

Enterprise Series E1000, E1004, E1020, E1022, E1040 Configuration Guide

Table of Contents

Load DynamiX Enterprise Series Appliance Configuration Guide.....	2
Enterprise Product Overview	3
Enterprise Appliance Deployment.....	10
Enterprise Virtual Machine Configuration	12
Appendix: Load Generation Appliance Admin User Interface	20
Appendix: TDE Software Installation.....	29
Appendix: Enterprise Virtual Machine Shutdown.....	31



Enterprise Series Model E1000, E1004, E1020, E1022 and E1040

Hardware Installation and Configuration Guide



Support

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

Enterprise Product Overview

The Load DynamiX Enterprise Series product contains

1. Enterprise Series Appliance (one of the following)
 - Model E1000 (without Load Generation Test Ports)
 - Model E1004 with four 16Gbps Fibre Channel Load Generation Test Ports
 - Model E1040 with four 10GbE Load Generation Test Ports
 - Model E1020 with two 10GbE Load Generation Test Ports
 - Model E1022 with two 16Gbps Fibre Channel Load Generation Test Ports
2. Rack mounting hardware (rails, etc.).
3. A hard copy of this Enterprise Series Hardware Installation and Configuration guide.
4. A Load DynamiX USB thumb drive (including a PDF version of this document and TDE software installer).

Load DynamiX Enterprise Series (E-Series) Functional Overview

The Load DynamiX E-Series Enterprise software and Load DynamiX Load Generation capabilities, create a powerful storage performance test development, execution and analysis environment.

The Load DynamiX E-Series Appliances have two types of ports:

- **Admin and Hypervisor Ports** : 1000BASE-T Ethernet.
 - Admin Ports : The Admin Ports must be connected to the management network (E-Series user interface).
 - Hypervisor Ports : The Hypervisor Ports must also be connected to the management network (XenCenter admin interface).
- **Test Ports** (on E-Series models 1004, 1020, 1022 and 1040 sub-appliances) : 16Gbps FC and/or 10GbE. Test Ports are configured from the Load DynamiX Enterprise software user interface. See the LDX Enterprise User Guide for Test Port configuration information.

Port IP Address Configuration

Depending on E-Series model, there are two or three Admin and Hypervisor Ports that must be configured by the end user to deploy the E-Series Appliance. The process to review and/or change the Admin and Hypervisor Port IP Addresses is described in the [Enterprise Virtual Machine Configuration](#) section below. The LDX-E sub-appliance Hypervisor Port and the LDX-A sub-appliance Admin Port come configured by the factory for DHCP IP address assignment. If DHCP IP Address assignment is preferred, the assigned IP Addresses can be discovered by connecting a keyboard and display to the Appliance, once for each sub-appliance. See the [Enterprise Virtual Machine Configuration](#) section below for instructions on how to discover DHCP IP Address settings.

If static IP Address assignment is preferred then see the [Enterprise Virtual Machine Configuration](#) section below for instructions on how to configure LDX-E sub-appliance Hypervisor Port and the LDX-A sub-appliance Admin Port IP Addresses.

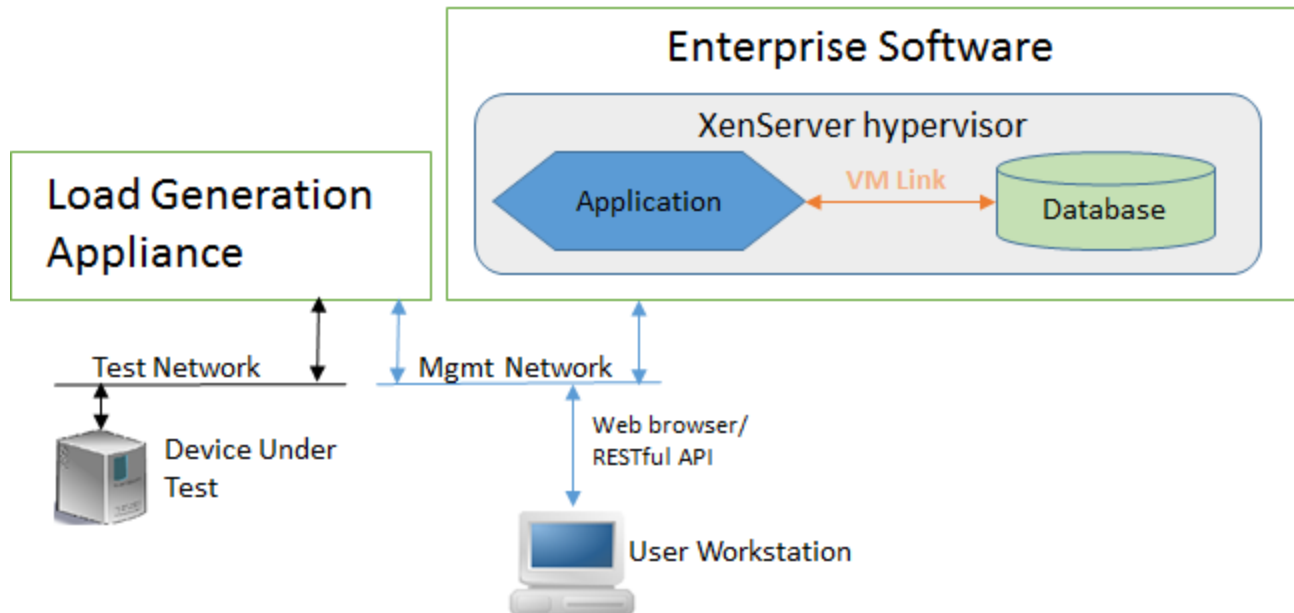
Test Port IP Addresses are configured using the Enterprise user interface.

Enterprise Software Functional Overview

The Load DynamiX Enterprise Server software consists of a XenServer hypervisor (a virtual machine monitor) and two virtual machines:

- Application - user interface and storage protocol analytics
- Database - storage protocol analytics archive

Access to the Enterprise Server software capabilities is through a web browser or a RESTful API.



Communications Considerations

Admin and Test Ports

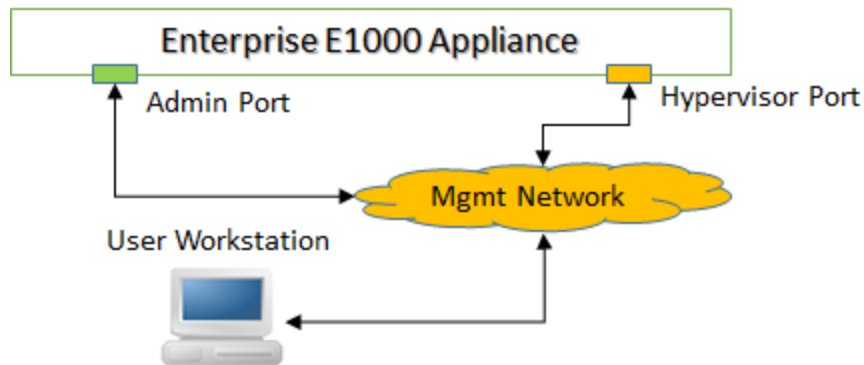
It is advisable to have all Admin and Test Ports connected to high speed, low latency networks to facilitate workload modeling, project management and results gathering. To optimize Appliance-to-Device Under Test traffic, it is recommended that as little network infrastructure (switches, routers, hubs, etc.), as possible, be between the Test Ports and a Device Under Test. Network infrastructure can add unexpected delay and complexity during test execution.

User Workstation

If the user's web browser is connected to the Mgmt Network over a low speed network (e.g. connected via a VPN) or is on a network with high latency, it is suggested that the User Workstation that runs the browser be moved physically close to the E-Series Appliance and be accessed by Remote Desktop or some other remote access solution.

E1000 Functional Overview

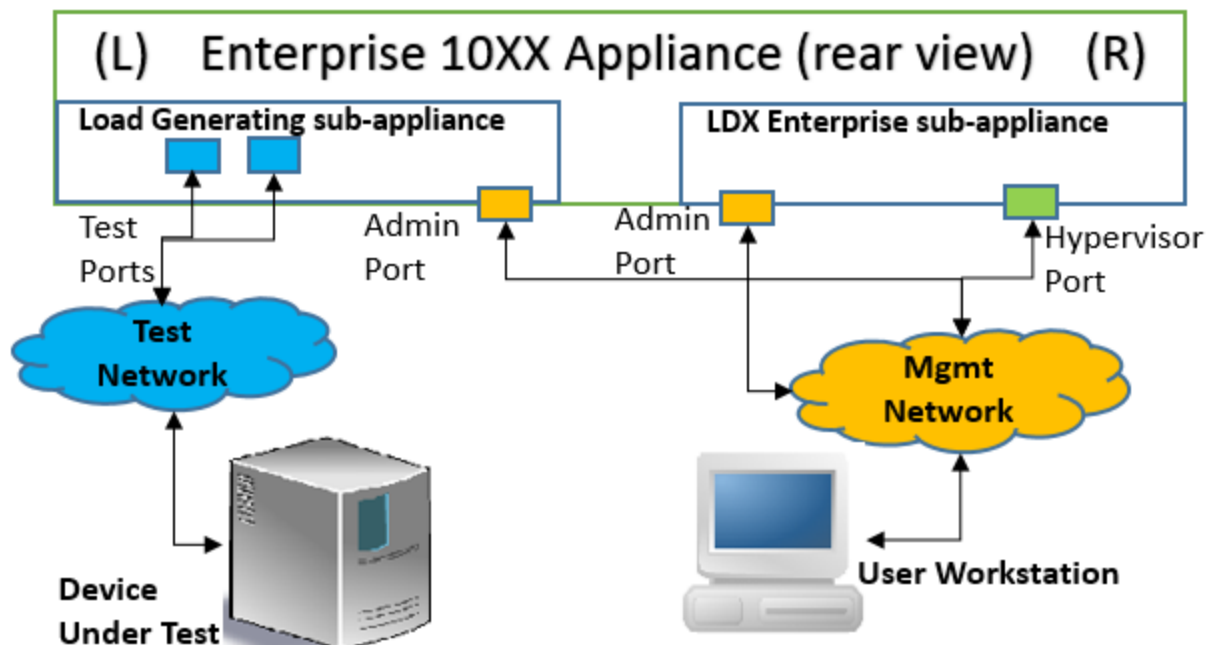
The Load DynamiX E1000 Appliance is a dedicated host for the Load DynamiX Enterprise Server software that provides the user interface and Storage Performance Analytic capabilities. It is configured for superior performance and capacity.



E1004, E1020, E1022, E1040 Functional Overview

The Load DynamiX E-Series E1020, E1004, E1022, E1040 Appliances contain two independent sub-appliances:

- Load DynamiX Enterprise Server (LDX-E) sub-appliance: Hosts the Load DynamiX Enterprise Server that provides the user interface and Storage Performance Analytics capabilities.
- Load DynamiX Load Generation (LDX-A) sub-appliance: Emulates high performance storage protocol client requests over 10GbE and/or 16Gbps FC Test Ports.



The sub-appliances are independently accessed over the management (MGMT) network. Both sub-appliances must be individually connected to the networks (Test and Mgmt) as pictured above.

See the [Enterprise Virtual Machine Configuration](#) section for detailed images of the physical port layout of the E1000, E1020, E1004, E1022 and E1040 Appliances and instructions for how to configure the Admin and Hypervisor Ports.

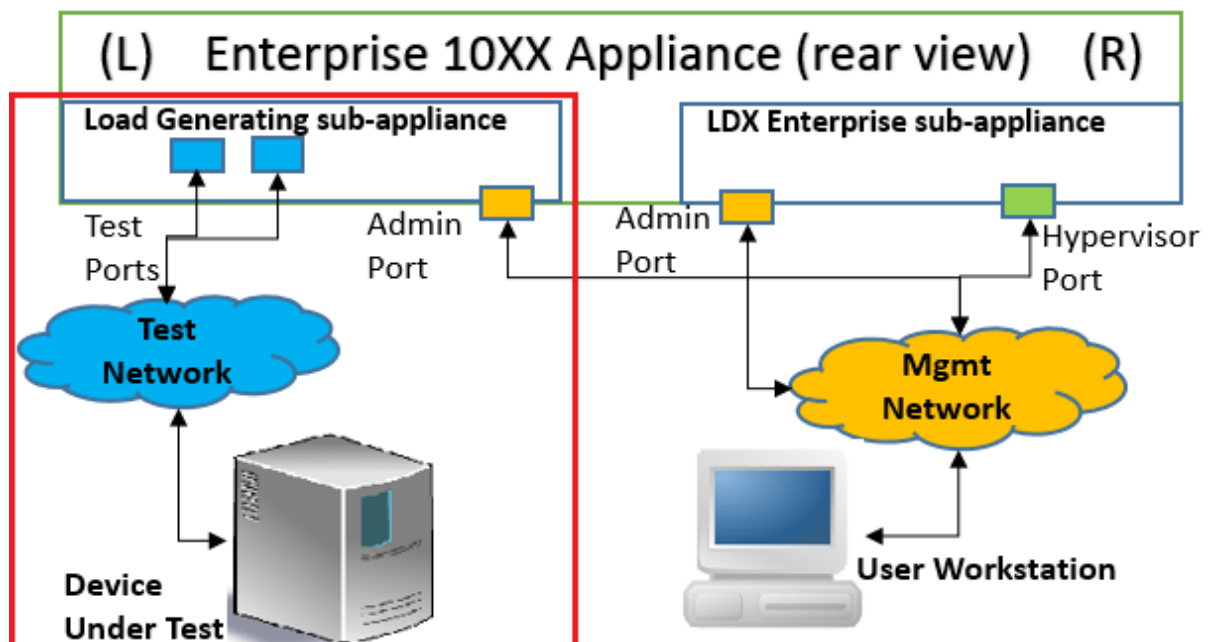
Load DynamiX Enterprise Deployment

1. The Load DynamiX Enterprise Server Admin Port must be on the same management network (Mgmt Network) as the Load Generation Appliance Admin Port.
2. The Load Generation Appliance Test Ports must be on a different network (Test Network) than the Admin Ports so that test traffic, which can consume a large percentage of line rate, does not interfere with access to the Load DynamiX Enterprise Server.
3. Load DynamiX Enterprise E1000 and E1004, E1020, E1022, E1040 Enterprise sub-appliances require two externally visible IP addresses on the Mgmt Network:
 - Admin Port

This is the IP address of the LDX-E Application Server VM that provides the web interface.
 - Hypervisor Port (**used only during initial system setup and configuration**)

This is the IP address of the Citrix XenServer management access.
4. A Load DynamiX Load Generation sub-appliance (E1004, E1020, E1022, E1040) requires a single IP address on the Mgmt Network:
 - Admin Port

This is the IP address of the Admin Port of the Load Generation Appliance.

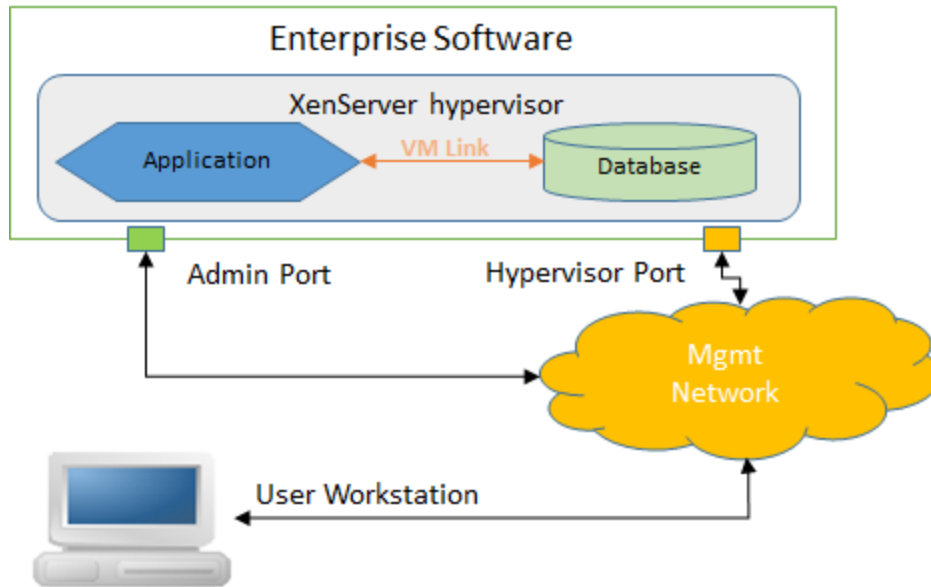


See the [Enterprise Virtual Machine Configuration](#) section for detailed images of the physical port layout of the E1000, E1020, E1004, E1022 and E1040 Appliances and instructions for how to configure the Admin and Hypervisor Ports.

Load DynamiX Enterprise Series Virtual Machine Configuration Requirements

The Load DynamiX Enterprise Server consists of two virtual machines under control of a XenServer hypervisor on either the E1000 Appliance or the Load DynamiX E1004, E1020, E1022 or E1040 LDX-E sub-appliance:

- An Application virtual machine that provides the user interface and storage performance analytics
- A Database virtual machine that stores load generation performance raw results and computed performance analysis



See the [Enterprise Virtual Machine Configuration](#) section for detailed images of the physical port layout of the E1000, E1020, E1004, E1022 and E1040 Appliances and instructions for how to configure the Admin and Hypervisor Ports.

Factory-Defined Virtual Machine Configuration

These virtual machines have separate factory-defined configuration requirements for memory, CPU cores and HD storage as shown below.

Application

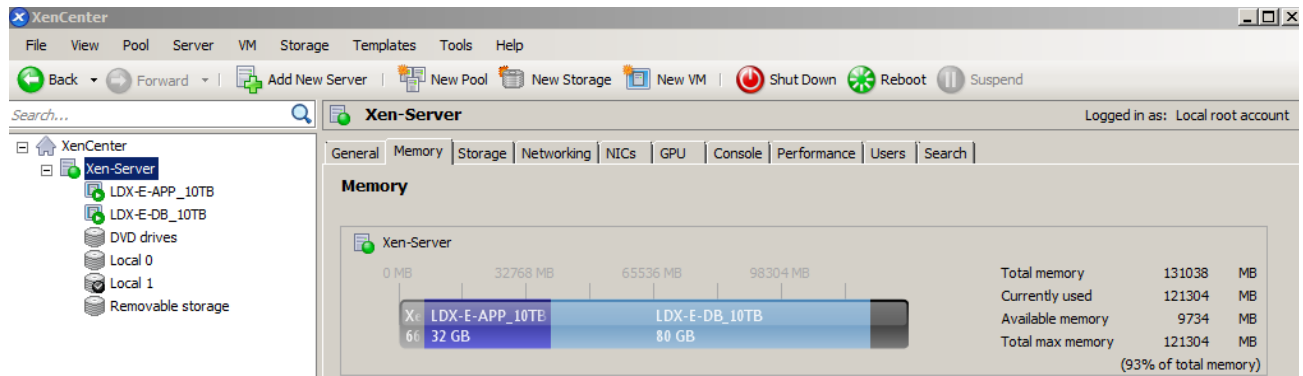
MEMORY	32GB
CPUS	16 Cores
HD STORAGE	300GB

Database

MEMORY	80GB
CPUS	8 Cores
HD STORAGE E1000	10TB
HD STORAGE E10XX	2TB

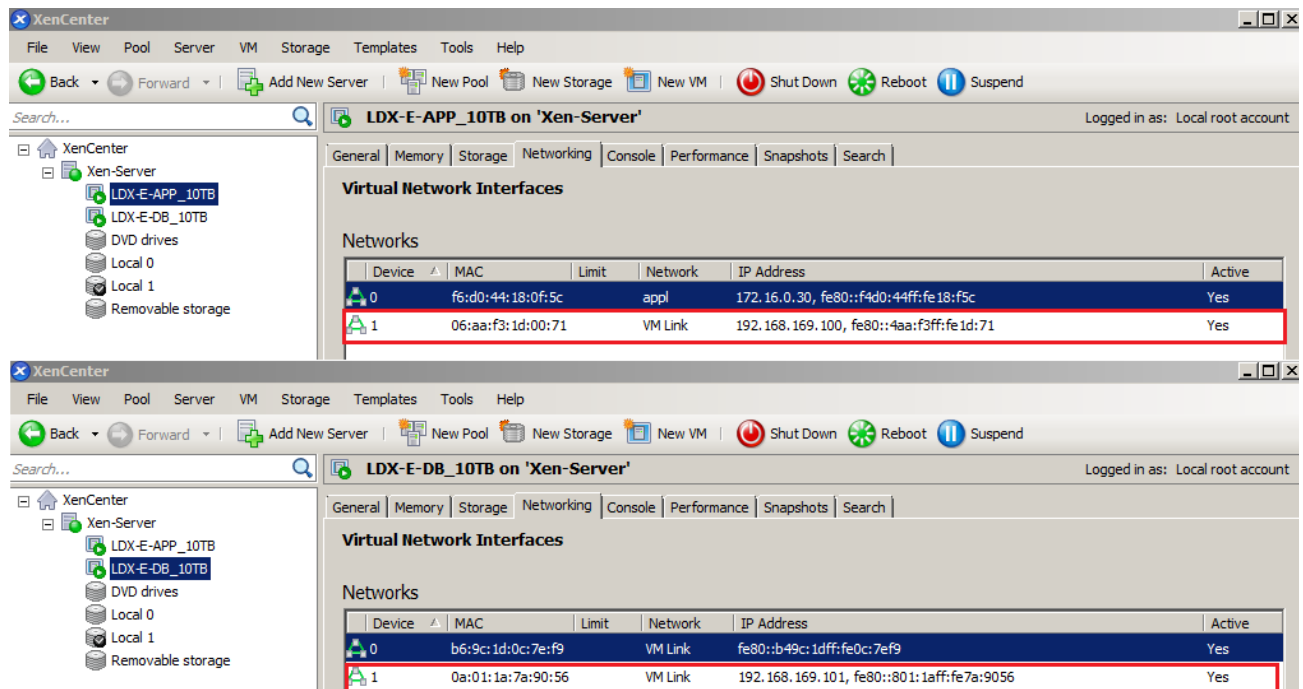
Virtual Machine Memory

The virtual machine's memory configuration can be viewed using XenCenter (see below) but should not be changed by the end user.



Virtual Machine Networks

The "Application" virtual machine has an externally visible IP Network labeled "appl" (see below) and is accessed via the MGMT Network described previously. This network must be configured by the end user which is described in the [Enterprise Virtual Machine Configuration](#) section below. The Application and Database virtual machines share an isolated internal IP Network provided by the hypervisor. This network is labeled "VM Link" in the images below and is pre-configured and requires no end user configuration.



Load DynamiX Enterprise Design Limits

As Load DynamiX Enterprise retrieves, calculates, stores, and displays thousands of statistics every second per Test Port while a Workload Test is running, the system can become overloaded if there are many concurrent Workload Tests and/or concurrent Test Ports running, or many concurrent web browsers connected to the Server simultaneously.

To achieve the best user experience possible, it is strongly recommended that LDX-E be operated within the following system design limits:

- Sixteen (16) concurrent Test Ports
 - For example: One concurrent 16-port Test, or sixteen concurrent 1-port Tests, or two concurrent 8-port Tests
- Seven (7) days maximum Test Duration
- Four (4) concurrent Users
- Two (2) concurrent web browser connections per User
- Imported TDE Workload file maximum size: 100MB

If the normal Use Case for the E-Series Appliance exceeds the above Design Limits, please contact Support@LoadDynamiX.com or a Load DynamiX representative.

Load DynamiX Enterprise relationship to other Load DynamiX software products

Workloads (Projects, Tests) created by LDX-E can be shared with the Load DynamiX Test Development Environment (TDE) and Load DynamiX Load Generation API, and vice versa. It is not necessary to install either the Load DynamiX TDE or the Load DynamiX Load Generation API to use Load DynamiX Enterprise, however, advanced users may be interested in installing both the TDE and API. TDE installation instructions follow later in this document. Instructions on how to install the API can be acquired from Support@LoadDynamiX.com.

Load DynamiX Enterprise end user configuration tasks

The next two sections of this guide, [Enterprise Appliance Deployment](#) and [Enterprise Virtual Machine Configuration](#), describe the end user tasks necessary to get the Load DynamiX Enterprise E1000, E1004, E1020, E1022 or E1044 Appliance deployed and configured for use.

Enterprise Appliance Deployment

Dimensions: Height 3.5" (2RU), Width 17.2", Depth 25.5"

Installation into a Rack

The Load DynamiX Enterprise Series Appliance shipping carton includes two sets of rail assemblies, two rail mounting brackets and the mounting screws required to install the system into a rack.

Temperature Considerations: Airflow on the Load DynamiX Enterprise Series Appliance is from front to back. The front of the Appliance has the Reset and Power buttons, and in the rear, the Admin, Hypervisor and Test ports. The Front of the Load DynamiX Appliance must be installed on the cool side of the rack in which it is located. Installing the Load DynamiX Appliance with the back of the Appliance on the cool side of the rack can result in chassis overheating and product failure.

Optional: The shipping carton also includes two extension rails that can be attached to the Load DynamiX Enterprise Series Appliances to allow it to be serviced without removing it entirely from the rack. These extension rails are not necessary for normal function of the device.

Providing Power

Plug the two power cords from the power supply units into a high-quality power source that provides protection from electrical noise and power surges. An uninterruptible power supply (UPS) is recommended. Dual drop circuits for the power supplies is also recommended. Both power supplies must be plugged in for proper operation.

Admin Port Network Cabling

The Admin and Hypervisor Ports on all E-Series Appliances require 1000BASE-T Ethernet network connectivity using an RJ45 connector. See the [Enterprise Virtual Machine Configuration](#) section below for Admin/Hypervisor Port configuration instructions.

Test Port Network Cabling

Default Test Port Cable Configuration

- The 16Gbps Fibre Channel Test Ports on the Load DynamiX E1004 and E1022 Load Generation sub-appliances use modular SFP+ transceivers.
- The 10GbE Test Ports on the Load DynamiX E1040 and E1020 Load Generation sub-appliances use modular SFP+ transceivers.
- SFP+ transceivers use an 850nm laser that requires a Multi-Mode Fiber cable with an LC connector.

Optional 10GbE Test Port Transceiver/Cable Combination Verification Process

To verify that an SFP+ transceiver/cable combination other than that which is shipped with the Load DynamiX E-Series Appliance with 10GbE Test Ports (E1040 or E1020) use the Load DynamiX TDE. Connect two Load DynamiX 10GbE Test Ports in a back to back configuration with the transceiver/cable combination and run a Load DynamiX back-to-back Sample Projects such as CIFS-SMB Full Duplex Payload using the TDE. If the Project runs successfully then the transceiver/cable combination is compatible with the Load DynamiX 10GbE Ethernet ports.

For this transceiver/cable combination to work with a Device Under Test (DUT) or a 10GbE switch, the transceiver/cable combination must also be compatible with the target connection

(DUT or switch). If the back-to-back test is successful but a test using a connection to a DUT or switch is not, it is possible that the transceiver/cable combination is not compatible with the target. You can verify link status using the TDE Ports & Appliances > Appliances tab entry for the Load DynamiX Appliance but link status does not guarantee that traffic can be sent over this connection. When running a test to verify a working connection, include a Tracing Resource in the project. If the PCAP file that results from the Tracing Resource contains only ARP packets then the transceiver/cable combination is incompatible with the target even if the Link Status appears OK.

Optional 16Gbps Fibre Channel Test Port Transceiver/Cable Combination Verification Process

To verify that an SFP+ transceiver/cable combinations other than that which is shipped with the Load DynamiX E-Series Appliance with 16Gbps Fibre Channel Test Ports (E1004 or E1022) back-to-back tests are not available. To test for compatibility on a Fibre Channel Appliance, connect the transceiver/cable combination to the Appliance and FC switch and use the TDE to execute a sample Fibre Channel Project configured for the user test environment (e.g. appropriate WWPN, LUN, etc.). If the Project succeeds then the transceiver/cable combination is compatible with the Appliance.

Additional Test Port Transceiver/Cable Combination Debugging Information

For additional debugging purposes, the Appliance Link Status messages (from Ports & Appliances > Appliances > Link Status) for incompatible SFP+ transceiver/cable combinations may not produce sufficient information. Messages written to the TDE Output Window during Project execution and in the Results Explorer > Client Log File after Project execution, may provide more detailed information regarding SFP+ transceiver compatibility. See the TDE online Help Product Installation chapter for more information.

Enterprise Virtual Machine Configuration

The Load DynamiX Enterprise Appliance/sub-appliance hosts two virtual machines under the control of a XenServer hypervisor. The Load DynamiX Load Generation Appliance/sub-appliance runs Load DynamiX Appliance firmware.

Load DynamiX Enterprise Series Appliances

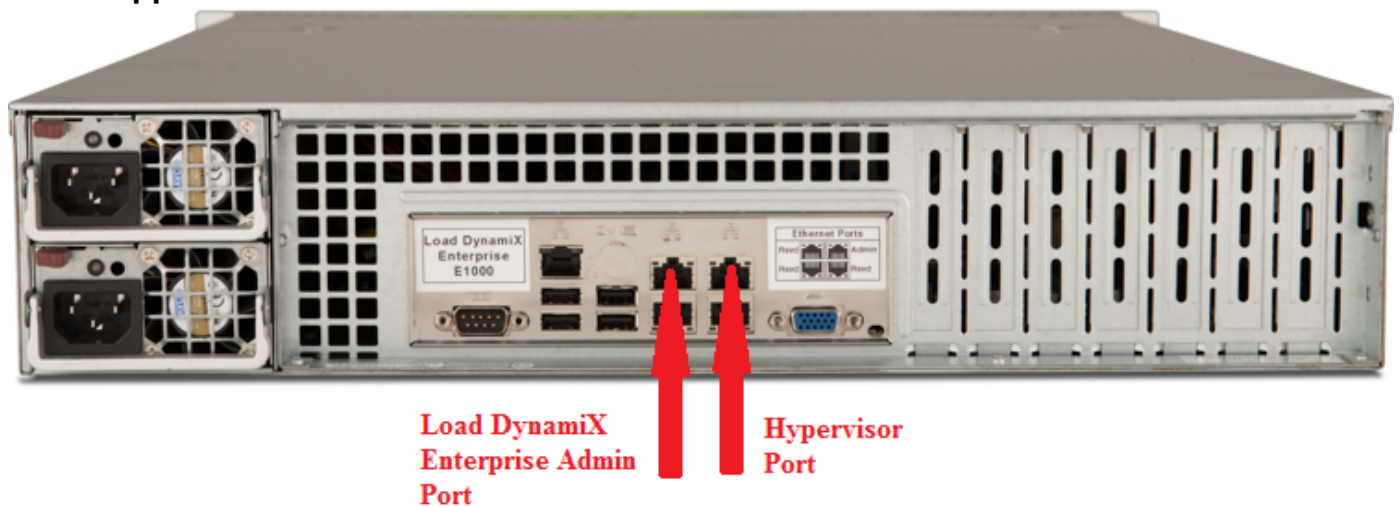
The Load DynamiX E-Series Appliances have two types of ports:

- Admin/Hypervisor Ports (1000BASE-T Ethernet) and
- Test Ports (16Gbps Fibre Channel and/or 10GbE) on the E1004, E1020, E1022 and E1040 Appliances.

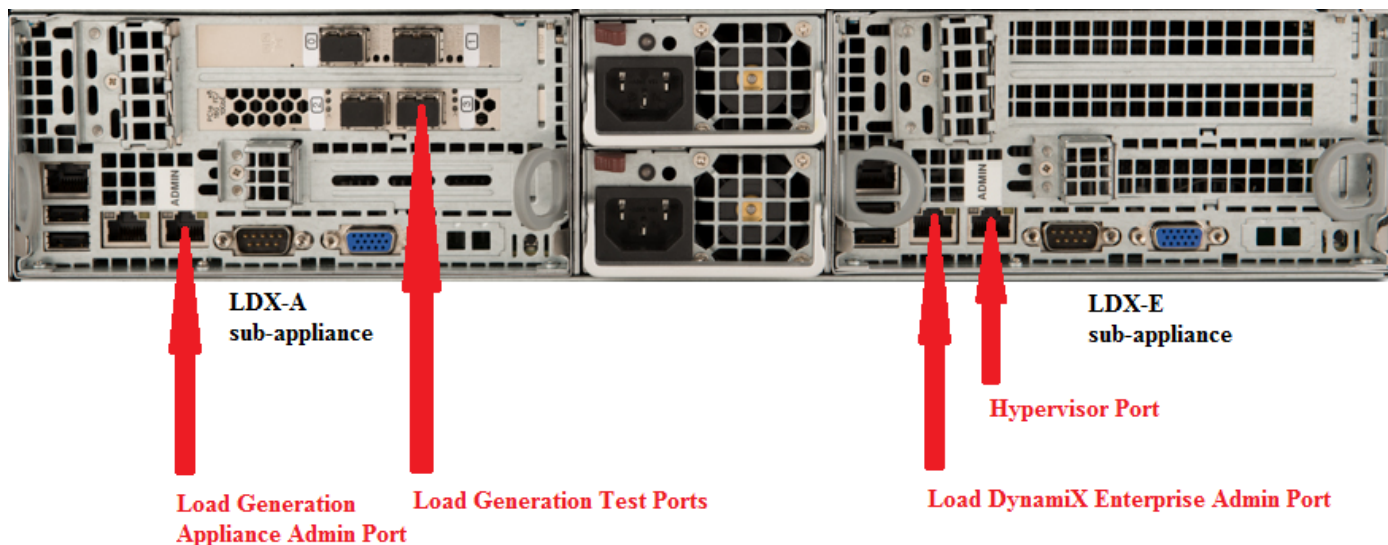
The Enterprise Admin and Hypervisor Ports are configured as described below starting in the **Hypervisor and Admin Port Configuration** section below and must be connected to the same management network. See the [Enterprise Product Overview](#) section above for more information regarding the network configuration required for LDX Enterprise deployment. See the Load DynamiX Enterprise User Guide for information regarding Test Port configuration.

Physical Port Locations

E1000 Appliance



E1020, E1004, E1022 and E1040 Appliances

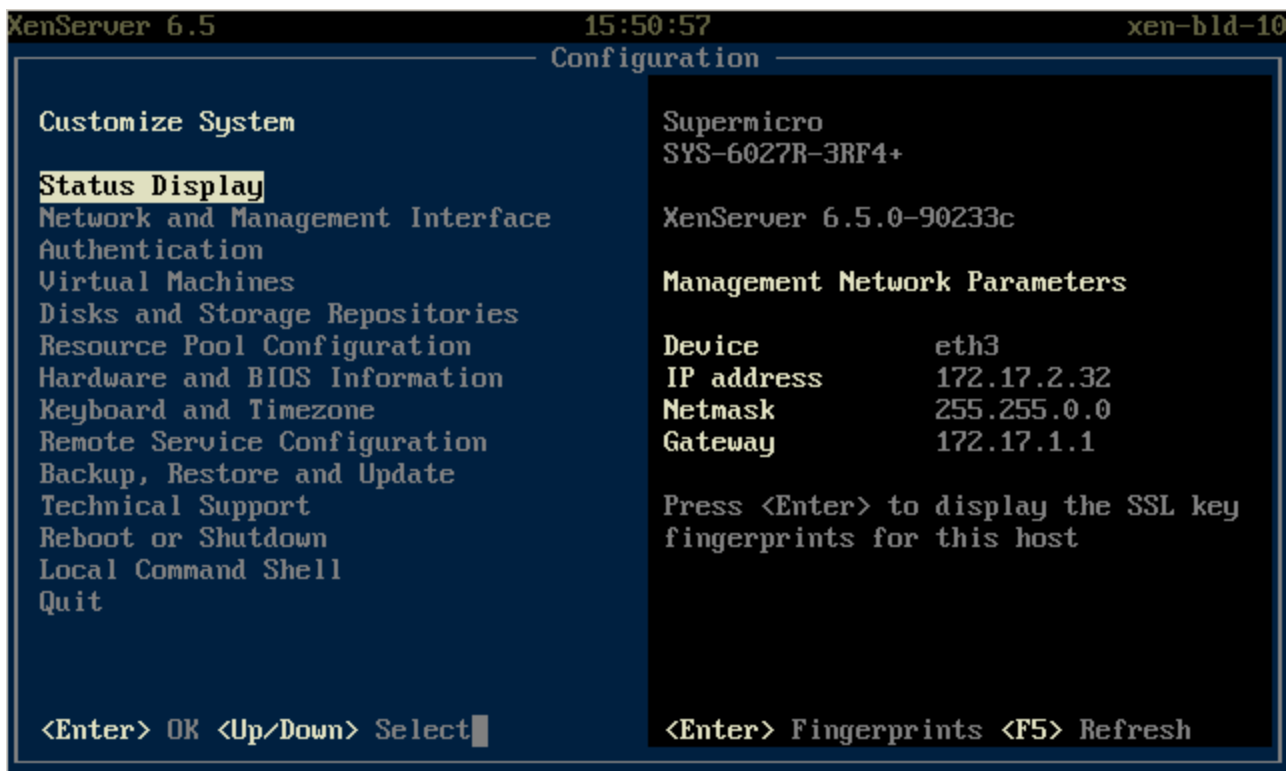


Hypervisor and Admin Port Configuration

The Admin and Hypervisor Ports come configured by the factory for DHCP IP address assignment. If Admin and Hypervisor DHCP IP Address assignment is preferred, the assigned IP Addresses can be discovered by connecting a keyboard and display to the Appliance. See below for instructions on how to discover DHCP IP Address settings. If static IP Address assignment is preferred then see below for instructions on how to configure Admin and Hypervisor Port IP Addresses.

LDX-E sub-appliance Hypervisor Port Configuration

- If the LDX-E Hypervisor Port IP Address, subnet mask and default gateway, and the LDX-A Admin Port IP Address, subnet mask and default gateway, have been pre-configured for you by Load DynamiX, proceed to **Enterprise Virtual Machine Configuration** section below .
- Locate the Load DynamiX Enterprise Appliance/sub-appliance (right hand side of the backside of the Enterprise E1004, E1020, E1022, and E1040 Appliances). See the Physical Port Location images above.
- Connect a keyboard to a USB port and a monitor to the DB15 video port of the LDX-E Appliance/sub-appliance. Log in as "root" and "welcome".
- Open the hypervisor console window by entering "xsconsole" at the command prompt.. This process is only required the first time that that hypervisor is configured. If the IP Address shown on the display is acceptable, then the process to set the Hypervisor IP Address is complete and the next step is to configure the LDX-A sub-appliance Admin Port IP Address. Move ahead to the **LDX-A sub-appliance IP Address Configuration** section below if the E-Series Appliance has a Load Generation sub-appliance.



- Click on Network and Management Interface. The click on Configure Management Interface. Note that the XenServer hypervisor user id is "root" and the XenServer hypervisor password is "welcome".
- Select "Configure Management Interface" and follow the prompts to set:
 - If the LDX-E Appliance is an E1000, select eth3: I350 Network Connection
 - If the LDX-E Appliance is an E1004, E1040, E1020 or E1022, select eth1: I350 Network Connection
- Now select Static and enter the IP address for the XenServer hypervisor.
- Select Keep Current XenServer Name.

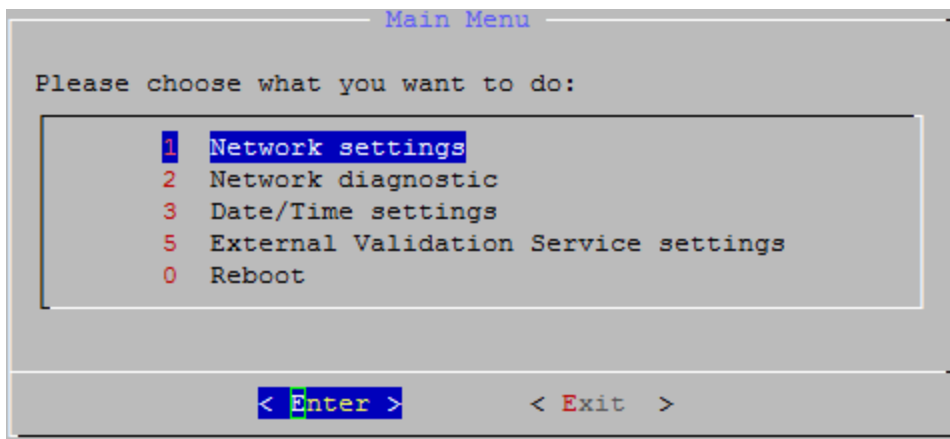
Now, on E1004, E1020, E1022 and E1040 E-Series Appliances, complete the setup of the Load Generation sub-appliance IP address. For an E1000 E-Series Appliance, move ahead to **Enterprise Virtual Machine Configuration** below to configure the Enterprise Virtual Machines.

LDX-A sub-appliance IP Address Configuration

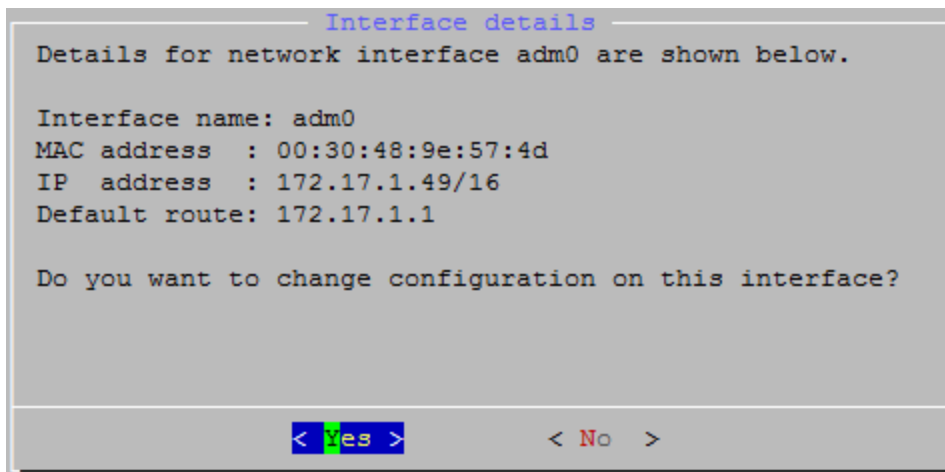
On E1004, E1020, E1022 and E1040 E-Series Appliances, the IP Address of the Load Generation sub-appliance (left hand side) may also be configured by attaching a keyboard to a USB port and a monitor to the DB15 port on the LDX-A sub-appliance. This configuration provides access to the LDX-A Load Generation sub-appliance Admin User Interface. Enter

- User Id: "config"
- Password: "config"

Select **1 Network settings** from the menu



to see



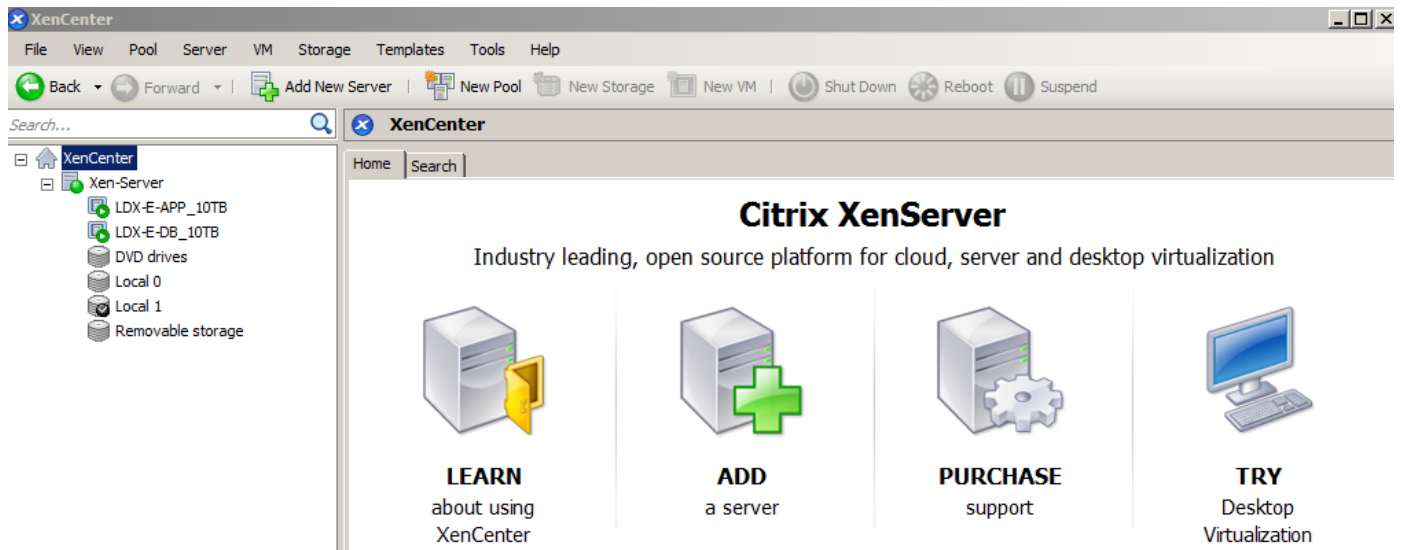
If the IP Address shown (assigned by DHCP) is acceptable then the process to set the Admin Port IP Address for the LDX-A sub-appliance is complete. Exit the interface and move ahead to the **Enterprise Virtual Machine Configuration** section below.

If the current IP Address is not acceptable then click the <Enter> key and follow the prompts to create a static IP address, netmask, and default gateway address. The LDX-A Admin Port IP Address must be on the same management network as the Hypervisor Port (above) and LDX-E Admin Port (below). See the [Appendix: Load Generation Appliance Admin User Interface section](#) below for details of the Load Generation sub-appliance Admin User Interface.

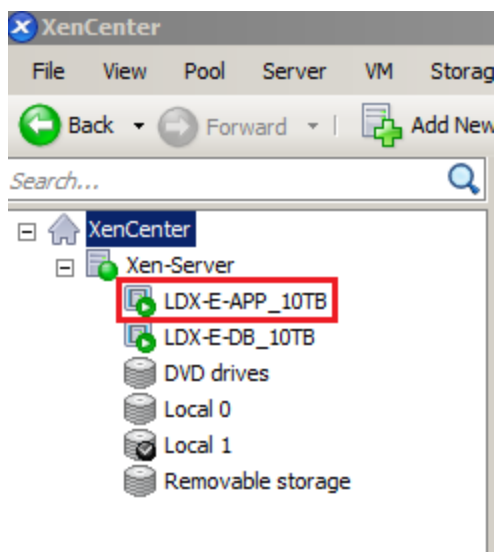
When this step is complete, move to a Windows workstation to complete the setup of the LDX-E Appliance using XenCenter.

Enterprise Virtual Machine Configuration

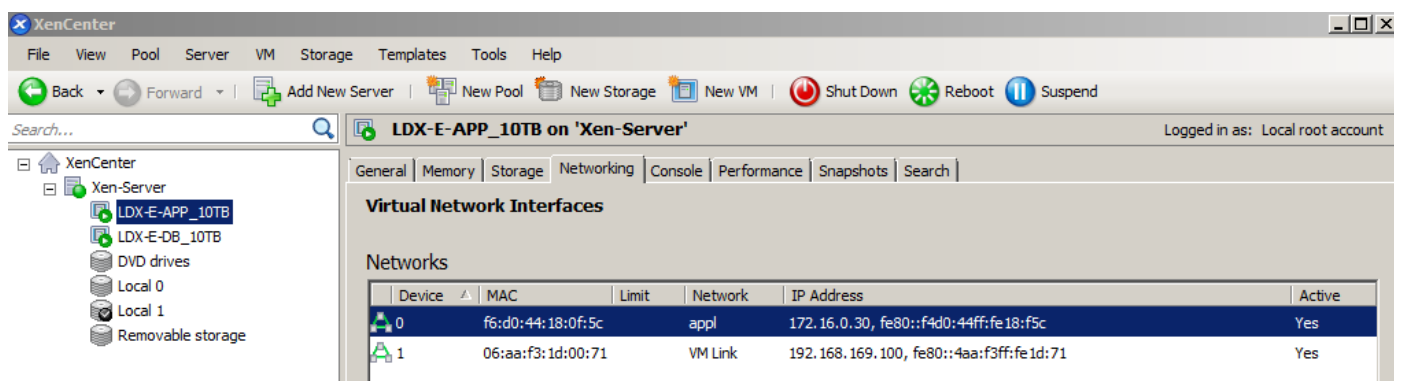
- On the User Workstation, Install and Open the Citrix XenCenter application and add the LDX-E Appliance to the XenCenter application using the Add function (requires the XenServer hypervisor IP address).
- XenCenter userid is “root” and XenCenter password is “welcome” (same as the XenServer hypervisor)



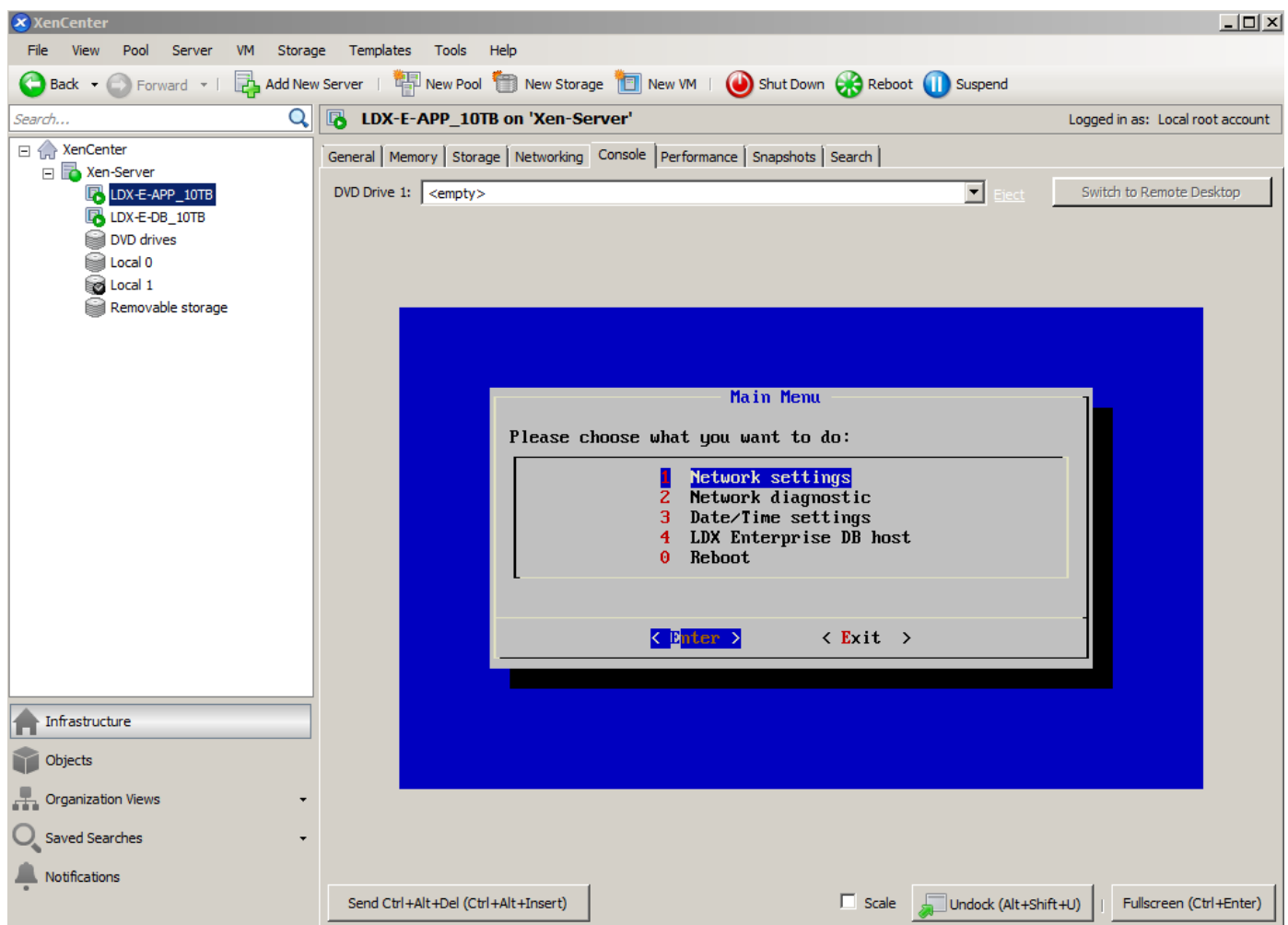
- If it is necessary to change the IP address of the LDX-E Application, it can be done using XenCenter
 - Select the LDX-E Application (LDX-E-APP_10TB) on the left hand side of XenCenter



- Open the Networking tab on the right hand side of XenCenter
 - This interface displays the two IP networks that are critical to LDX-E execution. The "appl" network which is the externally visible IP network and "VM Link" which is an internal network that the LDX-E Application virtual machine shares with the LDX-E Database virtual machine.



- Select LDX-E-DB_10TB virtual machine on the left hand side menu of the XenCenter application and click Start on the toolbar or right click Start
- Select LDX-E-APP_10TB virtual machine on the left hand side menu of the XenCenter application and click Start on the toolbar or right click Start
- Select LDX-E-APP_10TB VM on the left hand side of the XenCenter application, select the Networking tab on the right hand side of XenCenter and confirm the Admin Port ("appl") IP address
- If the Admin Port IP address is not the desired address then follow the next few steps, otherwise skip ahead to Verify Correct Configuration.
- Highlight the LDX-E-APP_10TB VM and click on the Console tab. Log into the admin interface with User Name: config and Password: config.



- Change the network configuration to be on Mgmt Network. Select **1 Network settings** and follow the configuration prompts to change the IP address, netmask, and default gateway address. This process sets the Admin Port IP address which will be used by Load DynamiX Enterprise to interact with this Appliance. The Appliance admin interface and port do support DHCP. 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. See the [Appliance Admin Interface section](#) below for details of the user interface for setting the Network settings.

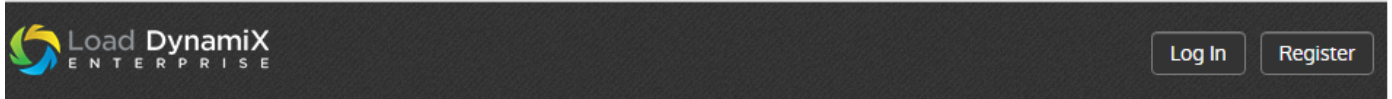
- Confirm the Date and Time configuration is set to the local timezone. Select **3 Date/Time settings** and follow the prompts to view the current the date and time settings to confirm that they are correct for the local timezone date and time. If the date and time are not correct for the local Timezone, Time and Date, set them according to local time or use an NTP server to provide the correct local Timezone, Time and Date. See the [Appliance Admin Interface section](#) below for details of the user interface for setting the Date and Time.
- Select <Exit> when done and also exit the XenCenter application.

Verify Correct Configuration

- To verify the LDX-A sub-appliance Admin Port setup, enter the LDX-A Admin Port IP address in the address bar of a browser that is connected to the Mgmt Network. If the Admin Port of the LDX-A sub-appliance is correctly configured, the following text will appear in the browser window

Load DynamiX

- To verify the LDX-E setup, Ping the IP address of the Load DynamiX Enterprise sub-appliance from a device on the Mgmt Network. If the Ping is not successful, use the Trace Route command (Windows or Linux) to track the routes between the system running the browser and the LDX-E sub-appliance.
- If the Ping is successful, enter the IP address of the Admin Port of the E1000 or Enterprise sub-appliance in a browser address bar. If the login screen below appears in the browser window then the Enterprise Series Appliance Enterprise Application has been successfully configured. If not, contact support@loaddynamix.com for assistance.



Log In

* Email

Password

Remember me
☐

[Don't have an account?](#)

The login page (bottom right-hand corner) for the Enterprise Application contains links to Load DynamiX Enterprise documentation. See below.

The Load DynamiX Enterprise Server is now ready for use

Appendix: Load Generation Appliance Admin User Interface

The Load Generation Appliance Admin User Interface is used to:

- Set/change the Appliance IP Address, Netmask, Gateway
- Set/change the Date and Time of the Appliance
- Run network diagnostics if communications between a Load Generation Appliance and the LDX-E server are not operating correctly
- Reboot the Appliance

This section describes how to use the Load Generation Appliance firmware Admin User Interface for Enterprise Series Appliance users that find it necessary to use these features.

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

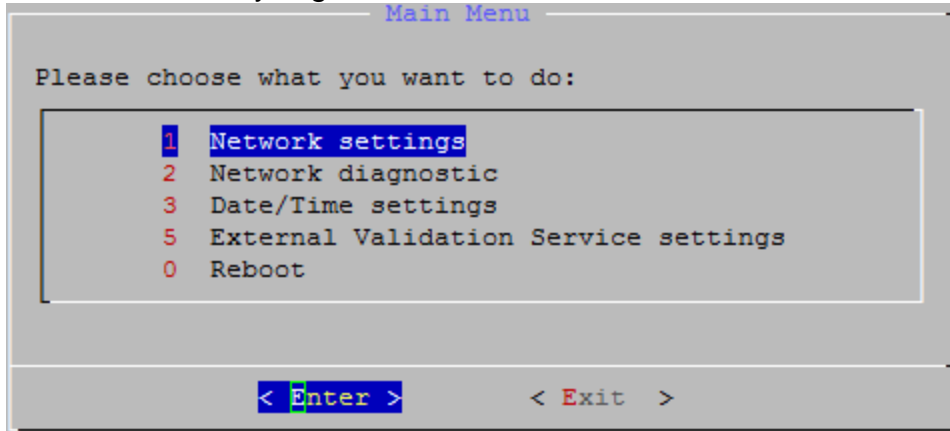
< Back > - return to the previous screen or menu

<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



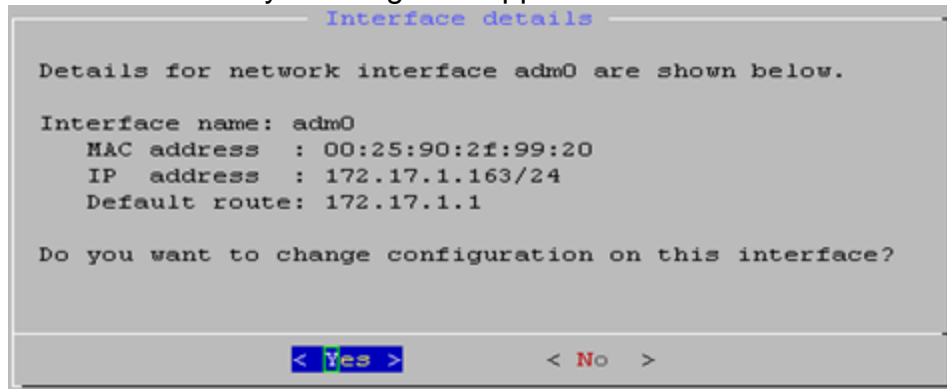
Main Menu

Please choose what you want to do:

- 1 Network settings
- 2 Network diagnostic
- 3 Date/Time settings
- 5 External Validation Service settings
- 0 Reboot

< Enter > < Exit >

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



Interface details

Details for network interface adm0 are shown below.

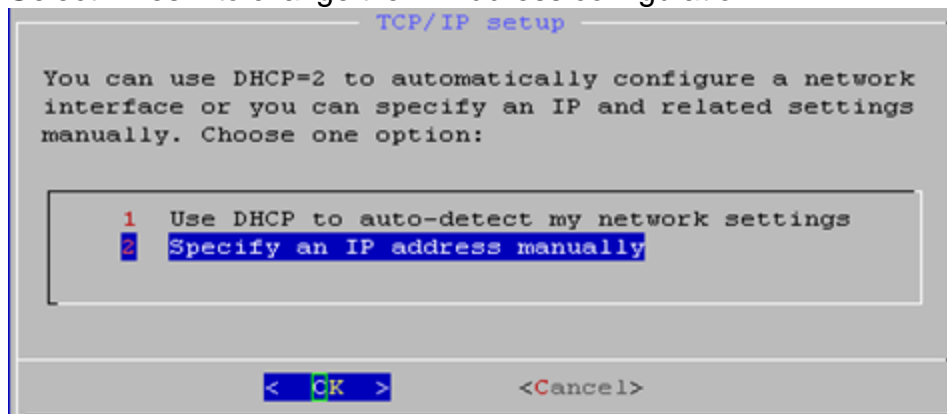
Interface name: adm0
MAC address : 00:25:90:2f:99:20
IP address : 172.17.1.163/24
Default route: 172.17.1.1

Do you want to change configuration on this interface?

< Yes > < No >

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

Select < Yes > to change the IP Address configuration



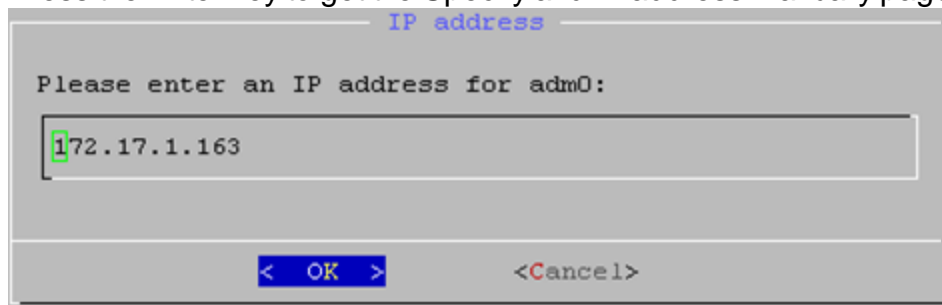
TCP/IP setup

You can use DHCP=2 to automatically configure a network interface or you can specify an IP and related settings manually. Choose one option:

- 1 Use DHCP to auto-detect my network settings
- 2 Specify an IP address manually

< OK > <Cancel>

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



IP address

Please enter an IP address for adm0:

172.17.1.163

< OK > <Cancel>

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

Network mask

Please enter an Network mask for adm0:

255.255.0.0

< OK > <Cancel>

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

Gateway

Please enter an Gateway for adm0:

172.17.1.1

< OK > <Cancel>

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.

Date/Time Menu

Current local date/time set to:
Fri 07 Oct 2016 05:00:45 PM PDT PDT -07

UTC equivalent:
Sat 08 Oct 2016 12:00:45 AM UTC UTC +00

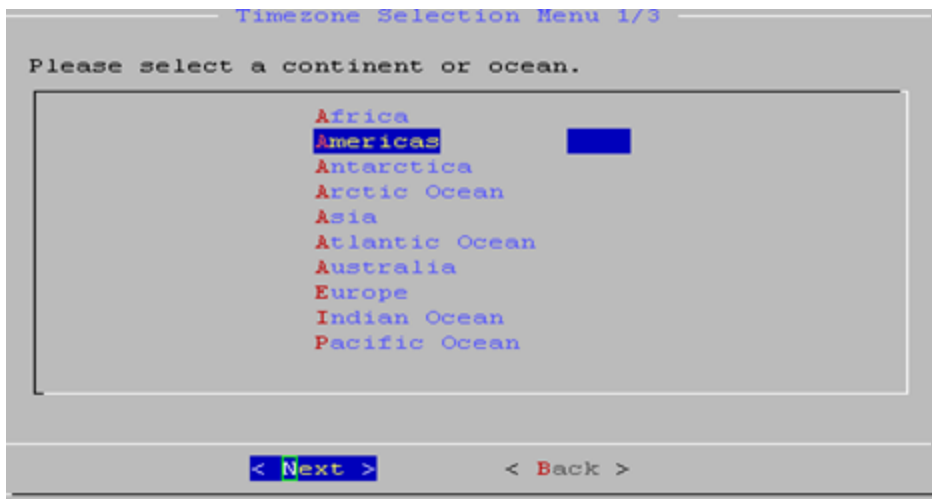
NTP Server:
not configured

Do you want change those settings?

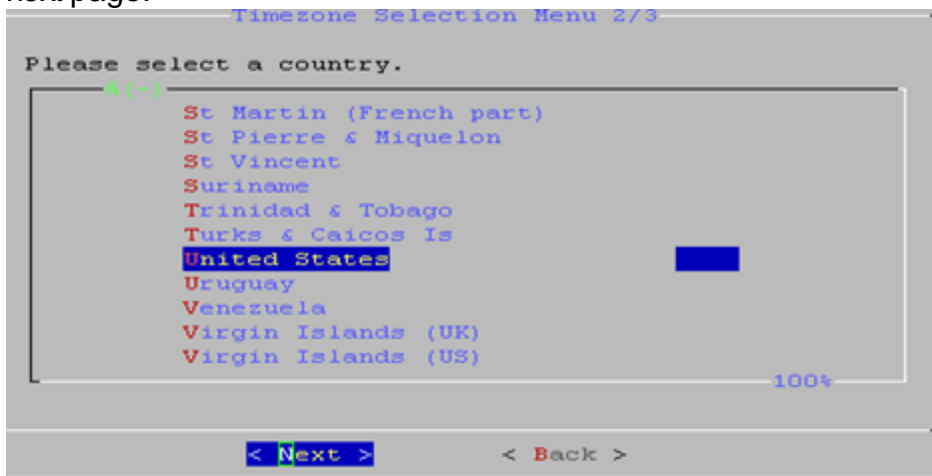
1 Timezone
2 Date
3 Time
4 NTP server

< OK > <Cancel>

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.

DATE/TIME MENU

Current local date/time set to:

Thu 08 Nov 2012 12:58:35 PM PST PST -08

UTC equivalent:

Thu 08 Nov 2012 08:58:35 PM UTC UTC +00

Do you want change those settings?

1 Timezone

2 **Date**

3 Time

< **CK** > <Cancel>

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.

DATE SETTINGS

Please pick a date:

Month Year

November 2012

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
44						1	2 3
45	4	5	6	7	8	9	10
46	11	12	13	14	15	16	17
47	18	19	20	21	22	23	24
48	25	26	27	28	29	30	

A(+)

< **CK** > <Cancel>

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

DATE/TIME MENU

Current local date/time set to:

Thu 08 Nov 2012 12:59:34 PM PST PST -08

UTC equivalent:

Thu 08 Nov 2012 08:59:34 PM UTC UTC +00

Do you want change those settings?

1 Timezone

2 Date

3 **Time**

< **CK** > <Cancel>

Date/Time Menu

Current local date/time set to:

Thu 08 Nov 2012 12:59:34 PM PST PST -08

UTC equivalent:

Thu 08 Nov 2012 08:59:34 PM UTC UTC +00

Do you want change those settings?

1 Timezone
2 Date
3 **Time**

< **CK** > <Cancel>

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.

Time settings

Please set time:

13

 :

00

 :

01

< **CK** > <Cancel>

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.

Date/Time Menu

Current local date/time set to:

Fri 07 Oct 2016 05:00:45 PM PDT PDT -07

UTC equivalent:

Sat 08 Oct 2016 12:00:45 AM UTC UTC +00

NTP Server:

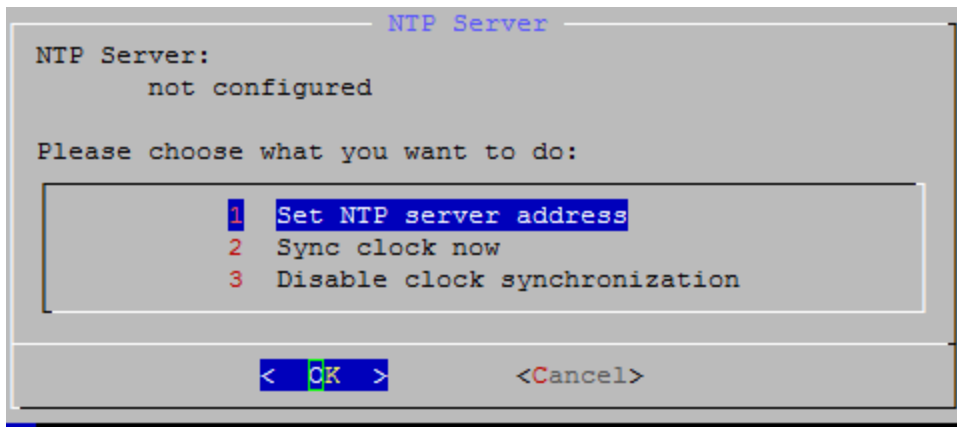
not configured

Do you want change those settings?

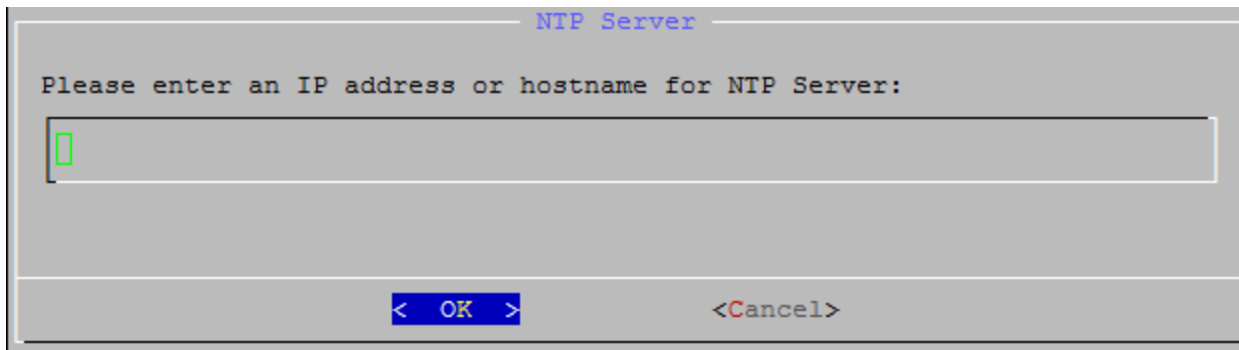
1 Timezone
2 Date
3 Time
4 **NTP server**

< **CK** > <Cancel>

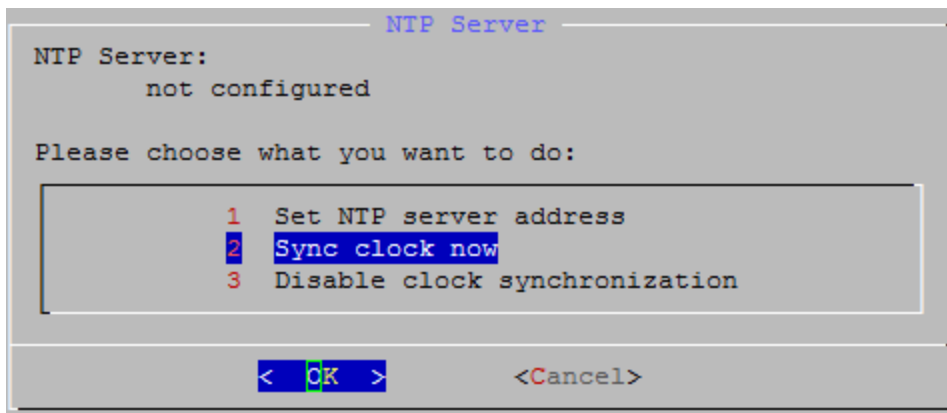
Click OK to get to the NTP Server interface.



Click OK to enter the address of the NTP server.



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



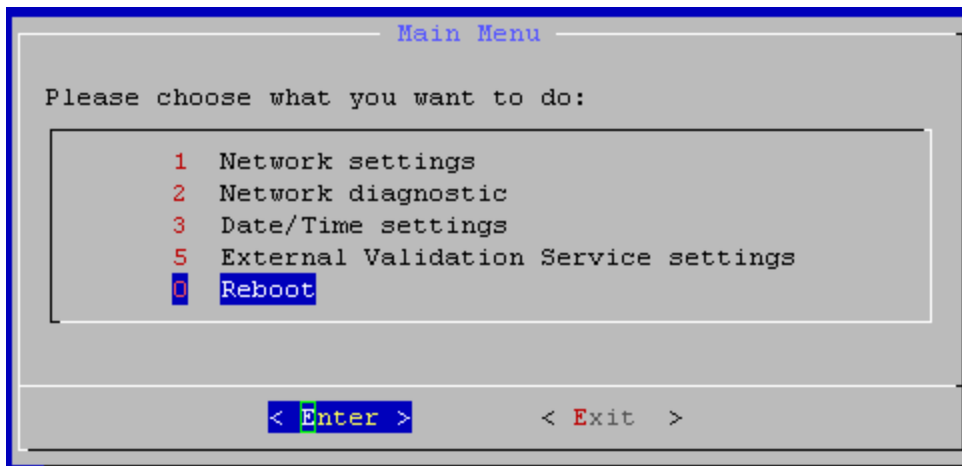
Click Sync clock now to synchronize the Appliance and NTP Server and click Cancel, Cancel and Exit to complete the session.

The Appliance Admin User Interface also provides three additional capabilities:

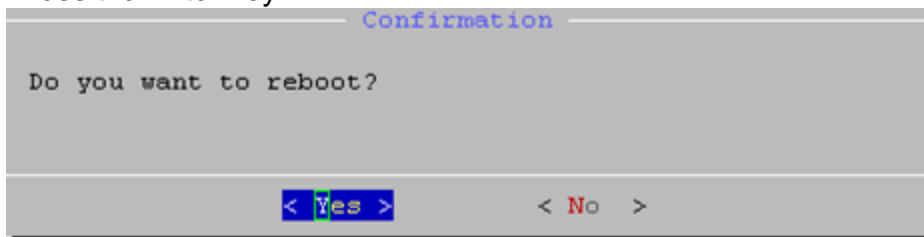
1. Reboot the Appliance
2. Network Diagnostics
3. External Validation Service settings

To Reboot the Appliance

From the Main Menu, highlight the Reboot menu item

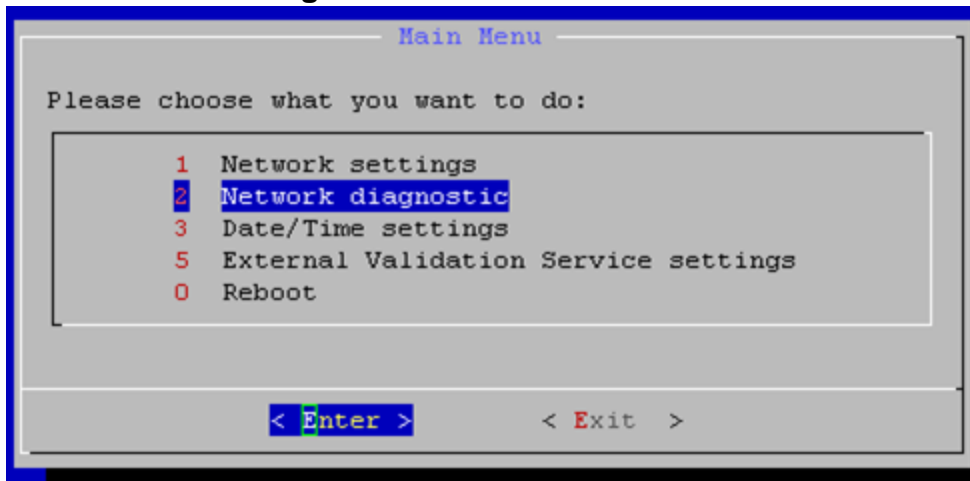


Press the Enter key

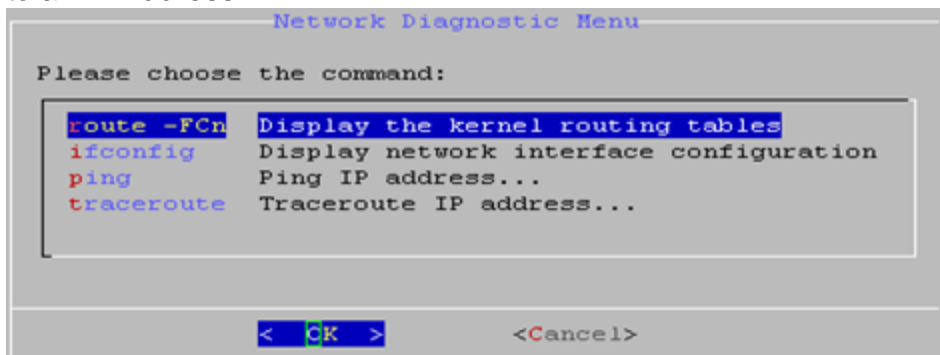


Press the Enter key to Reboot the Appliance or press the Right Arrow key to Select <No > to return to the Main Menu. This session will disappear if < Yes > is selected.

To run Network Diagnostics



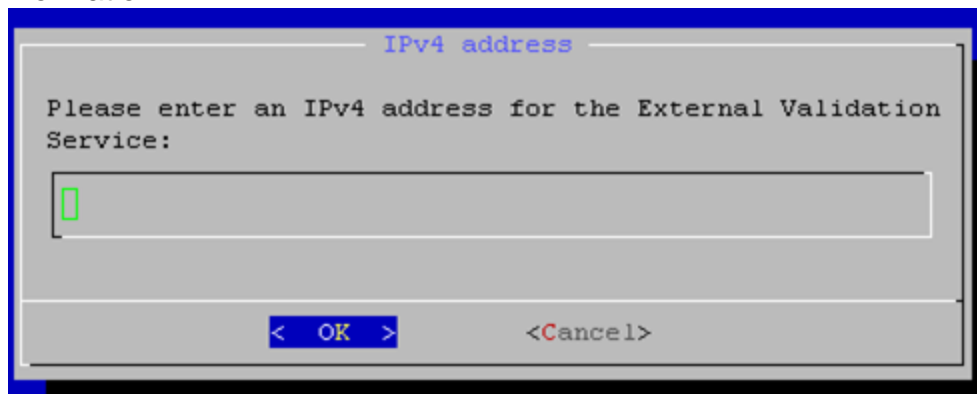
Use the Network Diagnostics menu to display the Appliance's routing tables; Display the Appliance's network configuration details; Ping an IP address from the Appliance; Run a Traceroute from the Appliance to an IP Address.



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@loadynamix.com) for more information.

A screenshot of a graphical user interface dialog box titled "IPv4 address". The dialog box has a light gray background and a blue border. Inside, the text "Please enter an IPv4 address for the External Validation Service:" is displayed in a monospaced font. Below the text is a rectangular input field with a green cursor at the beginning. At the bottom of the dialog box, there are two buttons: a blue button labeled "< OK >" and a gray button labeled "<Cancel>".

IPv4 address

Please enter an IPv4 address for the External Validation Service:

< OK > <Cancel>

Appendix: TDE Software Installation

E-Series Appliance users may also want to have the Load DynamiX Test Development Environment installed on a workstation on the management network to contribute to the development and execution of Workloads on Load Generation Appliances. Use the information in this section to install the TDE from the USB thumb drive.

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}
 - Program data: C:\Program Data\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.**

The Load DynamiX application is packaged on a thumb drive, delivered via email or downloaded from the Load DynamiX FTP site.

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*

To install .NET Framework 4.x on a Management Workstation running Windows 7 or earlier:

- If the Management Workstation has access to the Internet, download the .NET 4.x bootstrap loader at: <https://www.microsoft.com/en-us/download/confirmation.aspx?id=42643>
- If the Management Workstation does not have Internet access, using a system that does, go to the URL displayed above, click Instructions, look for the phrase "Full Redistributable Package" follow the instructions to download the full .NET 4.x package, then install it on the Load DynamiX Workstation.

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 word "SwiftTest" 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 to 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 word "LoadDynamiX" 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.
If you are downloading the GUI software from the Load DynamiX FTP site, copy the Load DynamiX .ZIP file to your computer.
 - Load DynamiX FTP site: <https://loadynamix.egnyte.com/>
 - 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 Load DynamiX Workstation's USB port.
2. Double click the Load DynamiX TDE.exe file. Follow the setup instructions.

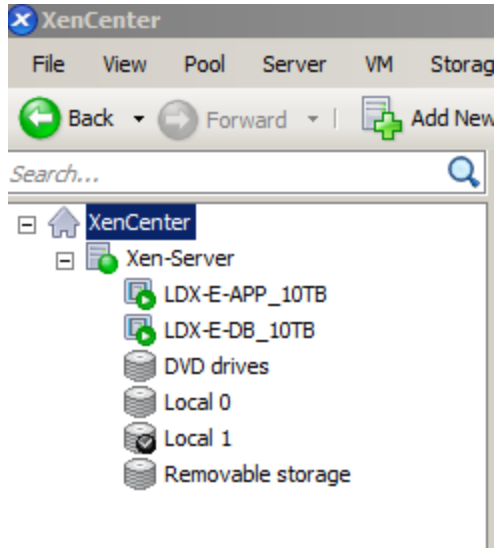
Appendix: Enterprise Virtual Machine Shutdown

If it is necessary to shutdown or start the Enterprise Series Server virtual machines, use the instructions in this section.

LDX-E VMs

The Load DynamiX Enterprise Server consists of two Virtual Machines running on a XenServer hypervisor:

- The Enterprise Server VM and
- The Database Server VM

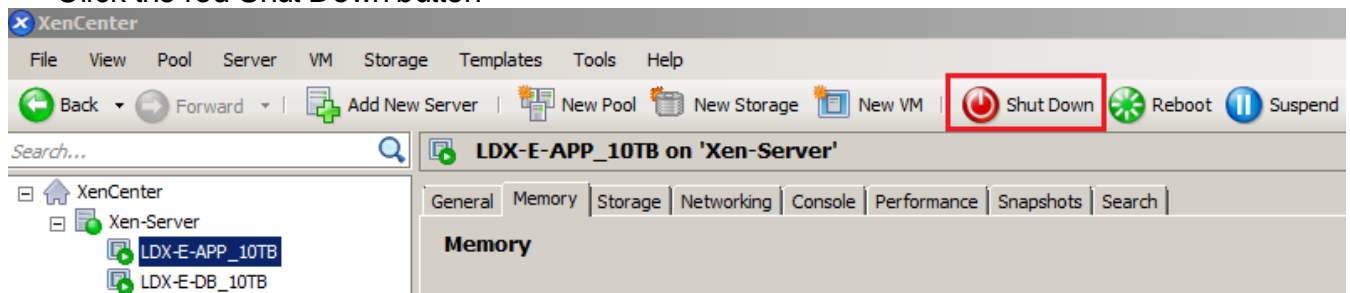


Shutdown Procedure

The Shutdown Procedure for the Load DynamiX Enterprise product is a two step activity:

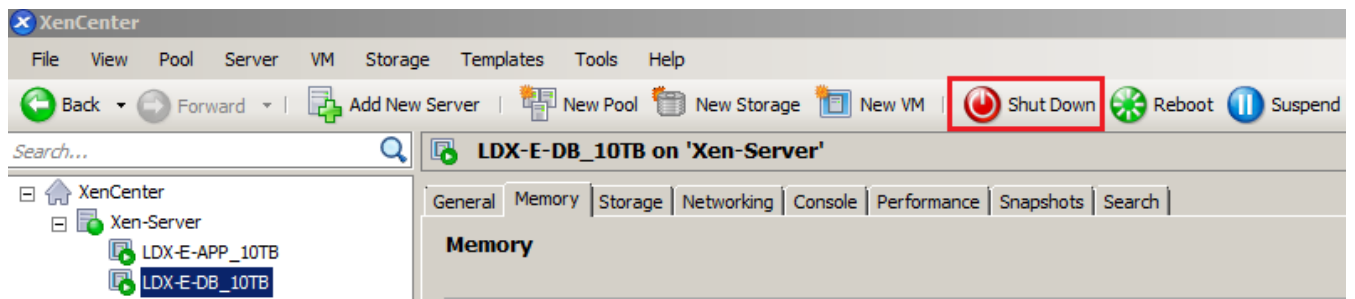
First - Shutdown the Enterprise Server:

- Open the XenCenter application,
- Highlight the LDX-E Application VM (LDX-E-APP_10TB)
- Click the red Shut Down button



Second - Shutdown the Database Server:

- Open the XenCenter application,
- Highlight the LDX-E Database VM (LDX-E-DB_10TB)
- Click the red Shut Down button



Startup Procedure

LDX-E Startup is the reverse of Shutdown:

First - Select the Database Server VM and right-click the VM to select Start

Second - Select the LDX-E Server VM and right-click the VM to select Start

Index

L

Idx version 5.4.c, 31