



Product Summary

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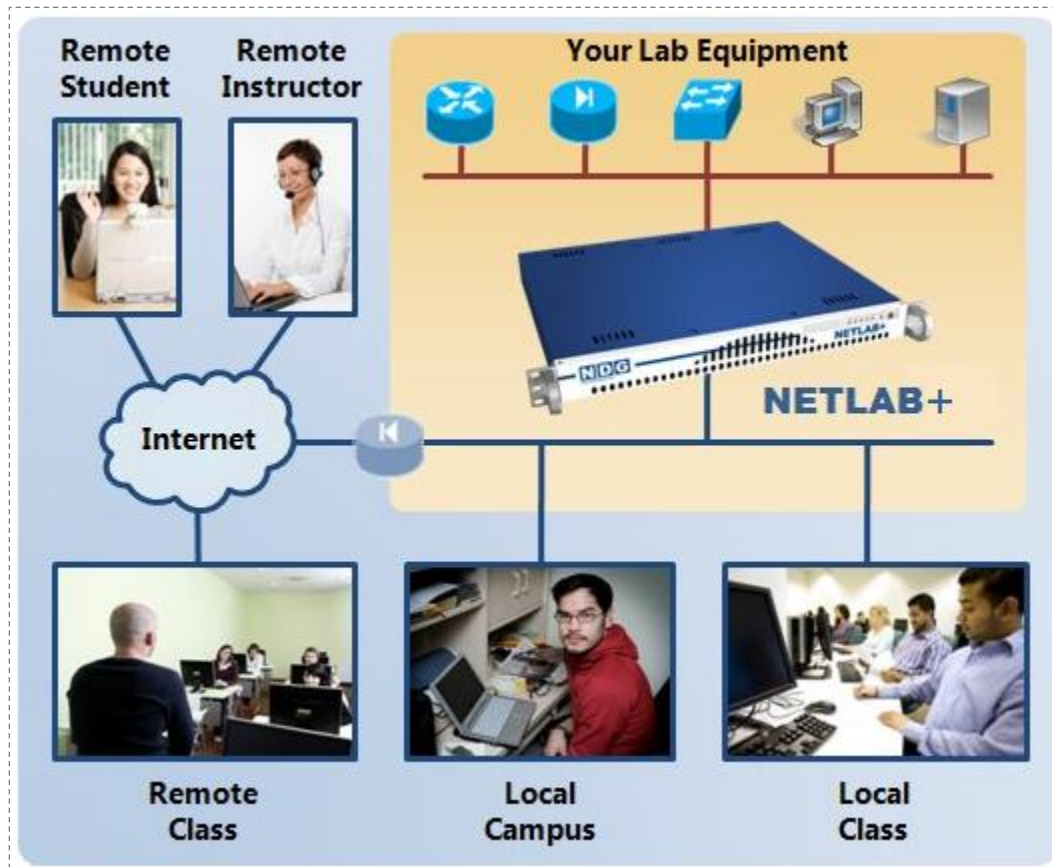
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1 What is NETLAB+?

NETLAB+ is a server appliance designed for organizations to host real equipment for instructor led or self-paced training. The NETLAB+ system is delivered as a network appliance and requires no customer knowledge of UNIX, web server software, or other system administrator functions.



NETLAB Academy Edition® is a server appliance designed specifically for Cisco Networking Academies to host Cisco training equipment on the Internet for blended distance learning, remote Academy access, instructor led training, student team or individual student equipment access. Networking Academies can also utilize NETLAB+ to host the Cisco Networking Academy curriculum.

NETLAB Professional Edition® is a server appliance designed to be a remote lab solution. NETLAB_{PE} allows customers to develop custom equipment topologies and lab designs to host equipment that supports their organization's training goals.

For organizations serving a large population of trainees, NETLAB Enterprise Edition™ is the ultimate product to facilitate remote access to IT training equipment. This enterprise-level solution is ideal for large-scale organizations, such as a network of major universities, commercial training centers, or a government training center serving a large region or country. A NETLAB_{EE} system is custom designed and built to address an organization's unique requirements or research and development needs.

Throughout this document and other NDG resources, you will find references to NETLAB+, which encompasses NETLAB Academy Edition®, NETLAB Professional Edition®, and NETLAB Enterprise Edition™. Product version-specific information is denoted as NETLAB_{AE}, NETLAB_{PE}, or NETLAB_{EE}.

The NETLAB+ website, www.netdevgroup.com, provides several documentation resources that introduce NETLAB+ and show how it can greatly enhance the capabilities of your organization.

NDG Enabling IT Labs Worldwide

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Educators
Bring Your IT Programs Online.
SOLUTIONS

1 2 3

Our solutions enable organizations to host IT equipment on the Internet to support IT training. Resources can be scheduled, automated, and accessed remotely. Remote access and collaboration tools allow simultaneous, secure, shared access to real IT equipment, including routers, switches, firewalls, PCs and servers - all running real operating systems and software.

NDG Product Line
[NETLAB Academy Edition®](#)
[NETLAB Professional Edition®](#)
[NETLAB Enterprise Edition™](#)
[Compare](#)

Latest News
 [View All News](#)
Feb 05 2010 **2010 R1 Software Update**
 This software update contains several bug fixes to improve the operation and reliability of your NETLAB+ system.

Quick Links
[Renew Maintenance](#)
[Support Requests](#)
[Request a Live Product Demo](#)
[Request a Price Quote](#)
[Información en Español](#)

These resources include:

The *NETLAB+ System Overview*:

http://www.netdevgroup.com/products/documentation/NETLAB_System_Overview.pdf

Flash Video Library of Introductory Videos:

<http://www.netdevgroup.com/products/ae/video/>

NETLAB_{AE} System Requirements:

<http://www.netdevgroup.com/products/ae/requirements/>

NETLAB_{PE} System Requirements:

<http://www.netdevgroup.com/products/pe/requirements/>

Documentation Library with detailed information on system planning and installation:

<http://www.netdevgroup.com/products/ae/documentation/>

2 Why is NETLAB+ Beneficial?

NETLAB+ provides a safe “sandbox” for users to schedule, configure and interact with lab equipment. All lab equipment and supporting devices are located safely behind the NETLAB+ server and not directly exposed to outside or public networks.

NETLAB+ has a calendar interface, which manages access to equipment bundles.

Automation of common tasks frees-up the instructor to focus on teaching. The NETLAB+ software will load and save device configurations, recover lost passwords, scrub equipment, and prepare the equipment for the next reservation upon completion. Telnet session sharing allows the instructor to share console access with students. The instructor can review and assess a student’s actual work on real gear during or after lab sessions. NETLAB+ will even power off the lab equipment when no upcoming reservations are scheduled. Prior to the next lab session, NETLAB+ will power the equipment on and pre-load configurations.

Organization Benefits:

- Equipment Access for Blended Distance Learning
- Share Equipment Resources with Other Academies
- Potential to Access Equipment at Other Schools
- Higher Return on Equipment Investment
- Increase Student Lab Time
- Lab Management Software that Frees-up Instructors
- Host Academy curriculum
- Graphical User Interface (GUI) for System Administration

Instructor Benefits:

- Automates Lab Management and Cleanup Tasks
- Equipment Access from Home for Class Preparation
- Recover Erased Flash and Passwords
- Share Sessions with Your Students
- Record and Assess Student Lab Work
- NETLAB+ will Save Configurations and Reload if Desired
- Manage Configuration Files
- Ability to Create Library of Configurations to Load

Student Benefits:

- Equipment Access via the Internet
- Reinforce Skills Learned in Class
- Potential Access to Equipment at Hosting Schools
- Share Sessions with Peers and Instructors
- Review Lab Work with Instructors

3 What is new in NETLAB+?

With the 2009.R1 major software update, NETLAB_{AE} now supports the [CCNA Security](#) curriculum. NDG has worked closely with the Cisco CCNA Security lab team to develop the labs. The [CCNA Security lab page](#) includes details on the topology options for this course.

A new pod design, the [Multi-purpose Academy Pod](#) is now available. This versatile pod provides support for all CCNA security labs.

[CCNA Exploration 2](#) and [CCNA Exploration 3](#) have been updated for use with the Multi-purpose Academy Pod.

NETLAB+ integrates with 3rd party virtualization products to provide powerful and cost effective PC support. The use of Remote PCs is proving to be a critical component in enabling training centers to enhance and broaden their technology training offerings in order to remain competitive. NETLAB+ now offers several [options for virtualization support](#).

NETLAB+ Version 4.0 is a major software upgrade focused on features to help manage equipment resource sharing. Version 4.0 features a new account management model and access controls that allows your NETLAB+ system to be shared among multiple organizations. This release also includes two new features, Lab Designer and Pod Designer.

In version 3.7.5, an important update added is the ability to share a NETLAB_{AE} server with multiple Academies while assigning remote Academies specific times for guaranteed access and/or to limit access to equipment by remote Academies if needed. Host Academies can also delegate account creation and management to the remote Academy.

The latest information on NETLAB+ software updates is available on the News and Announcements page:

<http://www.netdevgroup.com/news/>

4 NETLAB+ Features

Instructors and students access the NETLAB+ system via the web interface.

Username

Password

Login

[Forgot password?](#)

[NETLAB Academy Edition](#)[®] provides remote access to Cisco Networking Academy Program lab equipment and curriculum. To access, you need a user ID and password, assigned by your instructor or local system administrator.

Personal Firewall software can interfere with NETLAB. If you are having login problems or other issues, please disable your personal firewall to see if that fixes the problem. If so, adjust your firewall software accordingly.

Required Browser Plugins and Options


Java™	Enabled (IE users see below)
JavaScript	Enabled
Cookies	Enabled (for this site)
Popup Windows	Enabled (disable popup blockers for this site)

Browser Support

Browser	Version	Status
Microsoft Internet Explorer (Windows)	5.5, 6.x	🟢 Supported
Firefox	1.x	🟢 Supported
Mozilla	1.x	🟡 Beta (not tested)
	7.x	🟡 Beta (not tested)
Netscape	6.x	🔴 Not supported (bugs)
	4.x	🔴 Obsolete

Microsoft Internet Explorer users may need a Java plug-in. You can obtain Java at java.sun.com.

POWERED BY



NETLAB_{AE}

4.1 Lab Access

Lab access features:

- Provide 24 x 7 access to your lab equipment
- Network appliance that can reside at your location with your lab equipment
- Connect to actual network equipment (no simulation)
- Use the same lab equipment for classroom lectures, individual access, or team access
- Conduct distance learning, traditional classroom training, or a combination of both
- Share a single connection - every keystroke, command, and response is simultaneously viewed by all users
- Instructors may override control of a shared connection from trainees
- Replay a connection to see recent input and output on a device
- Use a third party Telnet application or the built-in default terminal application
- Personalized profile settings (time zone, e-mail, terminal application preference)
- PCs supported in several lab topologies
- Built-in Remote PC viewer
- Integration with VMware virtualization products

NETLAB+ includes a scheduling feature to facilitate scheduled access to lab equipment. Equipment can be scheduled for either classroom lectures or student lab time.

Scheduler
MyNETLAB Logout janedoe

April 2009

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

Now Showing: **Friday April 17 2009**

Today's Date and Local Time: **April 16, 2009 3:27 PM**
Eastern Time (US & Canada)

Select a pod and reservation by clicking on a (+)







	POD 1 BASIC ROUTER POD v2 3 Routers PC Support	Atlantic MULTI-PURPOSE ACADEMY POD 3 Routers, 3 Switches	POD 5 STANDALONE COMPUTER POD
12am	(+)	(+)	(+)
	(+)	(+)	(+)
1am	(+)	(+)	(+)
	(+)	(+)	(+)

Lab reservations are displayed, allowing access to the reservation at the scheduled time.

MyNETLAB
INSTRUCTOR

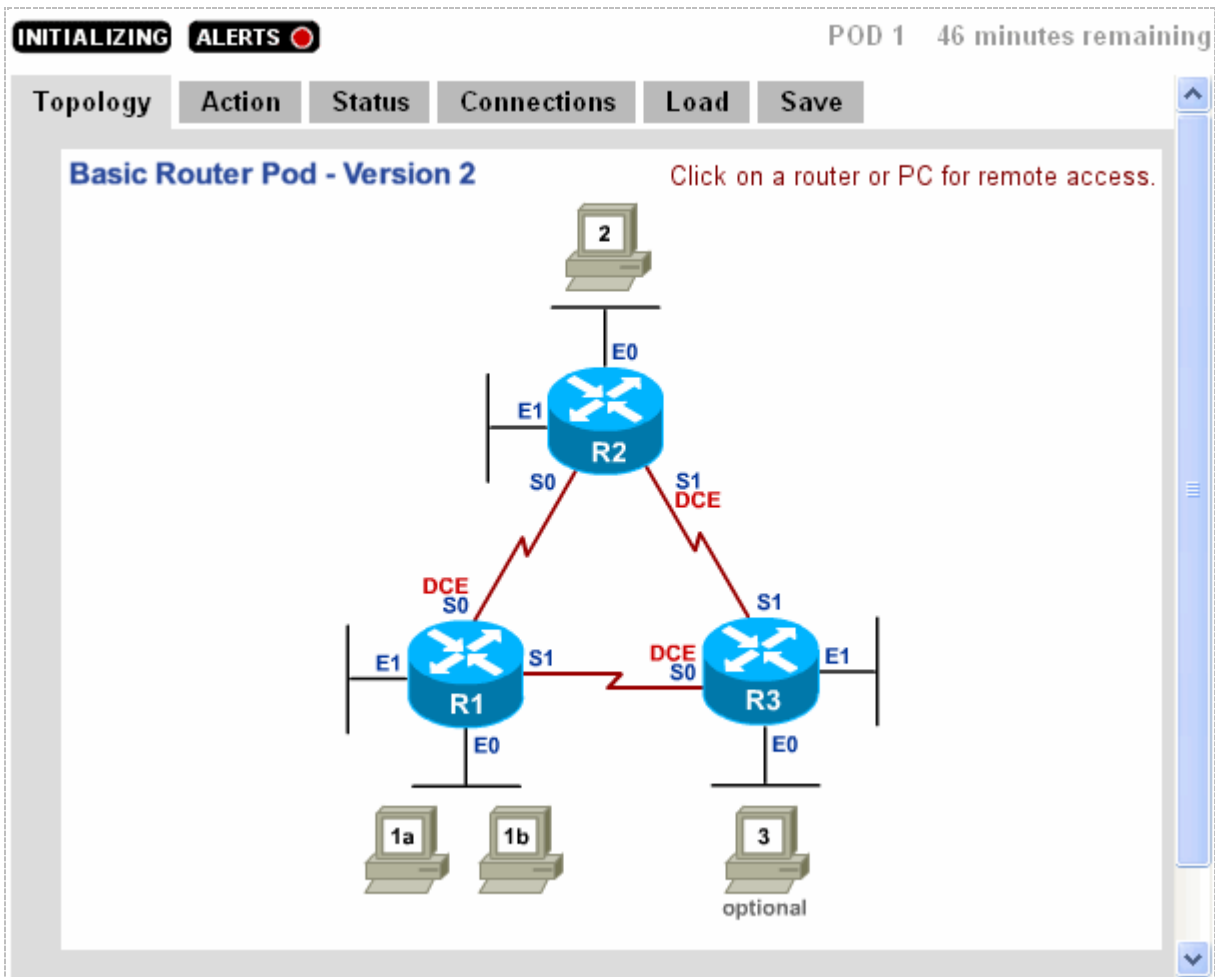
[File](#) [Scheduler](#) [Account](#) [Class](#) [Profile](#) [Curriculum](#) [Archive](#) [Logout](#) [Help](#)
i jdoe2006

Welcome to the NETLAB system of XYZ Tech!

LAB RESERVATIONS			
ID	DATE / TIME	DESCRIPTION	POD
919	HOW TODAY 11:30PM - Tue Feb 14, 2006 12:30AM <input type="button" value="ENTER LAB"/>	 Team A: Ann Dole, John Smith, Mary Smith Class: CCNP Fall Class Reserve Basic Router Pod Version 2 (no exercise)	POD 1 BASIC ROUTER POD v2  3 Routers PC Support
920	HOW TODAY 11:30PM - Tue Feb 14, 2006 12:30AM <input type="button" value="ENTER LAB"/>	 Team C: Bob Miller, Ida Lerner Class: CCNP Fall Class Reserve Basic Switch Pod Version 2 (no exercise)	POD 2 BASIC SWITCH POD v2  1 Router, 2 Switches PC Support
922	Tue Feb 14, 2006 9:00AM - 10:30AM	 Class: CCNP Fall Class Instructors: Jane Doe	POD 1 BASIC ROUTER POD v2  3 Routers PC Support

[Refresh](#) this page to check for recently scheduled labs.

The Lab Access Page is divided into several tabbed sections allowing easy access to NETLAB+'s functions.



Remote console connections provide remote access to the console port of devices such as routers, switches and firewalls.

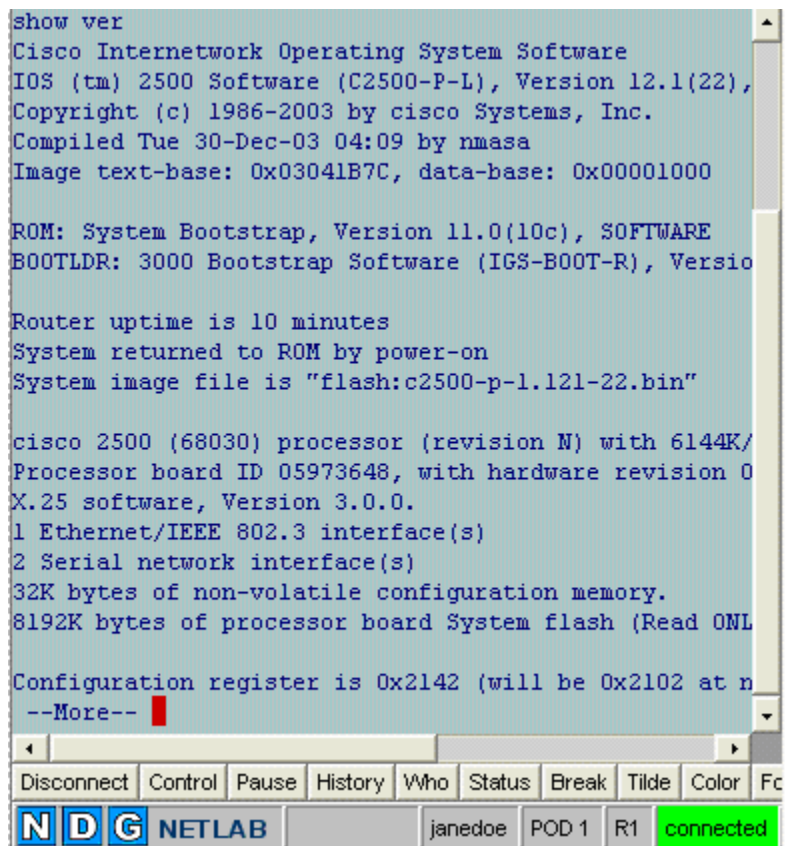
```
show ver
Cisco Internetwork Operating System Software
IOS (tm) 2500 Software (C2500-P-L), Version 12.1(22),
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Tue 30-Dec-03 04:09 by nmasa
Image text-base: 0x03041B7C, data-base: 0x00001000

ROM: System Bootstrap, Version 11.0(10c), SOFTWARE
BOOTLDR: 3000 Bootstrap Software (IGS-BOOT-R), Versio

Router uptime is 10 minutes
System returned to ROM by power-on
System image file is "flash:c2500-p-1.121-22.bin"

cisco 2500 (68030) processor (revision N) with 6144K/
Processor board ID 05973648, with hardware revision 0
X.25 software, Version 3.0.0.
1 Ethernet/IEEE 802.3 interface(s)
2 Serial network interface(s)
32K bytes of non-volatile configuration memory.
8192K bytes of processor board System flash (Read ONL

Configuration register is 0x2142 (will be 0x2102 at n
--More--
```



4.2 Lab Automation

The automation of common tasks frees-up the instructor to focus on teaching.

- Automatically initializes lab to last configuration or predefined configuration
- Perform automated operations on a single device or entire lab simultaneously
- Detect and resets console speed, recover from erased flash (optional), and clear configuration (scrub)
- Password recovery
- Power devices on or off

4.3 Assessment

Instructors can use the archive feature to rapidly assess how a student or team arrived at a solution.

- Automatically archive commands, output, and configuration files from student or team reservations for later review and assessment
- Review archives using an online log viewer
- Commands entered during the lab session are indexed in chronological order with hyperlinks to corresponding device output for easy review
- E-mail archived data to the instructor automatically

The command index lists the sequence of commands that were entered during the lab, across all devices, in chronological order.

Summary

[Command Index](#)

Final Configs

- [R1](#)
- [R2](#)
- [R3](#)

Session Logs

- [R1](#)
- [R2](#)
- [R3](#)

[← Back](#)

COMMAND INDEX			
H:M:S	USER	DEVICE	COMMAND
00:13:03	jsmith	R1	ena
00:13:07	jsmith	R1	conf t
00:13:17	jsmith	R1	hostname R1
00:13:28	jsmith	R1	int serial 0
00:13:54	jsmith	R1	ip address 10.0.0.1 255.255.255.0
00:14:04	jsmith	R1	clock rate 56000
00:14:10	jsmith	R1	no shutdown
00:14:11	jsmith	R1	ena
00:15:53	jsmith	R2	ena
00:15:57	jsmith	R2	conf t
00:16:10	jsmith	R2	hostname R2
00:16:17	jsmith	R2	int serial 0
00:16:35	jsmith	R2	ip address 10.0.0.2 255.255.255.0
00:16:42	jsmith	R2	no shut
00:17:52	jsmith	R2	end

Session log for R2 (partial)

```

R2 (config-if) #ip address 10.0.0.2 255.255.255.0
R2 (config-if) #no shut
R2 (config-if) #end
R2#
00:13:51: %SYS-5-CONFIG_I: Configured from console
```

4.4 Configuration Management

Instructors will save hours of valuable class time by using NETLAB+'s configuration file management tools for loading and saving configurations by device or entire lab. With one click of a mouse you can return to a configuration you created last night, one you used during class last week, or even your favorite troubleshooting example from last semester.

- Easily load or save configuration files by device or entire lab
- Lab configuration automatically saved at the end of each reservation
- Manage or edit saved configuration files in your personalized directory with the File Manager
- Create new configuration files without tying up your network equipment

4.5 Class Management

Class management is performed through the web interface.

- Create and edit class profiles with the Class Manager
- Organize trainee accounts and teams
- Support multiple classes with different attributes and policies
- Restrict how often a trainee or team can reserve lab equipment
- Enable or disable student logins for each user or entire class
- Define retention period for archived logs and configurations files

4.6 Customization

Lab Design (see section [12](#)) and Pod Design (see section [13](#)) tools allow you to customize your system to meet your unique needs.

- Design and host up to two (2) custom pods in a NETLAB Academy Edition[®] system.
- Design and host up to 15 custom pods in a NETLAB Professional Edition[®] system.
- Create custom lab exercises using both standard and custom pods.

4.7 Serve Curriculum and Lab Content

Use NETLAB+ to serve your curriculum or lab exercise content (set up required).

- Curriculum can be secured with a username and password
- Default configuration files for specified lab exercises can be automatically loaded into lab equipment for each reservation

4.8 Easy Administration

The NETLAB+ server is an appliance. All administration is web based or menu driven. No operating system experience or system administrator knowledge is necessary.

- Requires no knowledge of UNIX or system administration
- Web-based administration interface
- Comprehensive diagnostic tools to verify connections and configurations
- Proactive Internet based monitoring and support services
- Software updates delivered via the Internet
- No backup server required
- Automatic time synchronization
- Security and integrity monitoring
- Online viewing of system logs

5 Selecting NETLAB_{AE}, NETLAB_{PE} or NETLAB_{EE}

The NETLAB+ product line consists of three versions. Please evaluate the characteristics of all system versions to determine which will best serve the needs of your organization. NETLAB_{AE} customers have the option to upgrade their system to a NETLAB_{PE} system.

Available exclusively to Cisco Networking Academies, NETLAB Academy Edition® is a remote lab appliance designed to provide online delivery of the Cisco Networking Academy Program curriculum. NETLAB_{AE} systems provide limited customization options including the display of a custom system name and welcome message. Up to 12 equipment pods can be hosted on a single NETLAB_{AE} system. Two of the 12 pods may be customized topologies. The remaining topologies must be selected from the standard topologies provided with NETLAB_{AE}, designed to support the Cisco Networking Academy curriculum. An annual maintenance contract is required (see section 6.2) with NETLAB_{AE}.

NETLAB Professional Edition® is server appliance that can be easily installed at your site in order to host real lab equipment, real software applications and curriculum on the Internet for training. NETLAB_{PE} may be used to support any commercial training program, using your own topologies and branding. NETLAB_{PE} systems can be customized to display your own logos and branding, text box colors, system name, and welcome message. A NETLAB_{PE} system can host up to 15 topologies.

NETLAB Enterprise Edition™ is a customized product, built to meet the specific requirements of your organization. NETLAB_{EE} can be easily installed at your site in order to host real lab equipment, real software applications and curriculum on the Internet for training and may be used to support any commercial training program, using your own topologies and branding. This product version is an ideal choice for organizations serving a large population of trainees.

NETLAB+ Product Comparison

The NETLAB+ product line consists of three versions, allowing you to select the best fit for your organization's budget and requirements.

Details	NETLAB Academy Edition® (AE)	NETLAB Professional Edition® (PE)	NETLAB Enterprise Edition™ (EE)
Scheduled, remote access to lab equipment, PCs, and servers	Yes	Yes	Yes
Record and assess student work	Yes	Yes	Yes
Supports custom labs	Yes	Yes	Yes
Supports Cisco Networking Academy Labs	Yes	Yes	Yes
Automated device and configuration management	Cisco IOS	Cisco IOS	Multi-Vendor Support
Allows usage outside of Cisco Networking Academy Program	No	Yes	Yes
Support commercial training programs	No	Yes	Yes
Custom Branding	No	Yes	Yes
Maximum Number of Equipment Pods	Up to 12	Up to 15	Configured to meet your specifications
Custom pods	2 of 12 may be custom topologies	All pods may be custom topologies	All pods may be custom topologies

6 Required Components

This section provides a summary of the components required to setup a NETLAB+ system. Careful review of the NETLAB+ requirements is important in order for you to plan and budget for all the equipment you will need in order to set up your system.

Detailed firewall connectivity requirements are explained in the *CSS, Connectivity and Firewall Considerations* white paper:

http://www.netdevgroup.com/products/ae/support/netlab_css_connect.html

In addition to the components described in the sections below, the items you will need include Ethernet, console and serial cables, power-strips and surge protectors. We also recommend the use of a standard 19" rack.

Details on Requirements are provided at:

<http://www.netdevgroup.com/products/ae/requirements/>

6.1 NETLAB+ Server

The NETLAB+ server will be shipped to you with the NETLAB+ software and all other required software pre-installed and ready for your setup. NETLAB+ software is installed on a 1U server.

6.2 NETLAB+ Maintenance

The required annual maintenance fee for the first year is included in the purchase price of a NETLAB_{AE} system. This fee covers the cost of technical support and software updates. The fee provides the funding necessary for NETLAB_{AE} to keep pace with the dynamic nature of the Academy program with new curriculum, labs, hardware, IOS images, PC operating systems and system security patches.

An annual maintenance contract is not required with NETLAB_{PE} but is strongly recommended.

More discussion regarding the annual maintenance fee is available at:

<http://www.netdevgroup.com/products/ae/support/faq.html#regannualmaint>

6.3 End User License Agreement

New customers are required to sign the End User License Agreement.

You may refer to the NETLAB_{AE} license here:

<http://www.netdevgroup.com/products/ae/support/license.html>

You may refer to the NETLAB_{PE} license here:

<http://www.netdevgroup.com/products/pe/support/license.html>

6.4 Supported Cisco Networking Academy Curriculum

NETLAB_{AE} supports CCNA Security, CCNA, CCNP 5.0 , and Security curriculums. Support for CCNP 6.0 is currently (as of 2/22/10) under development.

For a complete and current listing of supported labs, visit:

<http://www.netdevgroup.com/products/ae/labs/>

6.5 Lab Equipment

Lab equipment is accessed by students and instructors for course work and includes routers, switches, firewalls, and PCs. Lab devices are part of the topology and users can interact with them either directly through the console or indirectly via Telnet and other protocols.

NETLAB_{PE} system administrators should review the NETLAB+ supported equipment hardware prior to designing custom topologies or adding new labs. The NETLAB+ null driver option will allow the addition of some additional hardware models. Equipment added with the null driver will not have automation support.

List of NETLAB_{PE} supported equipment:

http://www.netdevgroup.com/products/ae/requirements/lab_devices.html

Your selection of lab equipment depends on the topologies you will want to install on your NETLAB_{AE} system. Reference the list of supported topologies:

<http://www.netdevgroup.com/products/ae/topologies/>

6.6 Remote PCs

A lab topology may include a Remote PC, a remotely accessible PC or server resource on your NETLAB+ system. Remote PCs include the following features:

- Access to PCs is controlled by the scheduler.
- Instructors and students can share a session and collaborate.
- PC access is point-and-click through your web browser, like any other lab device. A built-in Java applet is provided, so there is no special client software to download.
- NETLAB+ technology proxies all equipment access through a remote access port (default is TCP port 2201). The administrator may change this port and/or add additional ports for remote users/sites that block port 2201 outbound. You will not have to open multiple IP addresses or ports on your firewall or expose PCs to the public network.
- PCs can be restored to a clean state after a lab reservation.

NETLAB+ works in conjunction with certain VMware products to provide the following benefits:

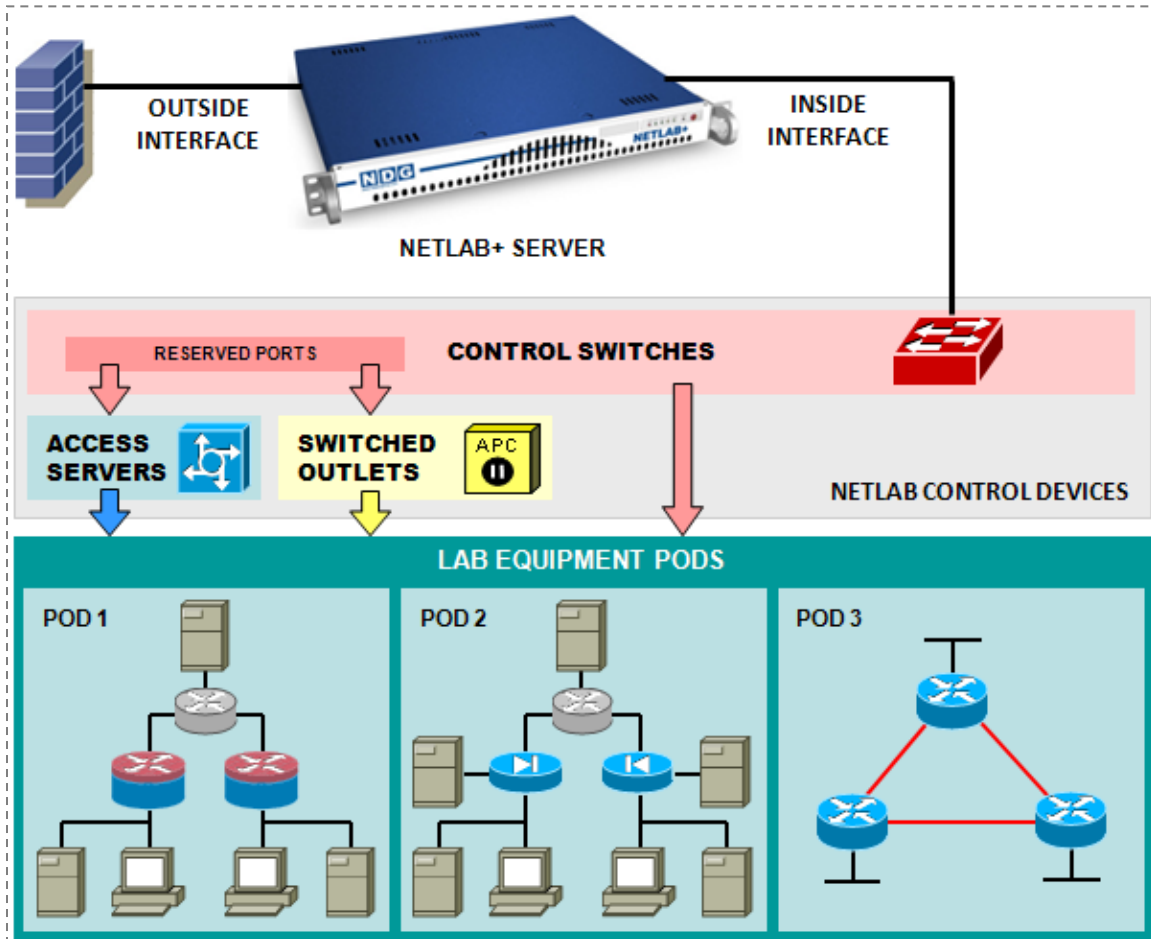
- The keyboard, video and mouse of each virtual machine can be accessed without a “backdoor” network or interface on the virtual machine.
- All access to a virtual machine is proxied through NETLAB+ and the VMware host system, similar to KVM-over-IP hardware solutions.
- NETLAB+ supports revert to snapshot. Changes to a virtual machine can be discarded at the end of a lab reservation, returning the PC to a clean state.
- Users can have administrative privileges on a virtual machine without risk.
- NETLAB+ integrates with the VMware API. Users may power on, power off, and revert to clean state (scrub) from the NETLAB+ web interface.
- Users can shutdown and reboot a virtual machine during the lab, without losing changes.
- Virtual network interfaces on a virtual machine can be tied to real networks in the lab (requires 802.1q NIC on the VMware host system).

The *NETLAB+ Remote PC Guide for VMware Implementation Using ESXi Version 3.5* contains essential information for setting up a VMware Server and virtual machines:

http://www.netdevgroup.com/products/documentation/NETLAB_VMware_ESXi_Remote_PC_Guide.pdf

6.7 Control Devices

The NETLAB+ *control plane* forms the foundation needed to interconnect various components of the NETLAB+ system. The control plane consists of *control devices* that are required in order for NETLAB+ to function, but are not accessible to students and instructors. Control switches provide NETLAB+ with internal connections. Access servers provide console access to lab devices. Switched outlet devices are automated power management units. Control devices are dynamically managed by NETLAB+ and are not accessible or configurable by end users. The control device requirements vary depending on your topology selections.



More details on control device requirements can be found in the *NETLAB+ Administrator Guide*:

http://www.netdevgroup.com/products/documentation/NETLAB_Administrator_Guide.pdf

6.7.1 Control Switches

Control switches perform several functions in NETLAB+ including, Ethernet connections for the NETLAB+ server, access server, and switched outlet device. Control switches can provide a temporary TFTP path for automated management of IOS images in lab devices. Control switches function as virtual Ethernet hubs in lab topologies when the lab is active.

Please refer to:

http://www.netdevgroup.com/products/ae/requirements/control_devices.html#control_switch

6.7.2 Access Servers

An access server provides console connections to lab equipment. Using this approach, users can access lab gear even when no configurations have been loaded in the lab devices. NETLAB+ proxies all connections through the access server. This special proxy allows simultaneous sharing of console ports and allows all users to access the lab environment using a single IP address and single Telnet port.

Please refer to:

http://www.netdevgroup.com/products/ae/requirements/control_devices.html#access_server

6.7.3 Switched Outlet Devices

The power of each managed device in a NETLAB+ equipment pod is connected to a switched outlet device.

The device provides three functions:

- Reboot devices during NETLAB+ automated operations
- Allow users to control power of a lab device (making password recovery possible)
- Power off devices when not in use to reduce energy and cooling requirements

Please refer to:

http://www.netdevgroup.com/products/ae/requirements/control_devices.html#switched_outlet

7 How to Purchase

Pricing information for NETLAB Academy Edition®, NETLAB Professional Edition® and NETLAB Enterprise Edition™ is available on the NETLAB+ website:

<http://www.netdevgroup.com/ordering/pricing.html>

If you would like to receive a price quote from an authorized distributor, please visit this page to submit a request:

http://www.netdevgroup.com/ordering/price_quote.html

To order NETLAB+, please review the ordering information included on this page.

<http://www.netdevgroup.com/ordering/>

If you would like an opportunity to evaluate NETLAB AE, you may request a demo account. NDG provides demo accounts to Cisco Networking Academy Instructors or Legal Main Contacts. Upon verification of your Academy membership, you will receive a 30-day trial account on a NETLAB_{AE} system. Please allow 2 business days for your demo request to be processed:

<http://www.netdevgroup.com/products/ae/demo/>

8 Installation

The NETLAB+ server is delivered as a network appliance, which is shipped to your site. The installation process for both NETLAB_{AE} and NETLAB_{PE} is documented in detail in the *NETLAB+ Installation Guide*. This guide includes information on planning, installing a NETLAB+ server, installing control devices, and adding equipment pods:

http://www.netdevgroup.com/products/documentation/NETLAB_Installation_Guide.pdf

9 Administrator Functions

A web-based interface allows an administrator to monitor and maintain the NETLAB+ server and devices. Use of the web-based interface is explained in the *NETLAB+ Administrator Guide*, including information on the initial use of the Administrator account. Here, you will find details on topics including Adding Pods, Modifying Device Settings and Managing Accounts.

http://www.netdevgroup.com/products/documentation/NETLAB_Administrator_Guide.pdf



10 Instructor Functions






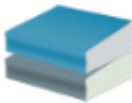



Instructor functions are performed through the MyNETLAB instructor interface.

MyNETLAB

File Scheduler Account Class Profile Curriculum Archive Logout Help janedoe

Welcome to XYZ Tech! Powered by NETLAB!!!!

There are no relevant lab reservations to display at this time.
[Refresh](#) this page to check for recently scheduled labs.

<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">Scheduler</div> <div style="text-align: center; padding: 10px;">  </div> <p style="text-align: center; font-size: 0.8em;">Reserve lab time or check the schedule.</p>	<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">File Manager</div> <div style="text-align: center; padding: 10px;">  </div> <p style="text-align: center; font-size: 0.8em;">Manage device configuration files.</p>	<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">Account Manager</div> <div style="text-align: center; padding: 10px;">  </div> <p style="text-align: center; font-size: 0.8em;">Create or manage student and instructor accounts.</p>	<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">Class Manager</div> <div style="text-align: center; padding: 10px;">  </div> <p style="text-align: center; font-size: 0.8em;">Create or manage classes and rosters.</p>
<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">Profile</div> <div style="text-align: center; padding: 10px;">  </div> <p style="text-align: center; font-size: 0.8em;">Change your personal settings.</p>	<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">Curriculum</div> <div style="text-align: center; padding: 10px;">  </div> <p style="text-align: center; font-size: 0.8em;">Access class learning materials.</p>	<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">Archive</div> <div style="text-align: center; padding: 10px;">  </div> <p style="text-align: center; font-size: 0.8em;">Access configurations and logs from completed labs.</p>	<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">Lab Designer</div> <div style="text-align: center; padding: 10px;">  </div> <p style="text-align: center; font-size: 0.8em;">Create custom lab exercises for your students.</p>
<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">Pod Designer</div> <div style="text-align: center; padding: 10px;">  </div> <p style="text-align: center; font-size: 0.8em;">Create custom equipment pods.</p>			

Please refer to the *NETLAB+ Instructor Guide* for information on how to set up your class and student information in NETLAB+, how to schedule lab reservations, and how to perform a NETLAB+ lab session:

http://www.netdevgroup.com/products/documentation/NETLAB_Instructor_Guide.pdf

11 NETLAB_{AE} Topology Support

A *pod* or topology is a single instance of a set of lab gear that may be accessed by students and instructors during a lab reservation, using the NETLAB+ system.

NETLAB_{AE} supports a wide range of topologies in order to support the Cisco Networking Academy Program curriculum. The topologies you choose to install on your system will depend upon courses you wish to support. Up to 12 total equipment pods may be installed on a single NETLAB_{AE} system. Two of the twelve pods may be custom designed pods created using the Pod Designer (see section 13).

There are several resources available to aid you in selecting, planning and installing topologies on your NETLAB_{AE} system. This web page provides a list of the available topologies, along with links to pod-specific planning and installation guides that provide in-depth guidance on the installation and use of these pods:

<http://www.netdevgroup.com/products/ae/topologies/>

Please also refer to the Lab Support Page, which provides guidance on the supported labs specific to each course in the curriculum:

<http://www.netdevgroup.com/products/ae/labs/>

12 Lab Designer

The *Lab Designer* provides a means of creating a series of custom laboratory exercises that may be made available for class use. A lab design is a set of labs and related reference material that may include documents, images and preset configuration files for each lab exercise. This data is stored in a *Lab Design File*. Lab design files are portable. They can be shared, exported, and installed on other NETLAB+ systems. A set of options and passwords control how the lab design can be used.

Please refer to the *NETLAB+ Lab Design Guide* for more information on creating your own custom lab exercises:

http://www.netdevgroup.com/products/documentation/NETLAB_Lab_Designer.pdf

13 Pod Designer

Pod Designer is used to create a custom pod layout. A *pod design* is a template used to create one or more actual pods on a NETLAB+ system.

Each NETLAB Professional Edition® pod may be a custom pod, and each custom pod may use a unique pod design. The NETLAB_{PE} license allows custom pods to be used for commercial training.

NETLAB Academy Edition® allows you to stand up **two** custom pods, each of which may use the same pod design, or two unique pod designs. Custom pods deployed on a NETLAB_{AE} system can only be used for training within the Cisco Networking Academy® Program. Valid uses include challenge labs, or supporting Networking Academy curriculum for which NDG has not provided an “official” NETLAB_{AE} pod.

The NETLAB_{AE} license does not permit custom pods to be used for any activity outside the Networking Academy program.

The Pod Designer tool is used to gather the required information about routers, switches, firewalls, PCs, control device requirements, and images. This data is stored in a *Pod Design File*. Pod design files are portable. They can be shared, exported, and installed on other NETLAB+ systems. A set of options and passwords control how the pod design can be used.

Please refer to the *NETLAB+ Pod Design Guide* for more details.

[http://www.netdevgroup.com/products/documentation/NETLAB Pod Designer.pdf](http://www.netdevgroup.com/products/documentation/NETLAB_Pod_Designer.pdf)

14 Academy Sharing Portal – Use Without Purchase

Please be aware that Cisco Networking Academies do not have to buy NETLAB_{AE} to benefit from the product. Schools can work with a host Academy to get access to a NETLAB_{AE} system for their students or work with your CATC, Regional, or other Academies to share access to a NETLAB_{AE} system.

Please refer to the Academy Sharing Portal for a list of host Academies willing to share access to their NETLAB_{AE} systems or to advertise system access of your system to potential guest Academies:

<http://www.netdevgroup.com/products/ae/sharing/>



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Academy Sharing Portal

 This sharing program provides an opportunity for Academies who may not have the resources to acquire their own hardware to have access to actual networking equipment for their students to complete Cisco Networking Academy lab exercises. Remote Academies can access real Cisco equipment via the Internet for a fraction of the cost of new equipment.

The Hosting Academies listed below may charge a cost recovery fee, which can help reduce the expenses associated with maintaining the hardware resources needed to keep pace with CCNA and CCNP certification program requirements. NETLAB_{AE} licensing allows Academies who purchase NETLAB_{AE} the option to share access to their system with other Academies throughout the world.

Please Note: Many CATC and Regional Cisco Networking Academies host NETLAB_{AE} to support their Regional and Local Academies. We encourage you to contact your CATC or Regional Support Center to discuss the options available to your organization for NETLAB_{AE} access.

"All Academies who advertise system access via the NDC NETLAB_{AE} Academy Sharing Portal should determine the appropriate fee to customers. Cisco recommends that this fee is based on a cost recovery structure only." – Cisco Systems Inc.

Hosting Academies

The Academies below have indicated that they are willing to share time on their NETLAB_{AE} system. Please direct inquiries to the contacts listed below.

NETLAB_{AE} Academy Edition

- Overview
- Video Library
- Case Studies
- Tutorials
- Product Demonstrations
- Brochures
- Features
- Ordering
- Renew Maintenance
- Labs
- Topologies
- System Requirements
- Supported Devices
- Remote PC Integration
- Sharing
- Documentation
- Support

15 Resources for Support

We hope you will visit the NETLAB+ website, www.netdevgroup.com, often for the latest information regarding our product. Should you have any issues or concerns regarding the use of your NETLAB+ system, please refer first to the information provided on the technical support page. This page includes links to the FAQ, our comprehensive library of documentation, and procedures for obtaining technical support:

<http://www.netdevgroup.com/products/ae/support/>

Resources available in the NETLAB+ Documentation Library:

<http://www.netdevgroup.com/products/ae/documentation/>

- [NETLAB+ Instructor Guide](#)
- [NETLAB+ Student Guide](#)
- [NETLAB+ Installation Guide](#)
- [NETLAB+ Administrator Guide](#)
- [NETLAB+ Remote PC Guide for VMware Server Implementation Using VMware ESXi Version 3.5](#)
- [NETLAB+ Remote PC Guide for VMware Server Implementation Using VMware Server 2.x](#)
- [NETLAB+ Remote PC Guide for VMware Server Implementation Using VMware Server 1.x and GSX](#)
- [NETLAB+ Remote PC Guide for Standalone Implementation](#)
- [NETLAB+ Pod Design Guide](#)
- [NETLAB+ Lab Design Guide](#)
- [NETLAB+ Product Summary](#)

NETLAB Academy Edition[®] users may refer to the guide written specifically for the pod-type they plan to install. Pod-specific guides include:

- [NETLAB_{AE} Multi-Purpose Academy Pod \(MAP\)](#)
- [NETLAB_{AE} Network Fundamentals Pod \(NFP\)](#)
- [NETLAB_{AE} Basic Router Pod Version 2 \(BRPv2\)](#)
- [NETLAB_{AE} Basic Router Pod Version 1 \(BRPv1\)](#)
- [NETLAB_{AE} Cuatro Router Pod \(CRP\)](#)
- [NETLAB_{AE} Cuatro Switch Pod \(CSP\)](#)
- [NETLAB_{AE} LAN Switching Pod \(LSP\)](#)
- [NETLAB_{AE} Network Security Pod \(NSP\)](#)
- [NETLAB_{AE} Basic Switch Pod Version 2 \(BSPv2\)](#)
- [NETLAB_{AE} Basic Switch Pod Version 1 \(BSPv1\)](#)
- [NETLAB_{AE} Advanced Router Pod \(ARP\)](#)
- [NETLAB_{AE} Advanced Switch Pod \(ASP\)](#)
- [NETLAB_{AE} Security Router Pod \(SRP\)](#)
- [NETLAB_{AE} Security PIX Pod \(SPP\)](#)