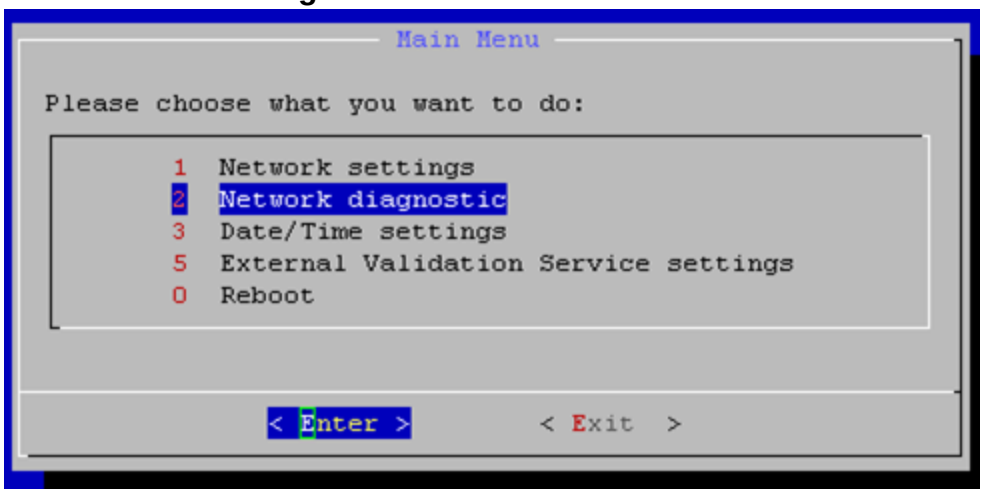


Press the Enter key

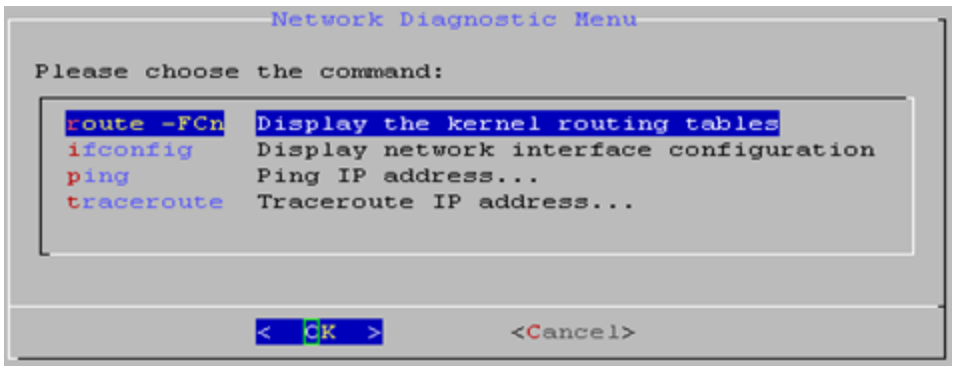


Press the Enter key to Reboot the Appliance or press the Right Arrow key to Select <No > to return to the Main Menu. This session will disappear if < Yes > is selected.

To run Network Diagnostics



Use the Network Diagnostics menu to display the Appliance's routing tables; Display the Appliance's network configuration details; Ping an IP address from the Appliance; Run a Traceroute from the Appliance to an IP Address.



Highlight the desired diagnostic feature and press the Enter key. The first two items (Display routing tables and network configuration are view only interfaces. Ping and Traceroute take an IP address as input.

External Validation Service settings

To enable the Appliance to use an External Validation Service to validate that certain Project configuration values are set as required, click on External Validation Service settings in the main menu and provide an IP address for that service. Contact Load DynamiX Support (support@loaddynamix.com) for more information.

Troubleshooting Tips

Installation

The Load DynamiX TDE is dependent on the .NET framework version 4.x. Please be sure that version 4.x is present on the Load DynamiX Management Workstation.

The HTTP protocol is used to communicate between the Management Workstation and Appliance. The Management Workstation must be able to send and receive HTTP packets to/from the Load DynamiX Appliance.

Project Execution

Product Features

There are a number of capabilities that the Load DynamiX product provides that are intended to help determine if the desired results are achieved.

PCAP (Tracing Parameters) - packet capture and review is often one of the easiest ways to find issues with test programs including items such as:
TCP Connection creation information
Protocol specific information (e.g. meta data (ex: SMB TRANS2 Get File Information) and Read and Write commands/data, return codes)
Event order (in what sequence do different Actions take place)

NOTE: Tracing Parameters are not a performance tool. Using Tracing Parameters to capture PCAP data will reduce performance in the Load DynamiX Client and Server software.

Results Folder - the results folder contains the statistics and log files that are captured during the execution of a Load DynamiX test Project.
Statistics - statistics are captured real time and may be observed by opening the Results Folder during a test run and selecting the statistic that is interesting.
For example,
SMB Commands – view counts of the number of commands of a given type executed
Load Status - to see how the various Scenarios launched by the test are doing, etc.

While these statistics can be used for real time evaluation of the progress of a test, they are also excellent troubleshooting tools.

Client and Server Port log files - at the end of a test run, the Load DynamiX appliance sends a log file to the TDE containing execution details for the test. There is a log file for each Logical Port in the test and this log file can be immensely helpful in determining the cause of test failures. Network statistics are captured in Client and Server log files for debugging purposes. These statistics can be used to debug issues at the lowest levels of the communications process.