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This Quick Start Guide walks you through the installation, configuration, and local operation of the Secure Server with Cisco[®] Pinout (LES1516A, LES1532A, or LES1548A).

The user manual/installation guide can be downloaded from the Black Box Web site.

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STEP 1: Check the kit contents.

Your package should include the following items. If anything is missing or damaged, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

- Secure Serial Server with Cisco Pinout (16-, 32-, or 48-Port)
- (2) UTP cables
- (2) DB9F-to-RJ-45 adapters
- (1) power cables
- This printed quick start guide

STEP 2: Connect the hardware.

2A: Power on the console server. It has a universal AC power supply built in that plugs into an AC outlet.

2B: Connect the NET1 port on the console server to your network.

- NOTE: NET2 can connect to a secondary network, e.g. a segregated management LAN, or to the WAN via an external access device for broadband out-of-band (OoB). Alternatively, it can connect to same primary network as NET1 for redundancy. If you plan to use NET2, you can also connect it now.
- 2C: Connect your serial devices to the serial ports numbered 1–16/32/48.

STEP 3: Set up the console server

The console server's default IP address is 192.168.0.1 (subnet mask 255.255.255.0). With a Web browser on any computer that is connected to the console server via LAN, follow the steps listed below.

3A: Enter https://192.168.0.1 into the address bar

3B: Log in using the default system user name root and the default password. AWelcome screen listing the basic configuration steps is displayed

NOTE: The computer must have an IP address in the same network range (192.168.0.x) as the console server. Alternatively, you can use the arping command to set the IP address (refer to the User Manual for details). The console server also has DHCP client enabled by default. It will automatically accept any network IP address assigned by any DHCP server on your network, and will then respond at both 192.168.0.1 and its DHCP address.

3C: Select "Serial & Network: Users & Groups" and Edit the Root User, enter and confirm a new password, and click "Apply."

3D: Select System: IP then Network Interface and check DHCP or Static for Configuration Method.

				System:				
Serial & Network Serial Port	Network Interface	Management LAN Interface	General Settings	Route Settings				
» Users & Groups » Authentication	IP Settings: Network							
» Network Hosts » Trusted Networks » IPsec VPN » OpenVPN	Configuration Method	DHCP Static The mechanism to acquire IP settings.						
» Call Home » Cascaded Ports » UPS Connections	IP Address	A statically assigned IP address.						
 » RPC Connections » Environmental » Managed Devices 	Subnet Mask	A statically assigned network mask.						
Alerts & Logging	Gateway	Default gateway for the unit. Please only set this on one interface.						
» Auto-Response » SMTP & SMS » SNMP	Primary DNS	A statically assigned primary name server.						
System = » Administration » SSL Certificates » Configuration Backup » Firmware » IP » Date & Time » Dial	Secondary DNS	A statically assigned secondary name server.						
	Media	Auto : The Ethernet media type.						
	DHCP Server	Disabled Configure a DHCP server for this interface.						
» Firewall » Services » DHCP Server » Nagios » Configure Dashboard	IP Alias	Secondary address or comma-separated list of	addresses in CIDR notation, e.g. 192.10	58.1.1/24.				
Status E	Failover							
» Port Access » Active Users » Statistics	Failover Interface	None E A device to fail to in case of outage. Devices must be configured and enabled for failover to work.						
 Support Report Syslog UPS Status 	Dormant Failover Interface	If the failover interface should stay active at al	I times, only being routed through in fa	ilure situations.				
» RPC Status » Environmental Status » Power Supply Status » Dashboard	Primary Probe Address	The address of the first peer to probe for conne	ectivity detection.					
	Secondary Probe Address	The address of the second peer to probe for co	nnectivity detection.					
» Port Logs » Host Logs » Power	Dynamic DNS							
» Terminal	Dunamic DNS							
	Dynamic DNS	None - DDNS disabled Update a DNS server when IP address is chance	ed.					
	DDNS update server	The DDNS server to push updates to. The format is server address:port						

Figure 1. IP Settings: Network screen.

The second network port (NET2) is inactive by default. It can be set up for failover/ OoB access (refer to the User Manual) or as a management LAN gateway. To activate:

3E: Select the Management LAN Interface and uncheck "Disable."

3F: Enter the IP Address and Subnet Mask for this segment of the Management LAN (leaving Gateway and DNS fields blank)—refer to the User Manual if you wish to enable the DHCP server or change default firewall/router settings.

NOTE: The console server's firewall determines which protocols and services can be used to access which ports and devices. By default only HTTPS and SSH access is enabled to the console server itself. Use the Service Access menu on System: Services to change settings for the console server itself (and for connected serial ports). Similarly, using the Forwarding & Network menu on System: Firewall, you can permit IP access between devices on a Network or Management LAN.

	Service Settings			S		
Services	Service Enabled	Network Interface	Management LAN	Dialout/Cellular	Dial-in	VPI
HTTP Web Management	Enabled					
HTTPS Web Management	Enabled	ø	ď	ď	Ľ	ď
Teinet command shell	Enabled					
SSH command shell	Enabled	2	2	2	2	2
Telnet direct to serial ports	N/A		2		2	2
SSH direct to serial ports	N/A		ď	Ľ		ø
RAW TCP access to serial ports	N/A	ø	ď		ø	ø
RFC-2217 access to serial ports	N/A	ø	ď		ø	2
Unauthenticated telnet access to serial ports	N/A	⊻	<u>ي</u>		ĭ.	ď
Nagios NRPE daemon	Disabled	2	ď		ď	ø
NUT UPS monitoring daemon	Disabled	ď	ď		ď	ø
SNMP daemon	Disabled	2	I		2	2
FTP Server	Disabled		2		2	2
TFTP Server	Disabled	2	2		2	1
NTP Server	Disabled		2		ø	
DNS Server/Relay	Disabled		ď		ď	ø
Respond to ICMP	N/A	ď		2	ø	2

Figure 2. Service Settings.

Alternatively, to use NET2 as a redundant connection sharing the same network settings as NET1:

3E: Select System: IP, choose an Interface Aggregation method and click Apply

STEP 4: Configure serial and USB devices.

NOTE: Most RJ-45 serial devices connect to the console server using a straight UTP patch cable. DTE DB9M and DCE DB9M serial devices connect to the console server using the included adapters. For a list of cabling instructions for common devices, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

4A: Select "Serial & Network: Serial Port" to display the labels, modes, and protocol options currently set for each serial port. By default, all serial ports are set in Console Server mode (refer to the User Manual if other modes are required). To configure a serial port, click Edit:

• Configure the Common Settings (Baud Rate, Parity, Data Bits, Stop Bits, and Flow Control) to match those of the device being controlled.

- Select the Console Server protocols (SSH, Telnet, Web Terminal, and RFC2217) that are to be used for the network connection to that port.
- A Logging Level may also be set to specify the direction and level of information to be logged for that port.
- Click "Apply."

4B: Your console server has two USB 3.0 ports on the front, which can be used for connecting to USB consoles (on UPS supplies or Cisco® devices) or for attaching external USB flash for loading updated firmware or configuration files.

STEP 5: Add local users and groups.

NOTE: Alternatively, if you wish to use a remote AAA server to authenticate user access, refer to the User Manual.

5A: For each new user, select "Serial & Network: Users & Groups" and click "Add User."

5B: Enter a Username and enter and confirm a Password, and select the Accessible Ports the user is allowed to access.

5C: To grant limited access to the console server's management UI and CLI, check the user Group, to grant full access to the console server's management UI and CLI, check the admin Group (by default the user is granted no management access), click Apply

NOTE: We recommend that you set up a new administrator user (in the admin group with full access privileges) and login as this new user for all ongoing administration functions (rather than continuing as root).



Figure 3. Add a New user.

STEP 6: Access device consoles.

Your console server is now ready to serve console access on your network. There are many ways to access device consoles, depending on the protocols chosen.

6A: SSH – for console access using your preferred SSH client (e.g. PuTTY, SecureCRT, OpenSSH):

- To connect to the pmshell chooser menu, SSH to the console server and login appending :serial to your username, e.g.: root:serial
- To connect directly to a given console, SSH to the console server and login adding the port number or port label to your username, e.g.: root:port02 or root:MyRouter
- To connect directly to a given serial port, SSH to the console server at TCP port 3000 + the port number, e.g.: 3002 for serial port 2

6B: Telnet – Telnet to the console server at TCP port 2000 + the port number, e.g.: 2002 for serial port 2.

6C: Web Terminal – for console access using just your browser, select Manage: Devices: Serial and click the port's Web Terminal link.

STEP 7: Advanced configurations.

The console server offers many more advanced functions including:

- The Alerts & Logging: Auto-Response facility monitors serial ports, hosts, user logins, UPSes (Uninterruptible Power Supplies), RPCs (Remote Power Controllers, such as PDUs and IPMI devices), and EMDs (Environmental Monitoring Devices). A broad selection of Check Conditions (such serial data patterns, temperature, or battery levels) can be specified. When triggered, one or more Trigger Actions are performed, e.g. a warning email, SMS, Nagios, and/or SNMP alert is sent to a nominated destination.
- Extensive management of UPSes and RPCs using open source NUT and Powerman tools. The Manage: Power and pmshell Power Menu facility enables both administrators and regular users to monitor and control attached PDU power strips, and servers with embedded IPMI BMCs.
- Connect EMDs to any serial port (with an adapter) and remotely monitor the temperature, humidity, physical access, smoke alarms, etc. Details are provided in the Quick Start supplied with the EMD.
- Historical logs of all communications with serial and network attached devices, system activity, UPS and PDU power status, environmental status, etc. Alerts & Logging: Port Log allows this history to be saved locally or remotely. Logs can be viewed from the Status and Manage menus.

Other advanced features, such as remote Authentication, Firewall, VPN, Serial Port Cascading, and Command Line interface, are covered in detail in the User Manual.

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