

# LifeScope™ Workstation

## *Quick Start Guide: From Box to Prompt...*



November 2011  
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## 1. Overview

Thank you for purchasing a LifeScope™ Analysis T4400 workstation (“LifeScope Workstation”). This document is intended to help you setup and start up your workstation for the first time. It contains information on the LifeScope™ installation and testing, and general workstation settings.

This manual contains information reproduced with permission from SuperMicro. For a complete technical description of your workstation, please see the User Manual for this server which is included with this manual.



## 2. Unpacking and Placement

### 2.1 Overview

This chapter provides a quick setup checklist to get your LifeScope Workstation up and running. Following these steps in the order given should enable you to have the system operational within a minimum amount of time. Your workstation was completely integrated at Penguin's factory and is ready to run. Your workstation may be employed either as a tower or mounted in a rack as a 4U rackmount chassis. If using it as a tower unit, please refer to SuperMicro's User Manual, or contact Penguin Technical Support. Rails to install the workstation are not supplied but can be ordered from Penguin Computing.

Your LifeScope Workstation has an eight 2 ½" disk drive enclosure installed directly above the larger 5 disk drive enclosure. Four 1TB disks are installed in this enclosure and used as a high-speed scratch or temporary file system for LifeScope. Please note: this 2 ½" disk drive enclosure is not shown in the figures included in this manual.

### 2.2 Unpacking the System

You should inspect the box the system was shipped in and note if it was damaged in any way. If the server itself shows damage you should file a damage claim with the carrier who delivered it.

Decide on a suitable location for your LifeScope. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. You will also need it placed near a grounded power outlet.

### 2.3 Preparing for Setup

Please read this before you begin the installation procedure outlined in the sections that follow.

Leave enough clearance in front of the system to enable you to open the front door completely (~25 inches). Leave approximately 30 inches of clearance in the back of the system to allow for sufficient airflow and ease in servicing. This product may be installed in an office, lab, dedicated equipment rooms, service closets and the like provided that there is sufficient cooling (air conditioning).

### 2.4 List of Required Items

Keyboard/Mouse – The system is supplied with a Keyboard/Mouse Wireless Logitech MK520 or equivalent.

Monitor – The system does not come with a monitor. Please supply a DVI or VGA compatible monitor.



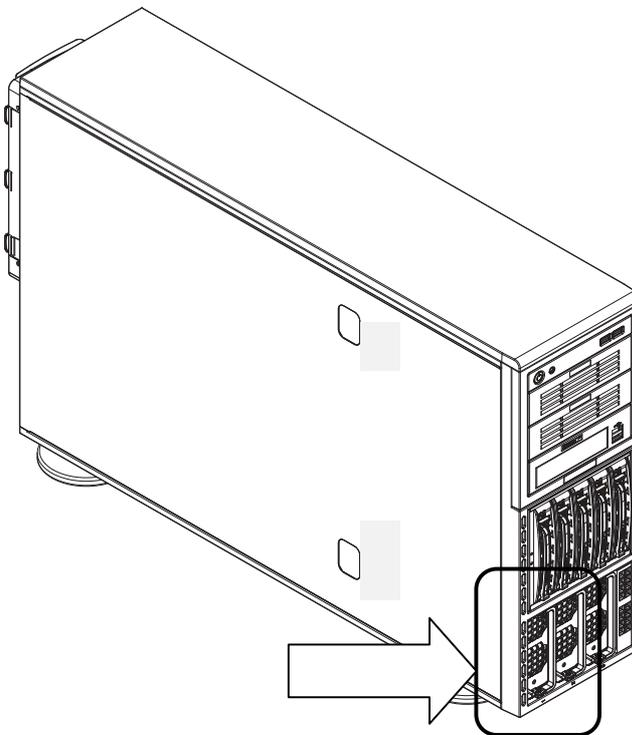
Ethernet cable – An Ethernet cable is required to connect the workstation to your local area network.

Internet access – Internet access is required during setup of the workstation and software.

### 3. Powering the Workstation ON

#### 3.1 System Power

Your LifeScope workstation features two separate power modules 1400W high-efficiency power supply with I<sup>2</sup>C (a remote monitoring interface). This power redundancy feature allows you to replace a failed power supply without shutting down the system. The system can be powered on with only one power supply, but the power redundancy feature is highly recommended as it allows you to replace a failed power supply without shutting down the system.



Looking at the front of the workstation, the redundant power supplies are on the left and center of the workstation, at the bottom. They can also be recognized by a **RED** lever. The system is supplied with six power cords based on the standards for many different countries. Please plug two appropriate power supplies into your power strip on the back side of chassis (bottom left corner ) if you want redundancy. You may also plug just one power supply in instead, however you will not have power supply redundancy for this configuration. If you use just one power supply, please lift up on the **RED** lever of the unused power supply and gently pull it out. This will prevent the unused power supply from beeping (signaling a loss of power).

Note that the **WHITE** lever indicates a “dummy” power supply and can be ignored.



### **3.2 Supplying Power**

The last thing you need to do is to provide input power to the system. Plug the power cord(s) into the power supply module(s) and into a high-quality power strip that offers protection from electrical noise and power surges. It is recommended but not required that you use an uninterruptible power supply (UPS). Attach your keyboard, mouse, monitor and network cable (refer section 4.2 and 4.3). Finally to turn on the system, depress the power on button on the front of the chassis (upper left corner).

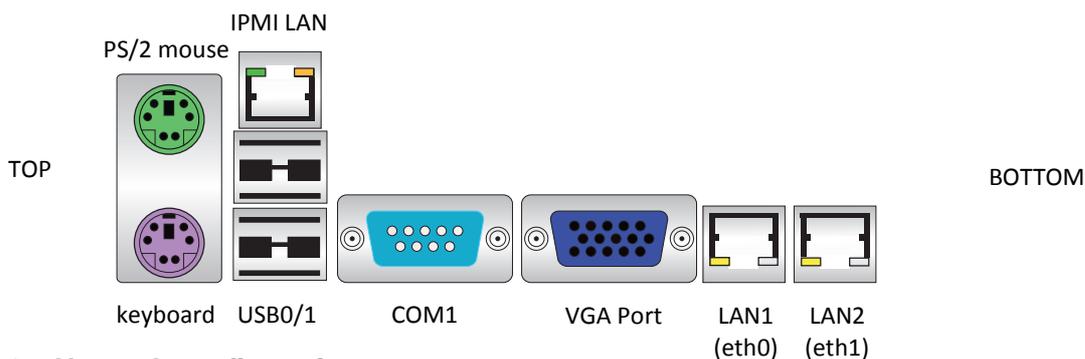
## 4. Workstation Configuration

### 4.1 Front Control Panel

The control panel on the LifeScope Workstation provides you with system monitoring and control. LEDs indicate system power, HDD activity, network activity, system overheat and power supply failure. A main power button and a system reset button are also included. In addition, two USB ports have been incorporated into the front of the chassis for convenient access.

### 4.2 I/O Ports

The I/O ports are color coded in conformance with the PC 99 specification. See below for the colors and locations of the various I/O ports. The illustration below is rotated 90 degrees for clarity.



### 4.3 Network configuration

#### 4.3.1 I/O Backplane

The I/O backplane includes one COM port, a VGA port, two USB 2.0 ports, PS/2 mouse and keyboard ports, two gigabit Ethernet ports and one dedicated Ethernet port for IPMI.

The dedicated Ethernet port for IPMI is located next to the USB ports.

Eth0 and eth1 Ethernet ports are the two adjacent ports located in the lower portion of the I/O backplane. Eth0 is the bottom most Ethernet port. You should use eth0 to connect to your network. Eth0 is also the port you would use for in band IPMI if using. Eth1 can be ignored.

Network interfaces are configured in the same way as a standard RedHat/CentOS system. The network parameters should follow your network environment.

The public network configuration interface is set to DHCP before shipment. If you need to set a static ip address, then please ask your system administrator for assistance.



## 5. Getting Started

### 5.1 Logging In

Once your LifeScope workstation is powered on and booted, you will be presented with a prompt from the CentOS 5 operating system GUI.

**Your default root user password is Penguin. Your default root user name is root.** Please log in. Confirm that you have a valid connection to the Internet by clicking on the Web browser icon and accessing the Life Technologies' website ([www.lifetechnologies.com](http://www.lifetechnologies.com)). LifeScope cannot be initialized without a valid Internet connection.

Once you check the internet connection, please log out from root user and log back in as the LifeScope user. **The LifeScope user is lifescape and the password is lifescape.** We strongly recommend changing all passwords.

### 5.2 LifeScope General Configuration Information

Your workstation comes with LifeScope™ build already present in /data/LifeScope. The reference data is installed in /data/LifeScopeDisk.

PBS/TORQUE/MAUI are pre-installed for handling job requests and managing workflow. The installed resource manager is Torque 3.01 or later. The installed job scheduler is Maui 3.3.1.

Java 1.6.0\_u12 or later has been installed, and the java plug-in has been enabled in the browser for GUI support.

### 5.3 Steps to set up LifeScope

- 1) Open a command shell from the GUI (Applications->Accessories->Terminal).
- 2) Note down your current IP address by running `"/sbin/ifconfig eth0"` at the prompt and noting the IP address for eth0.
- 3) Change to the /data/LifeScope directory. Change the permission of install.sh script (`chmod u+x install.sh`). Run `"install.sh"` and choose the option (# 3) to "reconfigure" LifeScope. Accept all default values for all questions (hit enter) except enter the new IP address of the workstation when asked for the IP Address or Fully Qualified Domain Name of the server and license server. Please note that you selected the default "workstation" option for Lifescape installation which is correct.

4) Verify the hostname and/or new IP address for the workstation are correct in the following four files:

- **/etc/hosts**

Verify the IP address is correct, and the name of the host is correct.

Example:

```
#cat /etc/hosts
```

shows:

```
127.0.0.1 localhost.localdomain localhost
192.168.5.101 penguin
```

The IP address for eth0 is 192.168.5.101 hostname is 'penguin'

The current hostname can be found by typing the command "hostname" at the prompt.

- **/etc/sysconfig/network**

Verify HOSTNAME value is correct, and matches the value in /etc/hosts

Example:

```
#cat /etc/sysconfig/network
```

Shows:

```
NETWORKING=yes
FORWARD_IPV4="no"
HOSTNAME=penguin
```

- **/var/spool/torque/server\_name**

Verify the "server\_name" value is correct, and matches the value in /etc/hosts

Example:

```
# cat /var/spool/torque/server_name
```

Shows:

```
penguin
```

- **/usr/local/maui/maui.cfg**

Verify the value for 'SERVERHOST' is correct, and matches the value in /etc/hosts.

Use the 'schedctl -l' command to display current configuration.

- 5) Once the above installation is done, refer to the LifeScope™ Genomic Analysis Software Command Shell User Guide for instructions on how to reconfigure settings for your site and how to set up the LifeScope license file. This guide is located on the workstation at /data/LifeScope/4465697A\_Command\_Shell\_UG.pdf. Please refer to Chapter 2 “Activate the lifescape software license key” section for details about LifeScope licenses. Install the activated license in /home/lifescape/lifescape/lifescape/server/licenses/LifeScope.lic
- 6) Instruction to start the LifeScope services: Please refer Chapter 3 of user guide for details of these.
  - a. As the LifeScope user, run the commands:
    - i. lscope-lmgrd.sh start
    - ii. lscope-server.sh start
  - b. or (as the root user):
    - i. service LifeScope start
- 7) Check Web server is running by “ps -ef | grep WebServer” (Details of this in Chapter 3 of user guide). If web server is running, than you are ready to launch the LifeScope analysis.
- 8) To access the GUI go to: <http://<IP address>:9998/LifeScope.html>
- 9) If you are prompted to open the LifeScopeClient.jnlp, do so but choose the “javaws” application to open LifeScopeClient.jnlp. You can browse to this application by going to /usr/bin. Selecting javaws from this directory will start the Java Web Start program.

## 5.4 Running an Analysis

Please refer to LifeScope™ Genomic Analysis Software Command Shell User Guide for instructions of how to begin an analysis. To run the LifeScope demo examples from command line, refer to Chapter 4 “Run Demo analysis” section from user guide.



## 6. Technical Support

If you have any questions or problems, please call 1-866-996-1058, or email Penguin Support [support@penguincomputing.com](mailto:support@penguincomputing.com), and include your system serial number, which is printed on a bar-coded label, located on the back of the chassis (begins with the letter P).

Technical Support - Contact Technical Support between the hours of 6:00 a.m. and 5:00 p.m. Pacific time, Monday through Friday. After-hours telephone support is also available for customers who have purchased support packages that include 24/7 phone support.

Customer Service - Penguin Computing's customer service department is available to assist you in resolving any issues regarding your order between the hours of 6:00 a.m. and 5:00 p.m. Pacific time, Monday through Friday.