CC2000 Control Center Over the NET™
User Manual

www.aten.com

FCC Information

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT: This equipment has been tested and found to comply with the limits for a Class B digital service, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Any changes or modifications made to this equipment may void the user’s authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

RoHS

This product is RoHS compliant.

User Information

Online Registration

Be sure to register your product at our online support center:

International	http://eservice.aten.com

Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-400-810-0-810
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988 1-949-428-1111

User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed *as is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.

Package Contents

The CC2000 package consists of:

1 CC2000 USB License Key

1 Software CD

1 User Instructions*

Check to make sure that all of the components are present and in good order. If anything is missing, or was damaged in shipping, contact your dealer.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the switch or to any other devices on the CC2000 installation.

* Features may have been added to the CC2000 since this manual was published. Please visit our website to download the most up-to-date version.

Manual Date: 2019/04/10

Contents

Chapter 1.
Introduction

Chapter 2.
CC2000 Server Installation

Chapter 3. Browser Operation

Chapter 4. Port Access

Chapter 5.

User Management

Chapter 6.

Device Management

Chapter 7.
System Management

Chapter 8.
Logs

Appendix A
Technical Information

Appendix B
The CC2000 Utility

Appendix C
Authentication Key Utility

Appendix D
External Authentication Services

Appendix E
SSO HTML Sample Codes

About this Manual

This User Manual is provided to help you get the most from your CC2000 system. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

Generally speaking, chapters 1, 3, and 4 are sufficient for basic users. The other chapters and appendixes are only required for specialized user types. For example, System Administrators, should read the entire manual; Device Administrators, chapters 6 and 8; User Managers, chapter 7. Custom user types will want to read the chapters appropriate to their assigned roles.

Overview

Chapter 1, Introduction, introduces you to the CC2000 System. Its purpose, features and benefits are presented, and its front and back panel components are described.

Chapter 2, CC2000 Server Installation, provides step-by-step instructions for installing the CC2000 on both a Windows and Linux system.

Chapter 3, Browser Operation, explains how to log into the CC2000 with a browser, and describes how to work with the CC2000's browser GUI interface.

Chapter 4, Port Access, shows how to access and control the devices that will be managed over the CC2000 network.

Chapter 5, User Management, describes how to: add, modify and delete user accounts; create user groups and assign users to them; specify device access rights for users and groups; and specify the user authentication method.

Chapter 6, Device Management, explains how to add, configure, and organize the devices that will be managed over the CC2000 network.

Chapter 7, System Management, provides an overview of the CC2000 organizational concept, and demonstrates how to deploy, configure, and manage the CC2000 primary and secondary servers on your installation.

Chapter 8, Logs, explains the CC2000's logging function and how to access, filter, and search the various logs that are kept by the CC2000.

Appendix A, Technical Information, provides technical as well as troubleshooting information.

Appendix B, The CC2000 Utility, shows how to configure a number of the CC2000's parameters from the desktop of the computer that the CC2000 runs on, without having to invoke the browser GUI.

Appendix C, Authentication Key Utility, describes how to access and update the information contained in the CC2000 Authentication Key.

Appendix D, External Authentication Services, discusses the use of authentication via external third party services. It also provides examples of configuring OpenLDAP for CC2000 authentication, and configuring RADIUS for CC2000 authentication in a Linux environment.

Conventions

This manual uses the following conventions:

Monospaced	Indicates text that you should key in.
[ ]	Indicates keys you should press. For example, [Enter] means to press the **Enter** key. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt].
1.	Numbered lists represent procedures with sequential steps.
♦	Bullet lists provide information, but do not involve sequential steps.
→	Indicates selecting the option (on a menu or dialog box, for example), that comes next. For example, Start → Run means to open the *Start* menu, and then select *Run*.
⚠	Indicates critical information.

Product Information

For information about all Altusen products and how they can help you connect without limits, visit Altusen on the Web or contact an Altusen Authorized Reseller. Visit Altusen on the Web for a list of locations and telephone numbers:

International	http://www.aten.com

Important Note about Firmware

Due to database changes that have been made with a previous firmware release (V2.3.222), this version of CC2000 is not compatible with any previous CC2000 releases. CC2000 firmware V2.7.264 supports Java Web Start (JNLP).

Chapter 1
Introduction

Overview

The CC2000 Control Center Over the NET™ provides single portal, single login, secure, centralized, access, administration and management of your entire network – local and worldwide – anywhere; anytime.

The CC2000 offers a single, integrated browser-based interface to manage all your devices. Users no longer need to learn the interface for each individual device, making system management easier and more efficient.

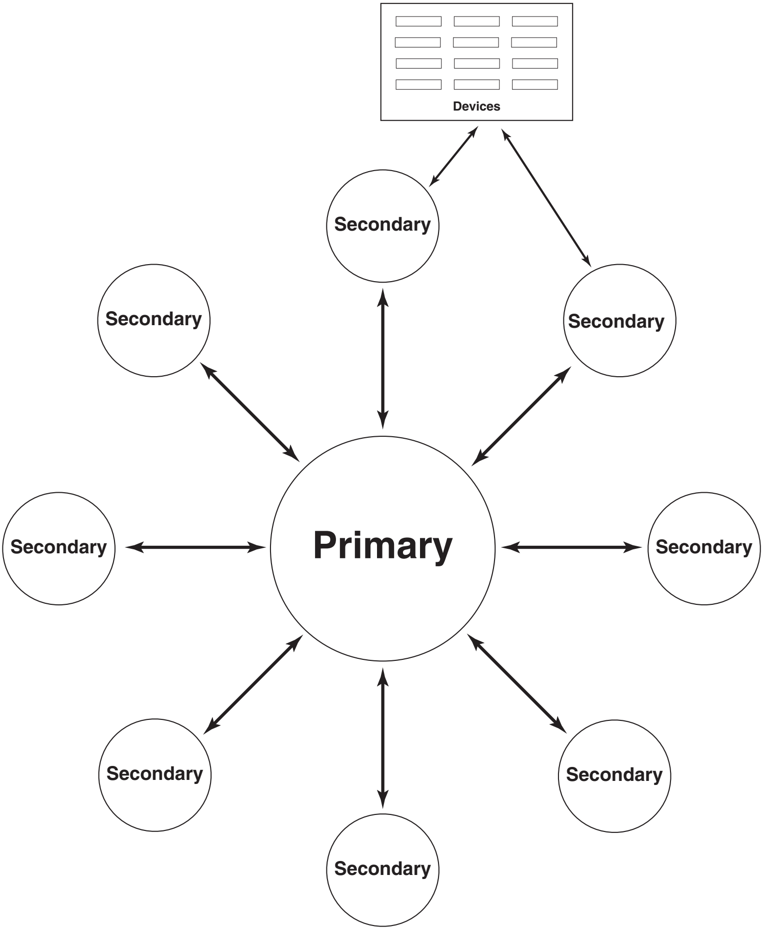
The CC2000's *Primary / Secondary* architecture allows multiple CC2000 units to be linked in a communication network to create an integrated web of devices – all of which can be accessed with a single login from a web browser. (The diagram on the following page provides a CC2000 deployment example.)

The Primary-Secondary paradigm also safeguards your data transmissions through its built-in redundancy factors including: automated database backup of Primary, Secondaries and devices; and real-time database updating. Redundancy ensures smooth, uninterrupted access management of all your devices. Should any of the CC2000 servers go down, the CC2000 management system keeps functioning since the redundant secondary unit takes over to provide the required services until the downed unit comes back up.

By consolidating the management of your ATEN/ALTUSEN IT devices, the CC2000 allows every device to be securely accessed and controlled by means of a single IP address. Servers and network equipment are integrated into a single tree view, making the CC2000 ideal for enterprises with data centers and branch offices, located in several remote locations.

Recognizing the broad spectrum of computing environments, the CC2000's Java software implementation allows it to work with Sun Java Runtime Environment (JRE) enabled operating systems – ensuring multi-platform integration and mutual operability.

Deployment Example:



Features

Secure Centralized Management

- Complete control of your enterprise – consolidates the management of all ATEN/Altusen IT devices
- Single portal, single sign-on, single IP address to securely access every device on the installation
- All devices are integrated into a single tree view for centralized access, administration, and management of a worldwide network from anywhere at anytime
- Primary/Secondary topology provides redundancy – including real-time database updating
- Double Redundancy – the CC2000 not only provides a redundant Secondary server for the Primary server, each Secondary server can also have a redundant Secondary server.
- Aggregate Device – The KVM port, serial port and power outlet of an IT device can be associated and presented in the same web page, which enables IT administrators to completely control an IT device from a single user interface
- Multiplatform installation support – Windows / Linux
- Multiplatform client support (Windows, Mac OS X, Linux, Sun)
- Multi-browser support – Internet Explorer, Chrome, Firefox, Safari, Opera, Mozilla, Netscape
- Email notification of specified system events
- Automatic scheduling of system, configuration, and maintenance tasks
- Logging and auditing of system events for the CC2000 and managed devices
- Session logs provide serial device keystroke history
- ATEN/Altusen device auto-discovery with device-availability status, and alarms
- View, manage, and terminate active user sessions in real time
- User level management identification
- Browser-based GUI offers a multilanguage interface to minimize user training time and increase productivity
- Generic Device support – users can be redirected to 3rd party data center devices from the CC2000

- Flexible logging and report options
- Blade Server Integration supports Centralized Server Control, Power Management – to power on/off the server, Sensor and log Readings for Service Processor Management
- APC PDU (AP79xx, AP89xx, AP86xx) support
- Supports single sign-on for Dell DRAC 5, iDRAC 6 (standard rack server (monolithic) and blade server (modular)), IBM RSA II, IBM IMM, IBM AMM, HP iLO 2, HP iLO 3, HP iLO 5,and IPMI
- Energy Intelligence Rack PDU support
- Integrates all access rights – Web, SSH/Telnet, VNC/RDP, IPMI/SPM, KVM, serial, power to target device
- Virtual Infrastructure includes VMware vSphere 5.5, 6.0, Windows Server 2008, 2012 & 2016, and Citrix XenServer 6.5
- Panel DynaArray – view the output of multiple ports in individual panels on the same screen
- Power association with ATEN/Altusen PDU enables the switch's KVM ports to associate with the PDU's power outlets for remote power management of the servers from the switch's interface
- Web-based wizard to quickly install devices
- Primary can pull device port names from Secondary servers; Primary can push device port names to Secondary server
- Advanced search function for log entries
- Strong session management/Integrates multi-session (ATEN iKVM, Blade server, VMware, PDU, and so on)
- License Saving-use Aggregate Devices to consolidate multiple ports into a single node license
- Data export /import to remote server or local in real time or on schedule. AES/DES encryption support for data export
- OOBC, PAP and CHAP authentication
- IPv6 support
- NTS support – allow your device to get the accurate time from a server that the administrator assigns

Powerful Security

- Powerful security features include both internal and external authentication – external authentication support includes LDAP, LDAPS, Kerberos, Active Directory, RADIUS, TACACS+, and NT Domain
- Option to force users of all CC managed devices to be authenticated through the CC – users cannot log in to the devices directly
- Compliant with the X.509 Digital Certificate Standard
- Supports TLS 1.2 data encryption and RSA 2048-bit certificates to secure users logging in from browsers
- Flexible session time-outs
- Configurable user and group permissions for server access and control
- Supports password protection, SAS 70 compliance for configurable amount of failed login attempts and user ID lock out parameters
- Devices can identify themselves by Name, MAC address, or IP in the browser
- IP and MAC filtering
- Private CA support

Server Management Features

- BIOS level support
- Flexible encryption design allows users to choose any combination of 56-bit DES, 168-bit 3DES, 256-bit AES, 128-bit RC4, or Random for independent KB/Mouse, video, and virtual media data encryption
- Virtual Media – supports CAC/Smart Card readers, fingerprint readers, DVD/CD drives, USB mass storage devices, PC hard drives and ISO images
- Exit Macro support
- Mouse DynaSync – automatically synchronizes the local and remote mouse movements
- Panel Array Mode – simultaneous monitoring of the video output of the installations' servers
- Message Box for Administrators to communicate with users
- Message Board for communication among remote users
- Scalable Video Display

Requirements

Server Requirements

Systems that the CC2000 server will be installed on should meet the following requirements:

- Hardware Requirements
  - CPU: Pentium 4, 2.60 GHz or higher
  - Memory: At least 512MB (1GB or more recommended)
  - Hard drive: 500MB or more free space
  - Ethernet: At least 1 Ethernet adapter (100Mbps or higher) – Giga LAN recommended
- Operating System Requirements
  - Windows: 2000, XP, 2000 Server, Server 2003, Server 2008, or Windows Vista with Java Runtime Environment (JRE) 8 or higher (with the latest service package for each installed)
  - Linux (with Java Runtime Environment (JRE) 8 or higher)
    - Red Hat Enterprise Linux V. 4
    - Novell SUSE Enterprise Server 9 and 10
    - Ubuntu 15.10 x64
    - Ubuntu 15.10 x86
    - Debian 8.2 x64
    - Fedora 23 x64
    - Fedora 23 x86
    - OpenSUSE 13.1 x64
    - CentOS 7 x64

Client Requirements

Hardware Requirements

- CPU: We recommend that the computers used to access the switch have at least a Pentium 4 2GHz processor, with their screen resolution set to 1024 x 768.
- Memory: At least 512MB (1GB or more recommended)
- Ethernet: At least 1 Ethernet adapter – 10Mbps or higher – 100Mbps recommended
- Browsers must support 128 bit SSL encryption.
- For the browser-based Java Applet Viewer the latest version of the Java Runtime Environment (JRE) must be installed.
- At least 205MB of memory must be available for the first viewer after logging in from the browser and 100MB for each additional viewer that is opened, thereafter.

Operating Systems

- Supported operating systems for client workstations that connect to the CC2000 are shown in the table, below:

OS		Version
Windows		2000 and higher
Linux	RedHat	7.1 and higher
	Fedora	Core 2 and higher
	SuSE	9.0 and higher
	Mandriva (Mandrake)	9.0 and higher
UNIX	AIX	4.3 and higher
	FreeBSD	4.2 and higher
	Sun	Solaris 8 and higher

- Supported operating systems for users that log into the CC2000 include Windows 2000 and higher, and those capable of running the Java Runtime Environment (JRE) 8 or higher.

Note: The Windows 2000 Client does not support the WinClient Viewer.

Browsers

Supported browsers for users that log into the CC2000 include the following:

Browser		Version
IE		9 and higher
Chrome		8.0 and higher*
Firefox	Windows	3.5 and higher
	Linux	3.0 and higher
Safari	Windows	4.0 and higher
	Mac	3.1 and higher
Opera		10.0 and higher
Mozilla	Windows	1.7 and higher
	Sun	1.7 and higher
Netscape		9.0 and higher

Note: For newer versions of Chrome, you may need to enable the NPAPI (Netscape Plugin Application Programming Interface) manually by keying the command "chrome://flags/#enable-npapi" in the URL bar. Or you can go to Java.com (https://java.com/en/download/faq/chrome.xml) for more details.

Device Requirements

All ATEN/Altusen IP products must be at a firmware level that contains the CC Management function, and the CC Management function must be enabled. Download and install the latest version of the relevant firmware from our Website, if necessary. For details on upgrading the firmware see *Upgrade Selected Appliance Firmware*, page 201.

Note:

1. Devices must be configured to communicate on the same port that you configure for the CC2000's Device Port (see *Device port*, page 15).
2. For a list of supported devices see *CC2000 Capable ATEN/Altusen IP Products*, page 247.

Licenses

The CC2000 license controls the number of Secondary servers and nodes permitted on the CC2000 server installation. License information is contained on the USB License Key that came with your CC2000 purchase.

Upon completion of the CC2000 server software installation, a default license for one primary (no secondaries), and 16 nodes is automatically provided. To add anything more (secondary servers and nodes), you must upgrade the license. See *Upgrading the License*, page 191, for detailed information.

Nodes

- A node can either be a physical port, or an aggregate device. Each node requires a license.

  Aggregate devices can be created when a device (router, server, Ethernet switch, etc.,) managed through the CC2000 is capable of being accessed through several ATEN/Altusen NET™ ports. By consolidating those ports into a single Aggregate Device, the Aggregate Device counts as a single node, and only requires a single license.

  Ports on ATEN/Altusen NET™ devices, when not part of an aggregate device, must be unlocked (see *Locking / Unlocking Ports*, page 123) in order to be used. Each unlocked port counts as one node.
- Generic devices (routers, switches, etc.) are not counted.
- Direct Web Access devices are not counted.
- Group Devices do not count as nodes. They are made up of unlocked physical ports that are grouped together. The same physical port can be added to more than one Group device, but it only requires one node license no matter how many Group devices it is added to.
- Like Group Devices, Folders do not count as nodes, however each physical port within a folder counts as a node. In addition, each Aggregate Device contained in a folder counts as one node.

Note: See *Devices*, page 90 for detailed information on each of the device categories.

Secondaries

The license specifies how many secondaries you can register with the primary CC2000. See *CC2000 Secondary Servers*, page 23 for details regarding registering a Secondary with a primary.

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Chapter 2
CC2000 Server Installation

Overview

Recognizing the increasing importance of Linux in the server environment, the CC2000 Control Center Over the NET™ system makes the CC2000's management services available on both the Windows and Linux platforms. This chapter describes how to install the CC2000 server on each of them.

CC1000 Considerations

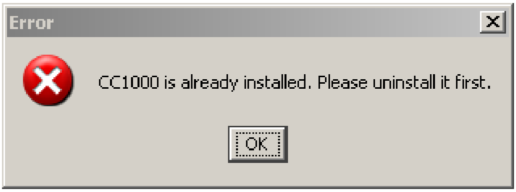
Upgrading the CC1000

Users who already have CC1000 USB license keys for a minimum of 2 users can upgrade to the CC2000-LE (CC2000 Lite) version, which provides a license for 1 Primary and 128 nodes. This is accomplished by upgrading the CC1000 key firmware to the CC2000 key firmware (see *Key Firmware Upgrade*, page 268). After performing the upgrade, the license key changes to the CC2000 license method.

Note: If you decide to go back to the CC1000 license method, you must "upgrade" the key with CC1000 key firmware (V1.2.111), at which time your CC1000 key license – with the original number of users – will be restored.

Uninstalling the CC1000

If you attempt to install a standard CC2000 version over a prior CC1000 installation, a message appears on screen informing you that you must first uninstall the CC1000 in order to install the CC2000:



CC1000 is already installed. Please uninstall it first.

Note: If you would prefer not to uninstall the CC1000 (and thereby lose all of its information), you must install the CC2000 on a different system.

Windows Version Installation

Before You Begin

Before running the installation program, make sure that Sun's Java Runtime Environment (JRE) 8 or higher has been installed on your system. If not, you will first need to download and install it. You can find the latest version on Java's official web site:

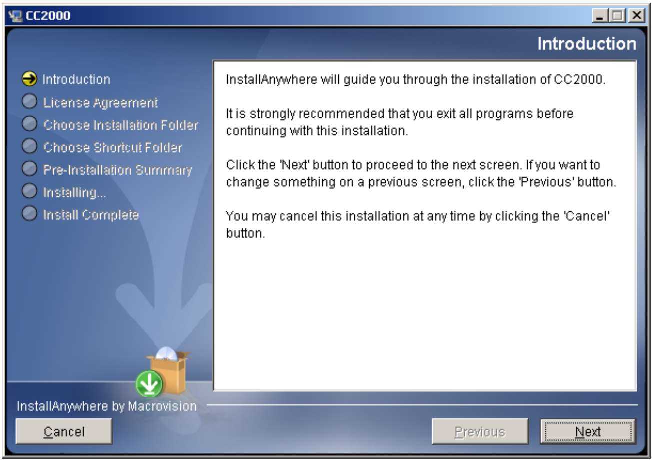
```
http://java.com
```

After JRE has been installed on your system, you will be ready to install the CC2000 program.

Starting the Installation

To install CC2000 on a Windows system, do the following:

1. Put the software CD that came with your package into the computer's CD or DVD drive.
2. Go to the folder where *CC2000Setup_Win.exe* is located, and execute it. A screen, similar to the one below, appears:



InstallAnywhere will guide you through the installation of CC2000.

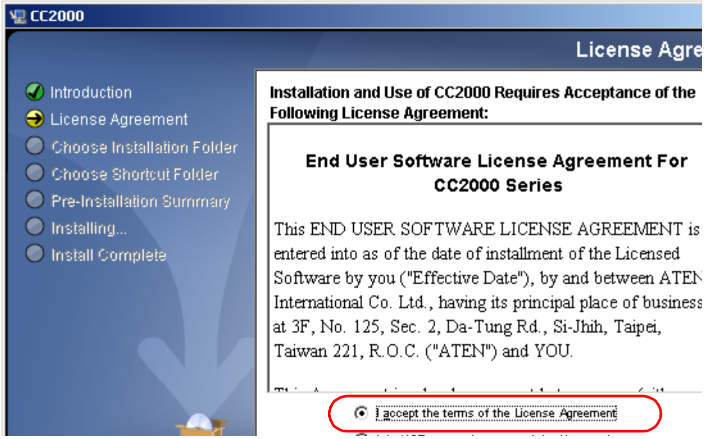
It is strongly recommended that you exit all programs before continuing with this installation.

Click the 'Next' button to proceed to the next screen. If you want to change something on a previous screen, click the 'Previous' button.

You may cancel this installation at any time by clicking the 'Cancel' button.

Click **Next** to move on.

3. In the screen that comes up, read the *License Agreement*, then click to enable the *I accept...* radio button:



Installation and Use of CC2000 Requires Acceptance of the Following License Agreement:

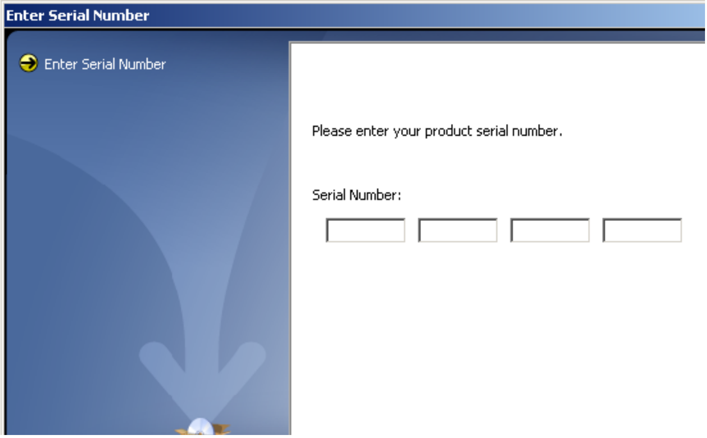
End User Software License Agreement For CC2000 Series

This END USER SOFTWARE LICENSE AGREEMENT is entered into as of the date of installment of the Licensed Software by you ("Effective Date"), by and between ATEN International Co. Ltd., having its principal place of business at 3F, No. 125, Sec. 2, Da-Tung Rd., Si-Jhih, Taipei, Taiwan 221, R.O.C. ("ATEN") and YOU.

● I accept the terms of the License Agreement

4. Click **Next** to continue.

5. The following dialog box appears:



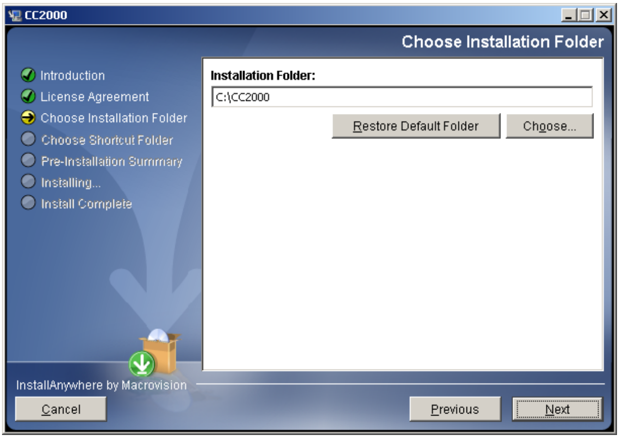
Please enter your product serial number.

Serial Number:

6. Key in the CC2000's software serial number (the serial number can be found on the CD case), then click **Next** to continue.

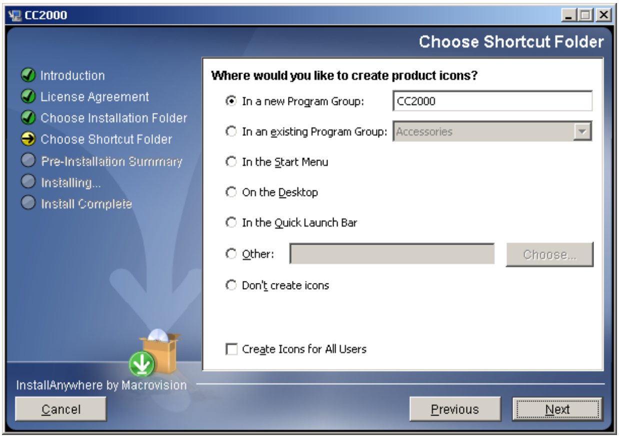
Note: We recommend that you save your software serial number in a safe place in case you need to use it for reinstallation.

7. In the *Choose Installation Folder* dialog box, specify the CC2000's installation folder. If you don't want to use the default entry, click **Choose...** to browse to the location that you want, then click **Next** to continue.



Installation Folder: C:\CC2000

8. In the *Choose Shortcut Folder* dialog box, click one of the radio buttons to specify where you would like to create product icons, then click **Next** to continue.



Where would you like to create product icons?

● In a new Program Group: CC2000

○ In an existing Program Group: Accessories

○ In the Start Menu

○ On the Desktop

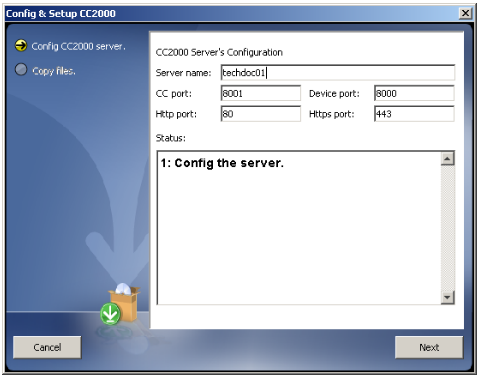
○ In the Quick Launch Bar

○ Other:

○ Don't create icons

□ Create Icons for All Users

9. In the Configuration dialog box that comes up, fill in the fields according to the information provided in the table, below.



CC2000 Server's Configuration

Server name: techdoc01

CC port: 8001 Device port: 8000

Http port: 80 Https port: 443

Status:

1: Config the server.

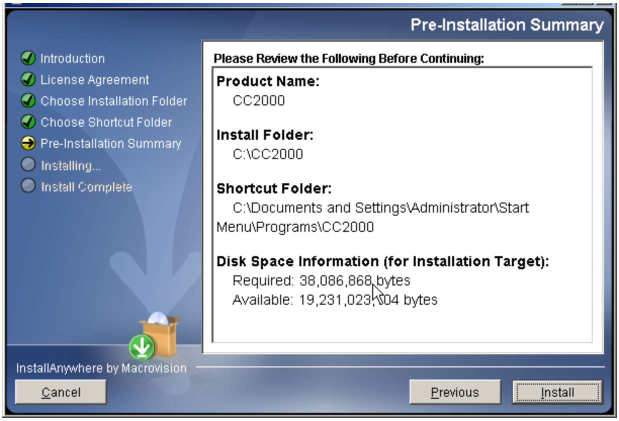
Heading	Explanation
Server name	The dialog box presents the default name for the server – as defined in the Windows *Computer Name* setting. You can choose a different name to identify the server on the CC2000 installation, if you wish. The name can be from 2–32 bytes in any supported language. **Note:** 1. The following characters may not be used: **" ' \** 2. This name is only for CC2000 server purposes – it doesn't change the actual computer name.
CC port	The port that the CC2000 server uses to communicate with other CC2000 servers. The default is 8001. **Note:** 1. This is the **CC Port** referred to on the *This Server* web page (see *Server Information*, page 166). 2. Although each CC2000 server on the system can use its own port setting, for ease of management we recommend that all CC2000 servers use the same port setting.
Device port	The port that the CC2000 server uses to communicate with the devices (ATEN/Altusen IP products) on the installation. The default is 8000. Each CC2000 can have a separate Device port number, but in order to communicate with the devices connected on its network segment, those devices must be configured to use the same port as the one set here.
HTTP port	The port that the CC2000 server uses for web communication. The default is 80. If you use a different port, users must specify the port number in the URL of their browsers.
HTTPS port	The port that the CC2000 server uses for secure web communication. The default is 443. If you use a different port, users must specify the port number in the URL of their browsers.

10. After the fields have been filled, click **Next** to continue.

Note: You can change any of these settings following the installation. See *Server Information*, page 166, for details.

11. The dialog box changes to inform you that files are being copied to the installation folder. Once the files have been copied, click **Continue** to move on.

12. The *Pre-Installation Summary* screen appears:



Pre-Installation Summary

Please Review the Following Before Continuing:

Product Name:
CC2000

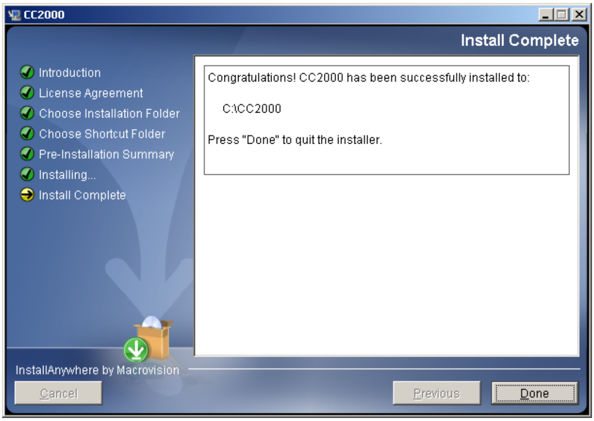
Install Folder:
C:\CC2000

Shortcut Folder:
C:\Documents and Settings\Administrator\Start Menu\Programs\CC2000

Disk Space Information (for Installation Target):
Required: 38,086,868 bytes
Available: 19,231,023,[illegible]04 bytes

If you wish to change anything, click **Previous** to go back, If the information is correct, click **Install**.

13. When the installation utility brings up a screen informing you that the installation has completed successfully, click **Done** to exit the installer.



CC2000

Install Complete

Congratulations! CC2000 has been successfully installed to:

C:\CC2000

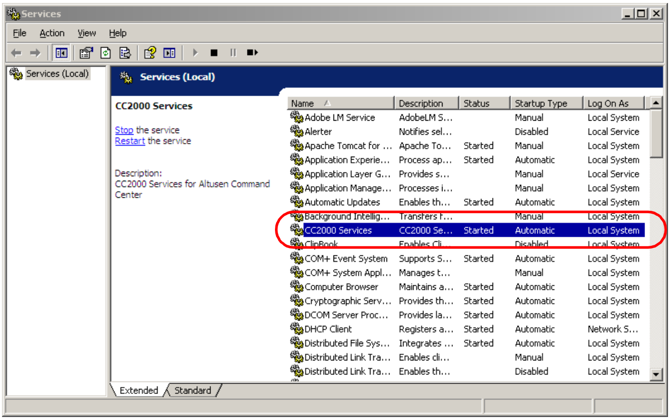
Press "Done" to quit the installer.

14. At the completion of the installation, a CC2000 entry is created in the Windows *Start* menu:

Post-installation Check

After the installation completes successfully, the CC2000 program starts automatically (and starts automatically with every bootup).

To check that the CC2000 has started, navigate through the following folders: Control Panel → Administrative Tools → Services. Look down the list to the CC2000 entry. If the CC2000 is running it will appear in the services list. You should see a screen similar to the one, below:



CC2000 Services

Stop the service
Restart the service

Description:
CC2000 Services for Altusen Command Center

Name	Description	Status	Startup Type	Log On As
Adobe LM Service	AdobeLM S...		Manual	Local System
Alerter	Notifies sel...		Disabled	Local Service
Apache Tomcat for ...	Apache To...	Started	Manual	Local System
Application Experie...	Process ap...	Started	Automatic	Local System
Application Layer G...	Provides s...		Manual	Local Service
Application Manage...	Processes i...		Manual	Local System
Automatic Updates	Enables th...	Started	Automatic	Local System
Background Intellig...	Transfers f...		Manual	Local System
CC2000 Services	CC2000 Se...	Started	Automatic	Local System
ClipBook	Enables Cli...		Disabled	Local System
COM+ Event System	Supports S...	Started	Automatic	Local System
COM+ System Appl...	Manages t...		Manual	Local System
Computer Browser	Maintains a...	Started	Automatic	Local System
Cryptographic Serv...	Provides th...	Started	Automatic	Local System
DCOM Server Proc...	Provides la...	Started	Automatic	Local System
DHCP Client	Registers a...	Started	Automatic	Network S...
Distributed File Sys...	Integrates ...	Started	Automatic	Local System
Distributed Link Tra...	Enables cli...		Manual	Local System
Distributed Link Tra...	Enables th...		Disabled	Local System

The entry for the Status field should say *Started*. If it does not, right click anywhere on the CC2000 entry line and select **Start** from the pop up menu.

Linux Version Installation

Before you Begin

The procedure for installing CC2000 on a Linux system is similar to that for Windows, but there are Java considerations to take note of first.

- If Java isn't already installed on your system, you will need to download it from the Java web site:

  ```
  http://java.com
  ```

  Installation instructions are provided on the Java download page.

- CC2000 program requires the system to run JRE versions 8 or higher. Some Linux distributions install earlier versions than the JRE 8. To find out the Java version on your system, open a terminal and enter the following:

  ```
  java -version
  ```

  If the version it displays do not fit the system requirement, please make sure you have a JRE version that is Version 8 or higher. (See the previous point regarding downloading and installing Java.)

- Make sure your PATH and JAVA_HOME environment variables point to the new version in your */root/.bash_profile* file. For example:

  ```
  JAVA_HOME=/usr/java/jre1.6.0_0-b11
  PATH=$JAVA_HOME/bin:$PATH:./
  BASH_ENV= $HOME/.bashrc
  USERNAME= "root"
  export JAVA_HOME PATH BASH_ENV USERNAME
  ```

- Even after you install an appropriate Java version and set the new PATH and JAVA_HOME environment variables, the distribution may still not recognize the new version and continue to use its original Java version. If the problem exists on your installation, correct it by doing the following:

  1. Copy the CC2000*Setup_Linux.bin* file from the distribution CD to a folder on your hard disk.
  2. Open a terminal and go to the directory where the CC2000*Setup_Linux.bin* file is located.
  3. Enter the following commands:

     ```
     export LAX_DEBUG=1
     sh CC2000-Setup-ForLinux.bin
     ```

  Note: If the installation program starts, cancel it.

4. In the screen output, look for the line (it will be in bold) that starts:

   ```
   Using VM.........
   ```

   to see which Java your distribution is defaulting to.

5. If the *Using VM* entry shows a path to a file named *java* in the old Java version directory, go to that directory and either delete the *java* file or rename it.

6. Log out and log back in.

Installing

After making sure that the appropriate version of the JRE has been installed, do the following:

1. Put the software CD that came with your package into the computer's CD or DVD drive.

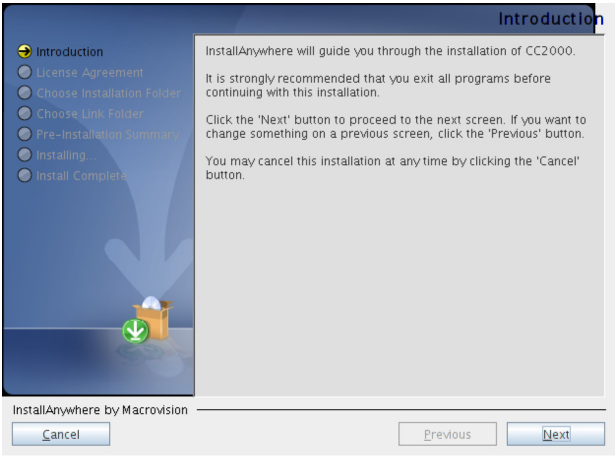
2. Go to the folder where *CC2000Setup_Linux.bin* is located, and run it.

Note: 1. You must run the installation program as the root user.

2. Make sure that the installation file has executable permissions

3. For some versions of Linux, the program must be run in a terminal.

A screen, similar to the one below, appears:



InstallAnywhere will guide you through the installation of CC2000.

It is strongly recommended that you exit all programs before continuing with this installation.

Click the 'Next' button to proceed to the next screen. If you want to change something on a previous screen, click the 'Previous' button.

You may cancel this installation at any time by clicking the 'Cancel' button.

Click **Next** to move on.

4. From here, the installation procedure is the same as the one for Windows. Refer to the Windows installation procedure (see page 12), for details on how to proceed.

Post-installation Check

- After the installation completes successfully, the CC2000 program starts automatically (and starts automatically with every bootup).

  To check that the CC2000 has started, start, stop, and restart, the service by issuing the following commands (as root) from a terminal console:

  - /etc/init.d/cc2000service start#to start the service
  - /etc/init.d/cc2000service stop#to stop the service
  - /etc/init.d/cc2000service restart#to restart the service
  - /etc/init.d/cc2000service status#to check the service status

- To check on the Java version your system is running, do the following:

  1. Open the *Start* menu.
  2. Navigate to the CC2000 entry (Programs → CC2000), and select **Java Version Checker**.

Post-Installation Setup

The CC2000 software comes with a default demo license that allows the server to be a primary server with no secondaries and 16 nodes (all of which must be on the same network as the server). For anything beyond this minimum, you will need a license key that allows secondary servers and additional nodes.

Once the software is installed on the server, the next step is to specify whether the server will be a Primary or Secondary.

- If this server is going to be a Primary, insert the CC2000's USB license key into a USB port; log into the server (see *Logging In*, page 25); go to the *License* page, and click **Upgrade** (see *Upgrading the License*, page 191, for details). The number of Secondaries and nodes that are allowed depends on your license key purchase.

  Note: After upgrading the license remove the key and place it somewhere safe, since you will need it for future upgrades.

- If this installation is going to be a Secondary server, there is no need to insert a license key – you simply need register it with the primary. See *Register*, page 169, for details.

Uninstalling the CC2000

Uninstalling from a Windows System

To uninstall the CC2000 from a Windows system, do the following:

1. Open the *Start* menu.
2. Navigate to the CC2000 entry (Programs → CC2000), and select **Uninstall** CC2000.

Note: The removal program does not remove a number of the CC2000 files and folders that were created during operation. For a complete removal (necessary if you plan on reinstalling), you must remove them yourself from the location that the CC2000 was installed at (the default folder is C:\CC2000).

Uninstalling from a Linux System

To uninstall the CC2000 from a Linux system, as root, execute the following command:

```
/install-path/Uninstall_CC2000/Uninstall_CC2000
```

Where */install-path/* represents the path and directory that you specified for the CC2000's location when you installed the program.

Note: The removal program does not remove a number of the CC2000 files and folders that were created during installation. For a complete removal (necessary if you plan on reinstalling), you must remove them yourself. The default is /home/CC2000.

Upgrading the CC2000

If the CC2000 program has already been installed, it is not necessary to perform a full install. You can upgrade to the latest CC2000 version by running the CC2000-Upgrade program:

- CC2000Upgrade_Win.exe (for Windows)
- CC2000Upgrade_Linux.bin (for Linux)

Note: When you upgrade, you must upgrade the primary and each of the secondaries.

New versions of the Upgrade Program are put up on our website for download as they become available. Check the website to get the most up-to-date version.

Preliminary Steps

These steps make sure that the installation database is at the most current level across all of the CC2000 units. If a problem should occur after the upgrade, you can use the backup created with them to restore the database to its latest working level.

We recommend you take the following backup steps on each CC2000 unit before you begin.

1. Replicate the database of each of the secondaries; use *Run Now* for the schedule setting. (See *Replicate Database*, page 209.)
2. After replication completes; go back and set the schedule to a time that will not take place during the upgrade time (next week, next month, etc.).
3. On the primary unit, do a Database Backup (see page 196).

Once you have finished these preliminary steps you can upgrade the primary and each of the secondaries. When you run the upgrade program, simply follow the installation Wizard to complete the procedure.

CC2000 Secondary Servers

A complete CC2000 installation can comprise 1 Primary and up to 31 Secondaries servers located anywhere throughout the world. The Primary server becomes automatically designated when you upgrade the demo license that came with your CC2000 software. See *License*, page 190, for details.

Once the Primary server has been set, you can then register each of the other CC2000 servers as Secondaries with the *Register* function. See *Register*, page 169, for details.

CC2000 Redundant Secondary Servers

To provide CC2000 server redundancy – where a backup (alternate) CC2000 automatically takes over from a failed primary (preferred) one – do the following:

1. Install two CC2000 servers on the same network segment.
2. Under *Device Management*, for each device on the segment, specify the IP addresses of the preferred and alternate CC2000s on the device's ANMS settings page (see *Device Configuration (For KVM Devices)*, page 138).

Now, should the device fail to connect with the preferred CC2000 server (due to network failure, CC2000 failure, etc.), the device will connect with the alternate CC2000. Once it connects with the alternate CC2000, the device will thereafter seek the alternate as its first connection choice. The alternate remains the first choice until such time as the device cannot connect with it, and then looks to connect with the original preferred server.

Note: Redundant Secondaries are not a special category of CC2000 server. They are no different than any other Secondary servers in the CC2000 management system. They are only redundant in the sense that they provide a fall-back in case the device's preferred CC2000 fails. This is similar to specifying a preferred and alternate DNS server for a TCP/IP network.

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Chapter 3
Browser Operation

To ensure multi-platform operability, access to the CC2000 is available through most standard web browsers. Once users log in and are authenticated, the CC2000's browser GUI comes up. This chapter explains the login procedure, and describes the CC2000's browser GUI components.

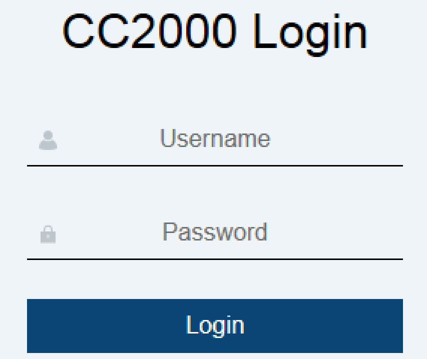
Logging In

To log into the CC2000, do the following:

1. Open the browser and specify the IP address of the CC2000 in the browser's URL location bar.

> **Note:** If the system administrator has configured the HTTP or HTTPS port setting as something other than the CC2000 defaults, you must include **http://** or **https://** before the IP address, and specify the port number along with the IP address. For example:
>
> ```
> http://192.168.1.20:8082
> ```
>
> Where *8082* is the http port number, and a colon is inserted between it and the IP address.

2. If any Security Alert dialog boxes appear, accept the certificate – it can be trusted. See *Trusted Certificates*, page 256 for details. After a moment, the Login page appears:



CC2000 Login

3. Provide your CC2000 Username and Password*, then click **Login**.

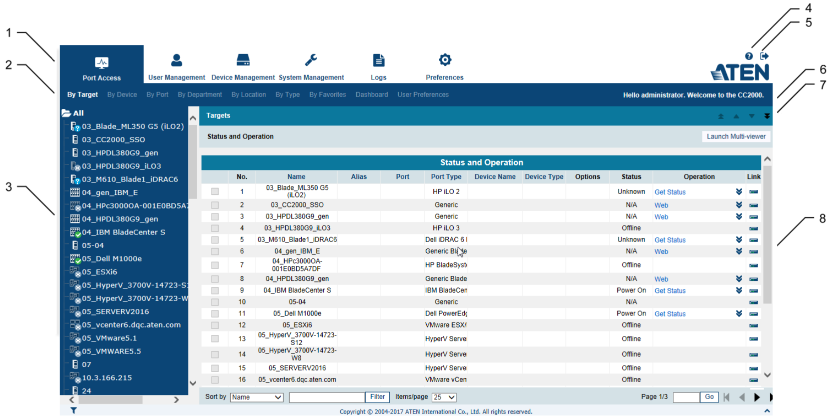
> **Note:** There is a pre-installed system administrator account that can be used to log in for the first time to begin creating users and groups, adding devices, configure the system, etc. The Username for this account is *administrator*; the password is *password*. For security purposes, we strongly recommend you change this to something unique. See *Managing User Accounts*, page 60 for details.

4. If you are using MOTP authentication, provide the PIN and OTP*, then click **Login**.

> **Note:** When using MOTP authentication, you should key in the PIN or OTP assigned to you. For information related to MOTP, refer to page 74.

The CC Interface

After you have successfully logged in, the CC web page appears:



Hello administrator. Welcome to the CC2000.

Status and Operation

	No.	Name	Alias	Port	Port Type	Device Name	Device Type	Options	Status	Operation	Link
□	1	03_Blade_ML350 G5 (iLO2)			HP iLO 2				Unknown	Get Status	
□	2	03_CC2000_SSO			Generic				N/A	Web	
□	3	03_HPDL380G9_gen			Generic				N/A	Web	
□	4	03_HPDL380G9_iLO3			HP iLO 3				Offline		
□	5	03_M610_Blade1_iDRAC6			Dell iDRAC 6 I				Unknown	Get Status	
□	6	04_gen_IBM_E			Generic Blade				N/A	Web	
□	7	04_HPc3000OA-001E0BD5A7DF			HP BladeSyst				Offline		
□	8	04_HPDL380G9_gen			Generic Blade				N/A	Web	
□	9	04_IBM BladeCenter S			IBM BladeCen				Power On	Get Status	
□	10	05-04			Generic				N/A		
□	11	05_Dell M1000e			Dell PowerEdg				Power On	Get Status	
□	12	05_ESXi6			VMware ESX/				Offline		
□	13	05_HyperV_3700V-14723-S12			HyperV Serve				Offline		
□	14	05_HyperV_3700V-14723-W8			HyperV Serve				Offline		
□	15	05_SERVERV2016			HyperV Serve				Offline		
□	16	05_vcenter6.dqc.aten.com			VMware vCen				Offline		

The CC web page components are described in the table on the next page.

Screen Components

The CC's screen components are described in the table, below:

No.	Item	Description
1	Tab Bar	The tab bar contains the CC2000's main operation categories. The items that appear in the tab bar are determined by the user's type, and the authorization options that were selected when the user's account was created.
2	Page Menu Bar	The page menu bar contains operational sub-categories that pertain to the item selected in the tab bar. The items that appear in the menu bar are determined by the user's type, and the authorization options that were selected when the user's account was created.
3	Sidebar	The Sidebar provides a tree view listing of items that relate to the various tab bar and menu bar selections. Clicking an item in the Sidebar brings up a page with the details that are relevant to it.
4	About	About provides information regarding the current version of the CC2000.
5	Logout	Click this button to log out of your CC2000 session.
6	Welcome Message	If this function is enabled (see *Preferences*, page 31), a welcome message displays here.
7	Navigation Buttons	These buttons move you through the Sidebar. Their usage is discussed in the next section of this chapter.
8	Interactive Display Panel	This is your main work area. The screens that appear reflect your menu choices and Sidebar item selection. The use of this panel is discussed later in this chapter – see *Interactive Display Panel*, page 29.

The Navigation Buttons

The navigation buttons move you through the items in the Sidebar as follows:

Button	Action
⏫	Moves to the item in the tree that is one level out and one step up from the current selection (its parent item). In the diagram below: If the focus were on *OutletA*, it would move to *PN0108RPSwitch*.
▲	Moves to the item in the tree that is on the same level of depth and one step up from the current selection (its sibling item). In the diagram below: ◆ If the focus were on *OutletB*, it would move to *OutletA*. ◆ If the focus were on *PN0108RPSwitch*, it would move to *KN4132-23*.
▼	Moves to the item in the tree that is on the same level of depth and one step down from the current selection (its sibling item). In the diagram below: ◆ If the focus were on *KN4132-23*, it would move to *PN0108RPSwitch*. ◆ If the focus were on *OutletA*, it would move to *OutletB*.
⏬	Moves to the item in the tree that is one level in and one step down from the current selection (its child item). In the diagram below: If the focus were on *PN0108RPSwitch*, it would move to *OutletA*.

One of the advantages of using the navigation buttons instead of clicking on an item in the Sidebar lies in the fact that you stay on the same Panel Menu page as you move from item to item.

Note: When you make a menu choice, a Panel Menu bar with further choices appears in the Interactive Display Panel. See *Interactive Display Panel*, page 29, and the table on page 30.

If, for example, you made a change to OutletA that you also wanted to make to OutletD, by using the navigation buttons, you could conveniently get to the desired location in OutletD without having to click through all the Panel Menus to get there.

If you access an item by clicking on it in the Sidebar, however, the opening page for that item appears. To make the same change to OutletD that you made to OutletA, you would have to start at the beginning and click through all the Panel Menus to get to the desired location.

Note: If an item's icon contains a question mark, it indicates there is a mismatch between the device's information and the information for it stored in the CC2000's database. See *Update*, page 133, for information on resolving the problem.

Tree View Considerations

- Only items a user is authorized to access appear in the Sidebar tree view.
- A plus (+) sign in front of an item means that there are additional items nested inside of it. Click the plus sign to expand the view and show the nested items.
- The plus sign changes to a minus sign (-)when an item is expanded. Click the minus sign to collapse the view and hide the nested items.
- For devices, if the device is on line, its icon is in color; if it is off line, its icon is gray.

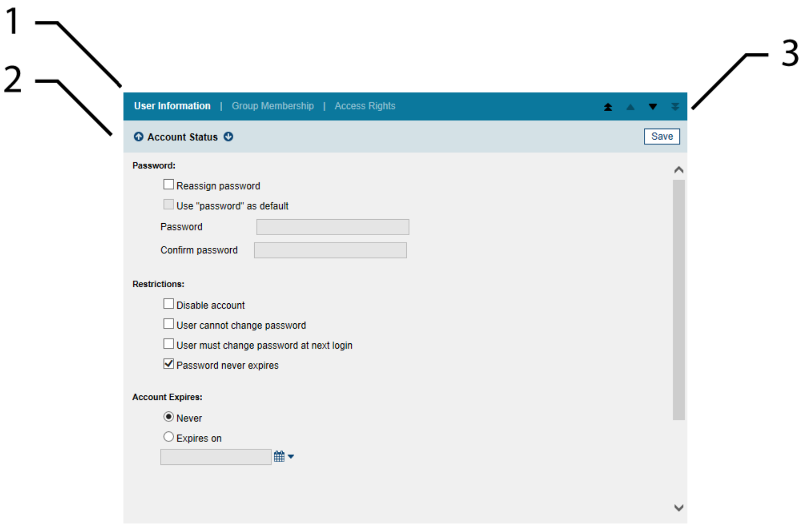
Note: User's can configure the way devices and ports display in the Sidebar tree view. See *User Preferences*, page 51, for details.

Interactive Display Panel

Overview

The Interactive Display Panel (also referred to as the main panel) is your main work area. The screens that appear reflect your menu choices and Sidebar item selection. The reason it is called an interactive display panel, is that in addition to displaying the contents of your menu choices, it is also a work area where you can make configuration settings and perform actions on selected devices.

An explanation of a typical interactive display panel is given below:



Password:

□ Reassign password

□ Use "password" as default

Password

Confirm password

Restrictions:

□ Disable account

□ User cannot change password

□ User must change password at next login

☑ Password never expires

Account Expires:

● Never

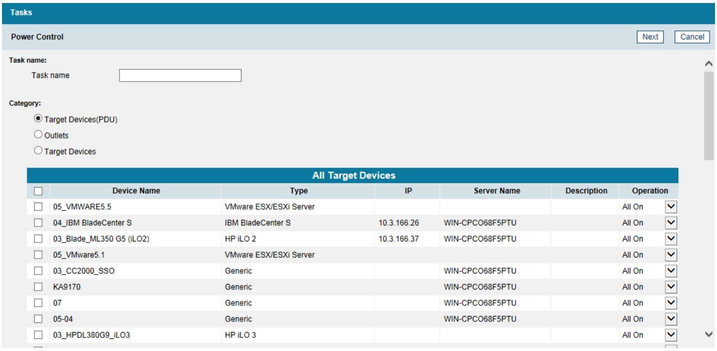
○ Expires on

(Continued from previous page.)

No.	Item	Description
1	Panel Menu Bar	◆ Refines the menu category into smaller related groupings. ◆ If there are secondary Panel Menu pages, hovering over the Panel Menu title causes a popup menu to appear. Click on the menu item to go to the desired secondary page. ◆ The items that appear in the Panel Menu bar are determined by the user’s type, and the authorization options that were selected when the user’s account was created.
2	Panel Menu Title Bar	◆ Describes the Panel Menu category. ◆ If there are secondary Panel Menu pages, an arrow icon indicates so. Click the Down-Arrow icon ⬇ to go to the next page in the sequence; click the Up-Arrow ⬆ icon to go to the previous page in the sequence.
3	Action-Input Area	A button or input box displays here directing you to take an action (Save, Delete, Add, Next, etc.), with regard to the current page.

Selecting List Items

Many of the pages displayed in the Interactive Display Panel contain a list of items (devices, users, groups, configuration files, etc.), that you will select to perform some operation on. For example:



Tasks

Power Control [Next] [Cancel]

Task name:

Task name

Category:

● Target Devices(PDU)
○ Outlets
○ Target Devices

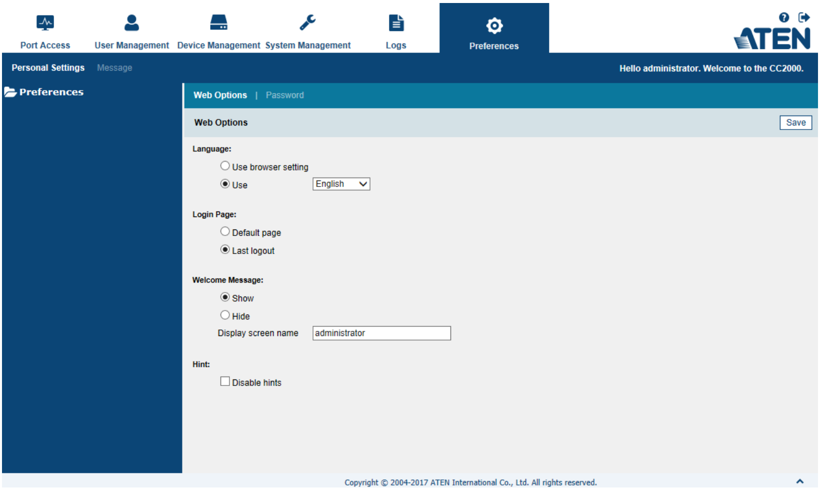
All Target Devices

□	Device Name	Type	IP	Server Name	Description	Operation
□	05_VMWARE5.5	VMware ESX/ESXi Server				All On
□	04_IBM BladeCenter S	IBM BladeCenter S	10.3.166.26	WIN-CPCO68F5PTU		All On
□	03_Blade_ML350 G5 (iLO2)	HP iLO 2	10.3.166.37	WIN-CPCO68F5PTU		All On
□	05_VMware5.1	VMware ESX/ESXi Server				All On
□	03_CC2000_SSO	Generic		WIN-CPCO68F5PTU		All On
□	KA9170	Generic		WIN-CPCO68F5PTU		All On
□	07	Generic		WIN-CPCO68F5PTU		All On
□	05-04	Generic		WIN-CPCO68F5PTU		All On
□	03_HPDL380G9_iLO3	HP iLO 3				All On

- You can select an individual item by clicking to put a check in the checkbox in front of its name.
- You can select a group of items by clicking to put a check in the checkbox in front of each of their names.
- You can select all of the items by clicking to put a check in the checkbox at the top of the column.

Preferences

Users can set individual preferences for their browser sessions by clicking the *Preferences* tab on the Tab Bar. The Interactive Display Panel opens to the default page – Web Options. The Panel Menu bar shows the available categories: *Web Options* and *Password*.



Hello administrator. Welcome to the CC2000.

Web Options

Language:
○ Use browser setting
● Use English

Login Page:
○ Default page
● Last logout

Welcome Message:
● Show
○ Hide
Display screen name administrator

Hint:
□ Disable hints

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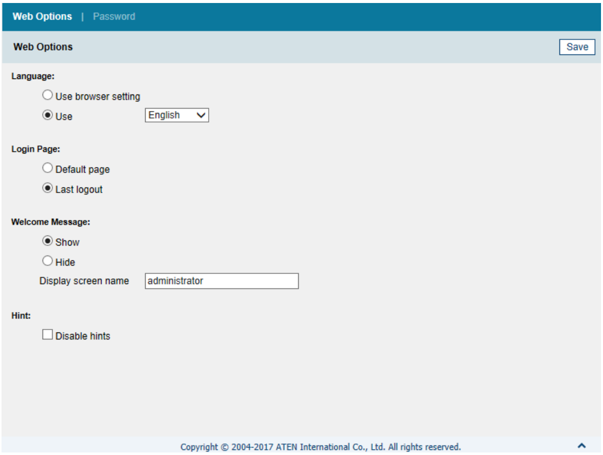
Web Options



Language:

○ Use browser setting

● Use English

Login Page:

○ Default page

● Last logout

Welcome Message:

● Show

○ Hide

Display screen name administrator

Hint:

□ Disable hints

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- For *Language*:
  - Click the **Use Browser Settings** radio button to have the CC2000's pages display in the same language that your browser is set to.

    Note: If your browser is set to a non-supported language, the CC2000 looks to what your server's operating system is set to. If the operating system is set to a supported language it will use that language to display its pages. If the operating system is set to a non-supported language, the CC2000 defaults to English.

  - Click the **Use** radio button to drop down a list of supported languages and have the CC2000's pages display in the language you select.

    Note: The language selected here, if different from the browser's setting, will only take effect after login. The login page will follow the sequence described in the note for *Use Browser Settings*.

- For *Login Page*: You can choose to have the CC open to the default page when you log in – which is the first page of the first available tab on the Tab Bar – or you can choose to have the CC open to the page you were on the last time you logged out.

- For *Welcome Page*:
  - If you want the Welcome Message to appear on screen, select **Show**; if you don't want it to appear, select **Hide**.
  - If you want a Screen Name to appear with the Welcome Message, key it into the *Display screen name* text box.

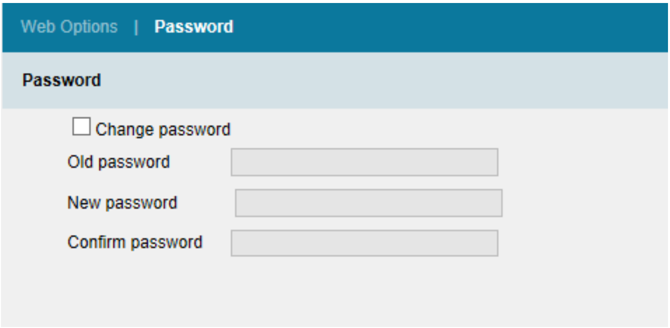
Note: 1. This provides a way of changing the screen name specified in your User Account. When you change the name here, the Screen Name entry in the User Accounts settings will automatically change to what you specify here (see *Adding User Accounts*, page 56).

2. The Screen Name will not display unless you choose to *Show* the Welcome Message.

- To disable mouse-over hints from appearing, click to put a check mark in the *Disable hints* checkbox.

When you have made your choices, click **Save**.

Password



Web Options | Password

Password

□ Change password

Old password

New password

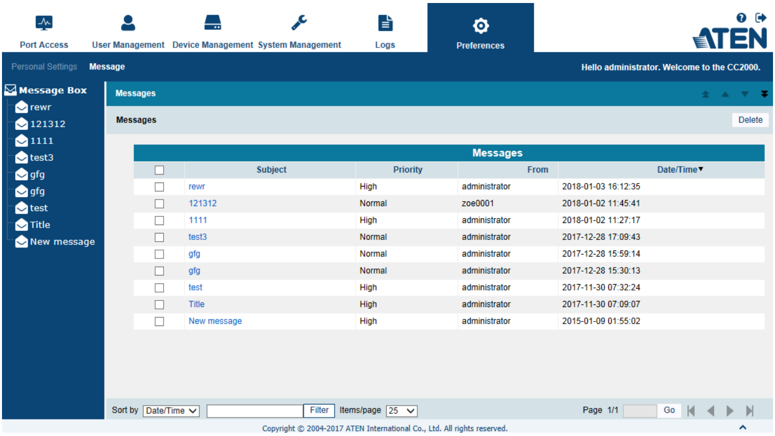
Confirm password

If you wish to change your password, do the following:

1. Check **Change Password**. This enables the password input fields.
2. Key in your old password in the *Old password* field.
3. Key in your new password in the *New password* field.
4. Key in your new password again in the *Confirm password* field.
5. Click **Save**.

Notifications and Message Box

The *Message* section under the **Preferences** tab has a notification system that allows an administrator to send notifications to any or all CC2000 users.



Messages

☐	Subject	Priority	From	Date/Time▾
☐	rewr	High	administrator	2018-01-03 16:12:35
☐	121312	Normal	zoe0001	2018-01-02 11:45:41
☐	1111	High	administrator	2018-01-02 11:27:17
☐	test3	Normal	administrator	2017-12-28 17:09:43
☐	gfg	Normal	administrator	2017-12-28 15:59:14
☐	gfg	Normal	administrator	2017-12-28 15:30:13
☐	test	High	administrator	2017-11-30 07:32:24
☐	Title	High	administrator	2017-11-30 07:09:07
☐	New message	High	administrator	2015-01-09 01:55:02

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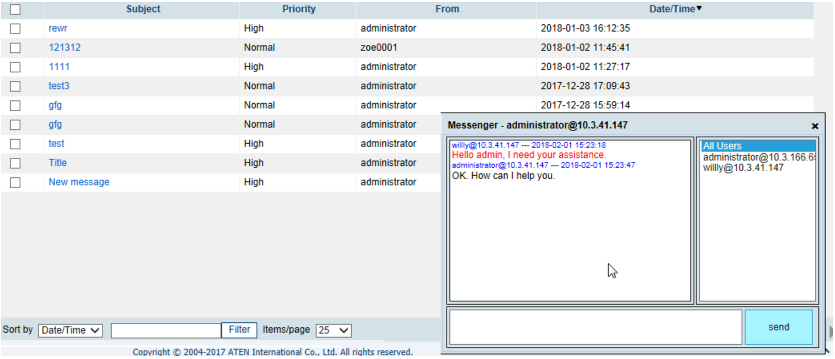
Note: This is an Administrator-only function.

For all users, there is an instant messenger that provides an online chat function for all users that are currently logged in to the CC2000.

When users receive a message, the mail icon ✉ will appear in the lower right corner of the page. When read, the icon changes to a chevron.

Click on the green chevron at the lower right corner of the Message Box to enable/disable the instant messenger:



☐	Subject	Priority	From	Date/Time▾
☐	rewr	High	administrator	2018-01-03 16:12:35
☐	121312	Normal	zoe0001	2018-01-02 11:45:41
☐	1111	High	administrator	2018-01-02 11:27:17
☐	test3	Normal	administrator	2017-12-28 17:09:43
☐	gfg	Normal	administrator	2017-12-28 15:59:14
☐	gfg	Normal	administrator	
☐	test	High	administrator	
☐	Title	High	administrator	
☐	New message	High	administrator	

Messenger - administrator@10.3.41.147 ×

willly@10.3.41.147 --- 2018-02-01 15:23:18
Hello admin, I need your assistance.
administrator@10.3.41.147 --- 2018-02-01 15:23:47
OK. How can I help you.

All Users
administrator@10.3.166.6
willly@10.3.41.147

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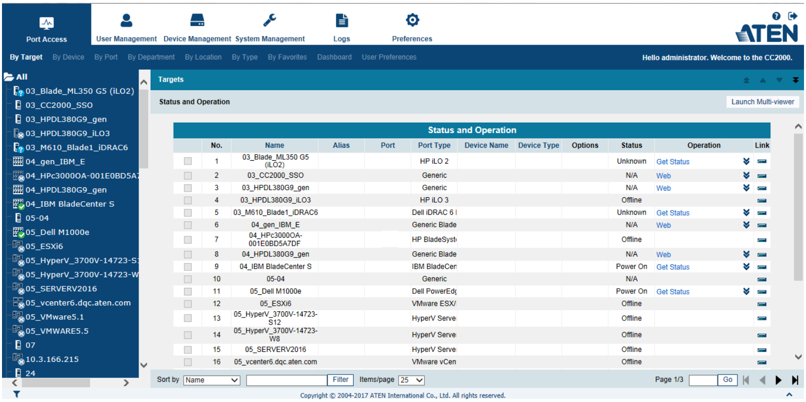
Note: The chat function is available throughout the interface.

Chapter 4
Port Access

Overview

The *Port Access* page is used to access and control the devices, ports and outlets that are managed over the CC2000 network. The page's Menu Bar provides different organizational views of those items, as shown in the screenshot, below:



Status and Operation

	No.	Name	Alias	Port	Port Type	Device Name	Device Type	Options	Status	Operation	Link
□	1	03_Blade_ML350 G5 (iLO2)			HP iLO 2				Unknown	Get Status	
□	2	03_CC2000_SSO			Generic				N/A	Web	
□	3	03_HPDL380G9_gen			Generic				N/A	Web	
□	4	03_HPDL380G9_iLO3			HP iLO 3				Offline		
□	5	03_M610_Blade1_iDRAC6			Dell iDRAC 6 I				Unknown	Get Status	
□	6	04_gen_IBM_E			Generic Blade				N/A	Web	
□	7	04_HPc3000OA-001E0BD5A7DF			HP BladeSyst				Offline		
□	8	04_HPDL380G9_gen			Generic Blade				N/A	Web	
□	9	04_IBM BladeCenter S			IBM BladeCen				Power On	Get Status	
□	10	05-04			Generic				N/A		
□	11	05_Dell M1000e			Dell PowerEd				Power On	Get Status	
□	12	05_ESXi6			VMware ESX/				Offline		
□	13	05_HyperV_3700V-14723-S12			HyperV Serve				Offline		
□	14	05_HyperV_3700V-14723-W8			HyperV Serve				Offline		
□	15	05_SERVERV2016			HyperV Serve				Offline		
□	16	05_vcenter6.dqc.aten.com			VMware vCen				Offline		

Sort by Name | Filter | Items/page 25 | Page 1/3 | Go

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Click the view on the Menu Bar that you want to see the items organized by. From there, you can operate the items as described in the sections that follow.

Note: If no access rights have been assigned to a user, the Port Access tab and page do not display – even for System Administrators.

Table Headings

An explanation of the column headings is provided in the table, below.

Note: 1. The headings at the top of the table don’t all appear for each view. Which ones appear vary depending on the view selected.

2. You can change the sort order of the items by clicking on the column headings.

Heading	Explanation
Name	The name given to the port when it was added to the CC2000 installation.
Alias	If you gave the port an alias, the alias name appears here.
Port	The port’s port number on the device it belongs to.
Port Type	Indicates the kind of device that the port belongs to.
Device Name	The name of the device that the port belongs to.
Device Type	The type of device that the port belongs to (SNxxx, PNxxx, KNxxx, Blade, etc.).
Options	◆ For KVM ports, indicates the port’s *Access Mode*. See *Mode*, page 140, for details. ◆ For Serial ports, indicates the port’s *Operating Mode*. See *Port Settings*, page 153, for details. ◆ For Power outlets, indicates the port’s *Power Management Configuration*. See *Port Settings*, page 147, for details. ◆ This item is blank for Target device ports.
Status	◆ For KVM ports, indicates whether the port is online or offline. ◆ For Serial ports, indicates whether the port is online or offline. ◆ For Power outlets, indicates whether the outlet port’s power socket is On or Off. **Note:** This category does not apply to Blade Chassis or individual blades, therefore *N/A* (not applicable) displays in this field for Blade Chassis, and *Unknown* displays for individual blades.
IP Address	For physical devices – the device’s IP Address displays here.
MAC Address	For physical devices – the device’s MAC Address displays here.
Operation	The default action for accessing the device/port appears in this cell. ◆ Click the arrow at the right of the table cell to see what other actions (if any), are available. ◆ Click your choice to open a session for the device/port. The various device/port operation choices are described in the *Port Operation* section that follows.
Link	Click to go to the device’s Device Management → Port page.

Action Buttons

There are two buttons on the main panel: *Filter* at the bottom of the page, and *Launch Multiviewer* at the top right of the page.

Filter

Filter allows you to control which items appear in the main panel list. Key in a string and click **Filter** (or tap **[Enter]**). Only items that have that particular string in their names display in the list.

For example, if *TD* is your string, only items with names containing TD, such as *TD-AGG-01*, will be displayed.

Sort by: To sort the devices displayed in the main panel, use the **Sort by** menu to select a criteria to sort by: *Name*, *Alias*, *Type*, *IP Address*, or *MAC Address*. You can use the Sort by feature with or without applying the filter.

Items/Page: Use this drop down menu to select how many devices you want to display on the page. Options are: *25*, *50*, *75*, *100*, and *400*. To prevent extremely slow loading, the maximum number of devices that can be displayed per page is 400.

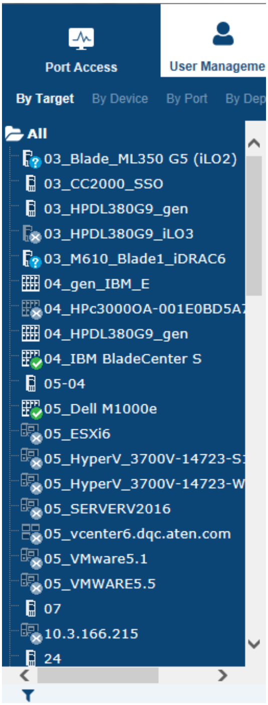
To clear the filter and bring back the complete list, erase the contents of the input box and click **Filter**, again.

Launch Multiviewer

If you want to launch viewers for more than one port at a time, check the checkbox in front of the name of the ports you want to access, then click **Launch Multiviewer**.

The Sidebar

Devices, ports and outlets that have been configured on the CC2000 are listed in a tree structure in the Sidebar at the left of the screen:



Sidebar Characteristics

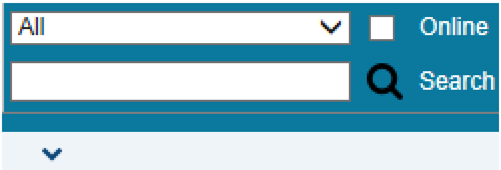
The characteristics of the Sidebar tree structure are the following:

- Users are only allowed to see the devices, ports and outlets that they have access permission for.
- Ports/outlets and child devices can be nested under their parent devices.
  - Click the + in front of a device to expand the tree and see the ports/ outlets nested underneath it. Click the **-** to collapse the tree and hide the nested ports/outlets.
  - For faster port access the tree is collapsed and must be expanded for node access. For every 2000 nodes the tree will be divided into a separate folder, so that the page loads faster.
- Switches and ports that are online have their monitor screen icons in Green; the monitor screens are Gray for devices and ports that are offline.

- Clicking an item in the tree brings up its *Status and Operation* page.
- Double clicking an active device or port opens the viewer for it.
- Right clicking an active device or port opens a pop-up that allows you to select a viewer to access it with (see *Port Operation*, page 40, for details).

Sidebar Filter

Filter allows you to control the number and type of devices, ports and outlets that display in the Sidebar. When you click the funnel icon at the bottom left of the Sidebar panel it brings up the Filter dialog, which looks similar to the image, below:



The meanings of the choices are explained in the following table:

Choices	Explanation
All	This is the default view. With no other filter options selected, all of the devices, ports and outlets that are accessible to the user are listed in the Sidebar. Drop down the list box to see all of the available choices and select one of them instead of All. Only the items that match your selection display in the tree.
Online	If you enable *Online* (by putting a check in the checkbox) only items that are online display in the tree.
Search	If you key in a search string and click **Search**, only device, port, and outlet names that match the search string display in the tree. Wildcards (? and *) are acceptable, so that more than one item can show up in the list. For example, if you key in **Web***, both Web Server 1 and Web Server 2 show up in the list.

To dismiss the Filter dialog, click the downward-pointing chevron at the bottom left of the Sidebar panel.

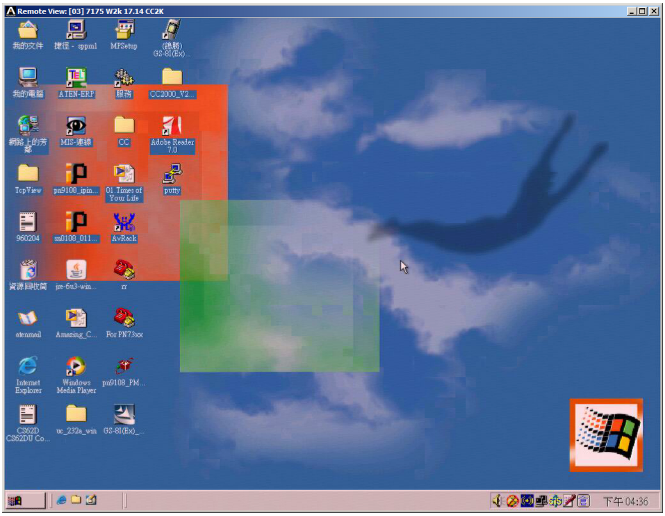
Port Operation

Depending on the item chosen, various port operation methods are available to access and control it. Click the arrow at the right of the Operation cell to select an operation method, as explained in the following sections.

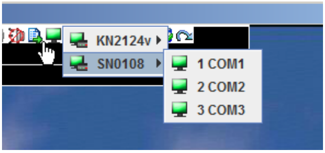
CC Viewer

Clicking CC Viewer opens a KVM or Serial viewer directly to the device running on the selected port. It is just like what you would see if you logged into the device directly and then selected that port on the device's GUI. A window with that device's port session opens on your desktop.

For example, TD-AGG-01 in our screenshot on page 43, is an aggregate device that contains ports from a KN2124v KVM switch, a PN0108 PDU, and an SN0108 serial device. When I click *CC Viewer*, I get a window with the KN2124v's first port in the aggregate device selected:



To switch ports in the viewer, open the hidden Control Panel (by hovering over the top center of the viewer window), and select the *Port List* icon. The port list choices include all the ports belonging to the device.

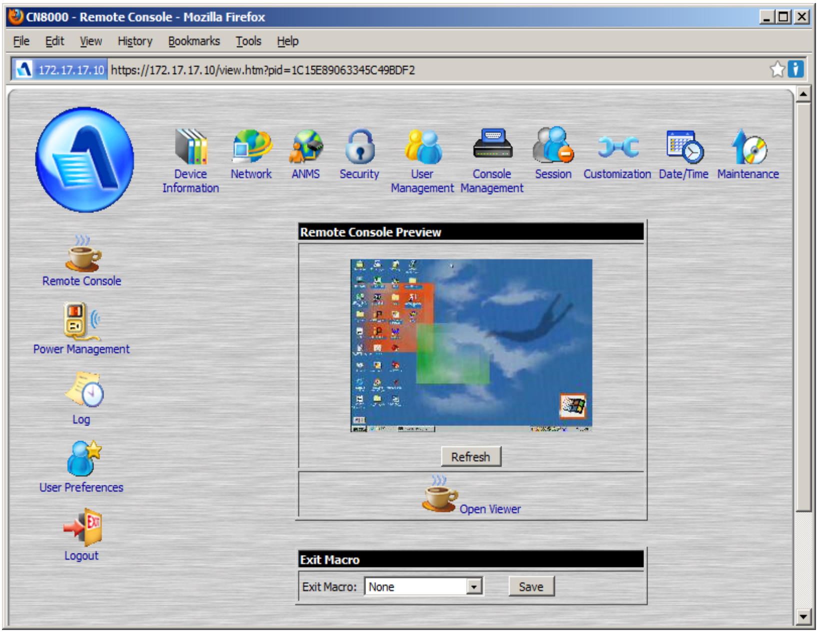


- In the list, select the device the port belongs to (SN0108 in the screenshot), then click the port you want to access.
- The device or port name (port ID) displays in the CC Viewer title bar.
- The viewer window of each port has a hidden Control Panel. To switch to a different port on the device, bring up the port list and click the desired port.
- If the target device is associated with a PDU, additional power controls appear in the CC Viewer Control Panel.
- When you have finished with your session, open the Control Panel and select the *Exit* icon.

Note: The CC Viewer does not support OpenJDK.

Web Access

Clicking Web Access opens a browser session for the device on your desktop just as if you had opened your browser and logged into from the URL bar:



CN8000 - Remote Console - Mozilla Firefox

https://172.17.17.10/view.htm?pid=1C15E89063345C49BDF2

Exit Macro: None

Power ON / OFF

- For Aggregate and Power devices you can choose All ON or All OFF to turn all the outlets belonging to that device on or off.
- For Power outlets, you can choose ON or OFF. If the port's status is ON, the choice is OFF – click OFF to turn the power to the outlet off.

Note: The change doesn't show in the table until you leave the page and come back to it.

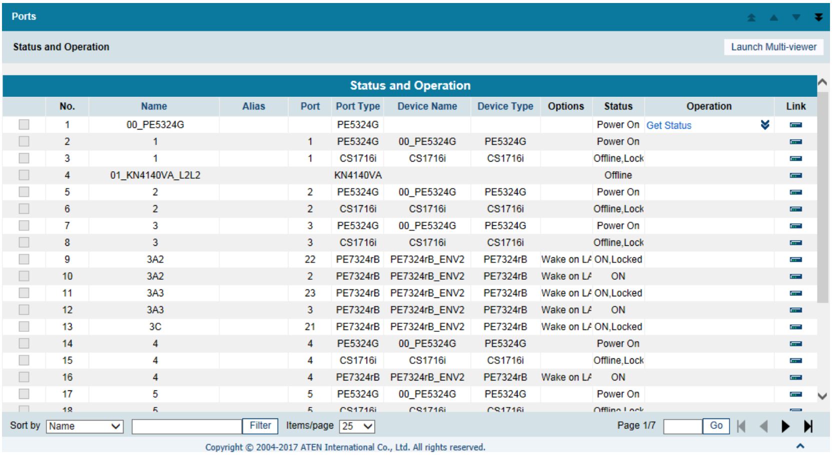
SSH / Telnet Session

Choose to open an SSH or Telnet session to the selected port. You get an SSH or Telnet viewer window just as if you had logged into the serial device (SN0108, for example), with your browser and had chosen *Telnet* on the Main Web page.

Port Access Views

Port View

When Port Access is selected on the tab bar, the default page is Port View. This page lists all of the ports that have been deployed under the CC2000 management system, independently of their devices:



Ports

Status and Operation

Status and Operation

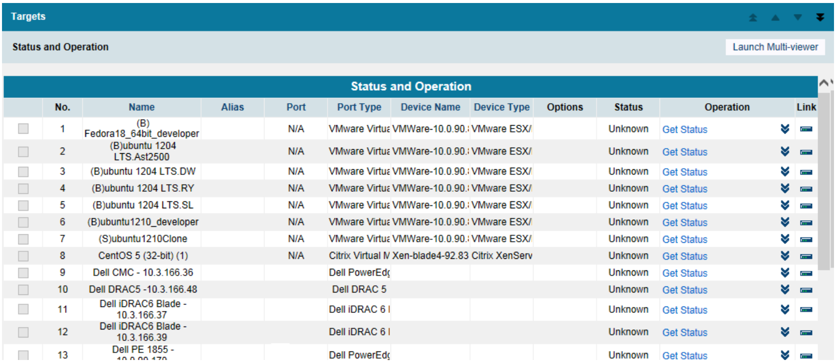
	No.	Name	Alias	Port	Port Type	Device Name	Device Type	Options	Status	Operation	Link
□	1	00_PE5324G			PE5324G				Power On	Get Status	
□	2	1		1	PE5324G	00_PE5324G	PE5324G		Power On		
□	3	1		1	CS1716i	CS1716i	CS1716i		Offline,Lock		
□	4	01_KN4140VA_L2L2			KN4140VA				Offline		
□	5	2		2	PE5324G	00_PE5324G	PE5324G		Power On		
□	6	2		2	CS1716i	CS1716i	CS1716i		Offline,Lock		
□	7	3		3	PE5324G	00_PE5324G	PE5324G		Power On		
□	8	3		3	CS1716i	CS1716i	CS1716i		Offline,Lock		
□	9	3A2		22	PE7324rB	PE7324rB_ENV2	PE7324rB	Wake on LA	ON,Locked		
□	10	3A2		2	PE7324rB	PE7324rB_ENV2	PE7324rB	Wake on LA	ON		
□	11	3A3		23	PE7324rB	PE7324rB_ENV2	PE7324rB	Wake on LA	ON,Locked		
□	12	3A3		3	PE7324rB	PE7324rB_ENV2	PE7324rB	Wake on LA	ON		
□	13	3C		21	PE7324rB	PE7324rB_ENV2	PE7324rB	Wake on LA	ON,Locked		
□	14	4		4	PE5324G	00_PE5324G	PE5324G		Power On		
□	15	4		4	CS1716i	CS1716i	CS1716i		Offline,Lock		
□	16	4		4	PE7324rB	PE7324rB_ENV2	PE7324rB	Wake on LA	ON		
□	17	5		5	PE5324G	00_PE5324G	PE5324G		Power On		
□	18	5		5	CS1716i	CS1716i	CS1716i		Offline,Lock		

Sort by: Name | Filter | Items/page: 25 | Page 1/7 | Go

To only see a particular port, click on it in the Sidebar.

Target View

Target devices include Aggregate Devices, Blade Chassis (and individual blades), and Virtual Machines. The Target page default view has *All* selected at the top of the Sidebar, and the *Status and Operation* page displayed in the Interactive Display panel:



Targets

Status and Operation

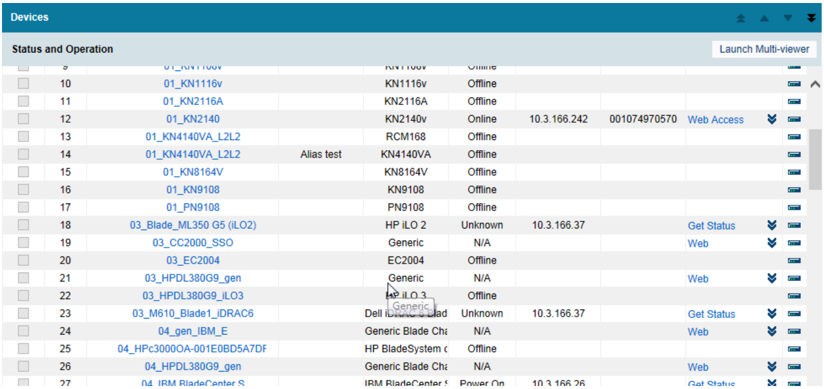
Status and Operation

	No.	Name	Alias	Port	Port Type	Device Name	Device Type	Options	Status	Operation	Link
□	1	(B) Fedora18_64bit_developer		N/A	VMware Virtu	VMWare-10.0.90.	VMware ESX/		Unknown	Get Status	
□	2	(B)ubuntu 1204 LTS.Ast2500		N/A	VMware Virtu	VMWare-10.0.90.	VMware ESX/		Unknown	Get Status	
□	3	(B)ubuntu 1204 LTS.DW		N/A	VMware Virtu	VMWare-10.0.90.	VMware ESX/		Unknown	Get Status	
□	4	(B)ubuntu 1204 LTS.RY		N/A	VMware Virtu	VMWare-10.0.90.	VMware ESX/		Unknown	Get Status	
□	5	(B)ubuntu 1204 LTS.SL		N/A	VMware Virtu	VMWare-10.0.90.	VMware ESX/		Unknown	Get Status	
□	6	(B)ubuntu1210_developer		N/A	VMware Virtu	VMWare-10.0.90.	VMware ESX/		Unknown	Get Status	
□	7	(S)ubuntu1210Clone		N/A	VMware Virtu	VMWare-10.0.90.	VMware ESX/		Unknown	Get Status	
□	8	CentOS 5 (32-bit) (1)		N/A	Citrix Virtual M	Xen-blade4-92.83	Citrix XenServ		Unknown	Get Status	
□	9	Dell CMC - 10.3.166.36			Dell PowerEd				Unknown	Get Status	
□	10	Dell DRAC5 -10.3.166.48			Dell DRAC 5				Unknown	Get Status	
□	11	Dell iDRAC6 Blade - 10.3.166.37			Dell iDRAC 6 I				Unknown	Get Status	
□	12	Dell iDRAC6 Blade - 10.3.166.39			Dell iDRAC 6 I				Unknown	Get Status	
□	13	Dell PE 1855 -			Dell PowerEd				Unknown	Get Status	

To only see the ports for a particular device, click on the device in the Sidebar.

Device View

Device view displays all of the devices that have been deployed under the CC2000 management system:



Devices

Status and Operation

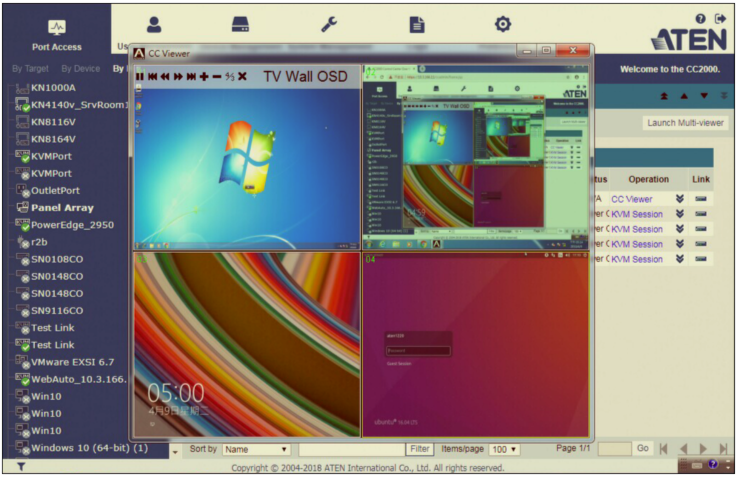
Launch Multi-viewer

□	9	01_KN1108V		KN1108V	Offline					▬
□	10	01_KN1116v		KN1116v	Offline					▬
□	11	01_KN2116A		KN2116A	Offline					▬
□	12	01_KN2140		KN2140v	Online	10.3.166.242	001074970570	Web Access	¥	▬
□	13	01_KN4140VA_L2L2		RCM168	Offline					▬
□	14	01_KN4140VA_L2L2	Alias test	KN4140VA	Offline					▬
□	15	01_KN8164V		KN8164V	Offline					▬
□	16	01_KN9108		KN9108	Offline					▬
□	17	01_PN9108		PN9108	Offline					▬
□	18	03_Blade_ML350 G5 (iLO2)		HP iLO 2	Unknown	10.3.166.37		Get Status	¥	▬
□	19	03_CC2000_SSO		Generic	N/A			Web	¥	▬
□	20	03_EC2004		EC2004	Offline					▬
□	21	03_HPDL380G9_gen		Generic	N/A			Web	¥	▬
□	22	03_HPDL380G9_iLO3		HP iLO 3	Offline					▬
□	23	03_M610_Blade1_iDRAC6		Dell iDRAC 6 Blad	Unknown	10.3.166.37		Get Status	¥	▬
□	24	04_gen_IBM_E		Generic Blade Cha	N/A			Web	¥	▬
□	25	04_HPc3000OA-001E0BD5A7DF		HP BladeSystem c	Offline					▬
□	26	04_HPDL380G9_gen		Generic Blade Cha	N/A			Web	¥	▬
□	27	04_IBM BladeCenter S		IBM BladeCenter S	Power On	10.3.166.26		Get Status	¥	▬

To only see the ports for a particular device, click on the device in the Sidebar.

Panel Array Mode

After you create a group device, you can launch panel array mode of the device by clicking the *CC Viewer* button (Operation column) and click the Panel Array icon in the control panel.

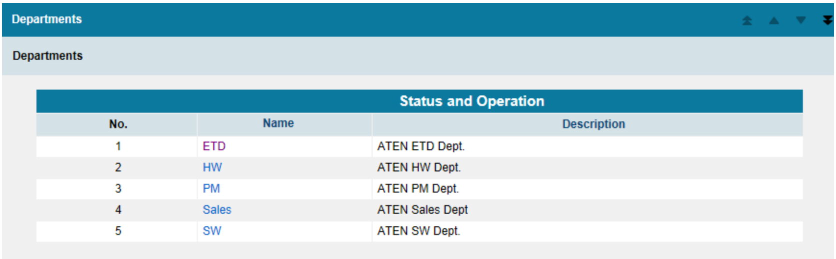


A video reference is available in the link below:

https://www.youtube.com/watch?v=tbaQWK1vh60

Department View

Department view displays all of the departments that have been created under the CC2000 management system, and the ports that have been assigned to each:



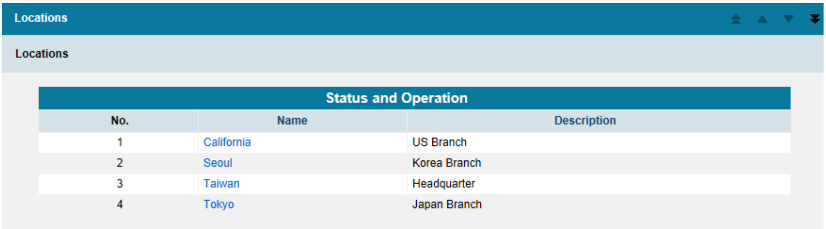
Status and Operation

No.	Name	Description
1	ETD	ATEN ETD Dept.
2	HW	ATEN HW Dept.
3	PM	ATEN PM Dept.
4	Sales	ATEN Sales Dept
5	SW	ATEN SW Dept.

To only see the ports belonging to a particular department, click on the department in the Sidebar.

Location View

Location View displays all of the locations that have been created under the CC2000 management system, and the ports that have been assigned to each:



Locations

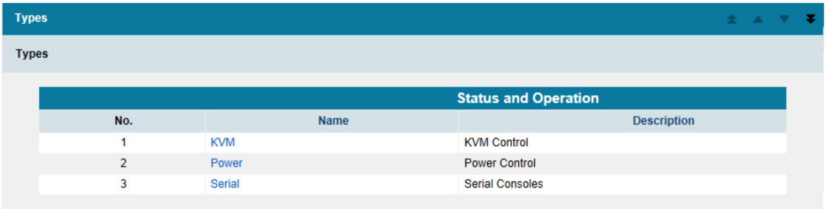
Locations

Status and Operation		
No.	Name	Description
1	California	US Branch
2	Seoul	Korea Branch
3	Taiwan	Headquarter
4	Tokyo	Japan Branch

To only see the ports belonging to a particular location, click on the location in the Sidebar.

Type View

Type View displays all of the device types that have been created under the CC2000 management system, and the ports that have been assigned to each:



Types

Types

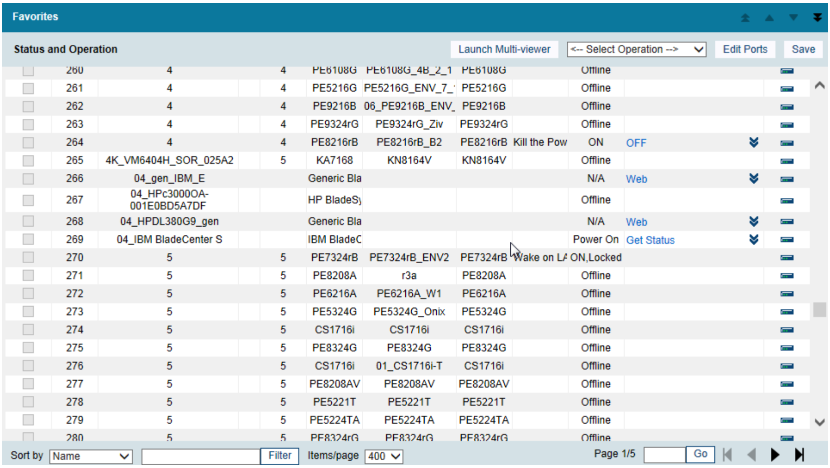
Status and Operation		
No.	Name	Description
1	KVM	KVM Control
2	Power	Power Control
3	Serial	Serial Consoles

To only see the ports belonging to a particular device type, click on the type in the Sidebar.

Favorites View

The *Favorites* page is similar to a bookmarks feature. Devices and ports that you frequently access can be saved under favorite names of your choosing here. Simply open this page and select the name – rather than hunting for devices and ports in the Sidebar. This feature is especially handy on large, crowded installations.

When you select Favorites on the menu bar, the default page comes up, listing all of the devices and ports that have been deployed under the CC2000 management system:



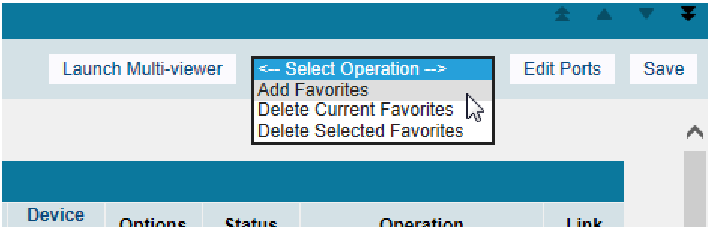
☐	260	4	4	PE6108G	PE6108G_4B_2_1	PE6108G		Offline		
☐	261	4	4	PE5216G	PE5216G_ENV_7_	PE5216G		Offline		
☐	262	4	4	PE9216B	06_PE9216B_ENV_	PE9216B		Offline		
☐	263	4	4	PE9324rG	PE9324rG_Ziv	PE9324rG		Offline		
☐	264	4	4	PE8216rB	PE8216rB_B2	PE8216rB	Kill the Pow	ON	OFF	»
☐	265	4K_VM6404H_SOR_025A2	5	KA7168	KN8164V	KN8164V		Offline		
☐	266	04_gen_IBM_E		Generic Bla				N/A	Web	»
☐	267	04_HPc3000OA-001E0BD5A7DF		HP BladeSy				Offline		
☐	268	04_HPDL380G9_gen		Generic Bla				N/A	Web	»
☐	269	04_IBM BladeCenter S		IBM BladeC				Power On	Get Status	»
☐	270	5	5	PE7324rB	PE7324rB_ENV2	PE7324rB	Wake on LA	ON,Locked		
☐	271	5	5	PE8208A	r3a	PE8208A		Offline		
☐	272	5	5	PE6216A	PE6216A_W1	PE6216A		Offline		
☐	273	5	5	PE5324G	PE5324G_Onix	PE5324G		Offline		
☐	274	5	5	CS1716i	CS1716i	CS1716i		Offline		
☐	275	5	5	PE8324G	PE8324G	PE8324G		Offline		
☐	276	5	5	CS1716i	01_CS1716i-T	CS1716i		Offline		
☐	277	5	5	PE8208AV	PE8208AV	PE8208AV		Offline		
☐	278	5	5	PE5221T	PE5221T	PE5221T		Offline		
☐	279	5	5	PE5224TA	PE5224TA	PE5224TA		Offline		
☐	280	5	5	PE8324rG	PE8324rG	PE8324rG		Offline		

Note: *Filter* and *Launch Multiviewer* work the way they do on the other View pages.

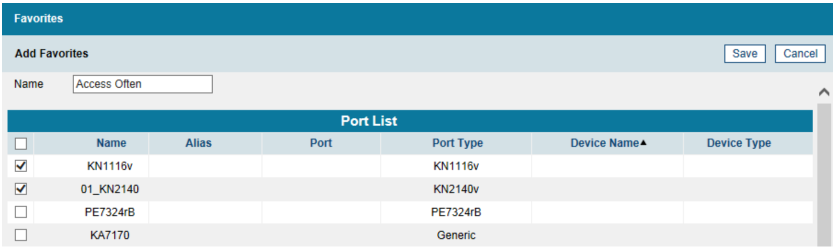
Adding a Favorite

To create a Favorite and populate it with ports, do the following:

1. Drop down the *Select Operation* list and choose **Add Favorites**.



2. In the page that comes up, give the Favorite a name, click the checkboxes of the ports you want to include, then click **Save**.



Favorites

Add Favorites

Name: Access Often

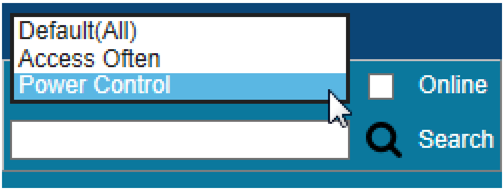
Port List

□	Name	Alias	Port	Port Type	Device Name▲	Device Type
☑	KN1116v			KN1116v		
☑	01_KN2140			KN2140v		
□	PE7324rB			PE7324rB		
□	KA7170			Generic		

When the operation completes, your Favorite displays in the main panel, and it is also listed in the Sidebar.

Viewing a Favorite

There is a filter panel at the bottom of the sidebar that lets you control the items that display on this page:



Use of the filter is described in the table, below:

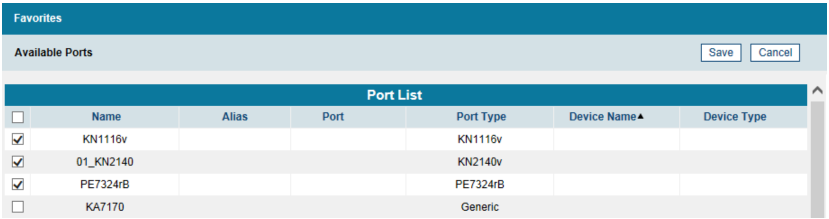
Choices	Explanation
Default	This is the default view. With no other filter options selected, all of the ports that are accessible to the user are listed in the Sidebar and display in the main panel. If any *Favorites* have been created, you can drop down the list box and select the one you want to view. When you select a Favorites, only the items that you have chosen for it display in the Sidebar and main panel.
Online	If you enable *Online* (by putting a check in the checkbox) only the ports whose attached devices are online appear in the Sidebar and the main panel.
Search	If you key in a search string and click **Search**, only port names that match the search string display in the Sidebar and main panel. Partial entries are acceptable, so that key in **Web**, any ports that contain the string *Web* anywhere in their name, show up in the Sidebar and main panel.

Managing Favorites

To add or remove ports from a Favorite. do the following:

1. Select the Favorite in the filter list.
2. Click **Edit Ports** (at the top-right of the panel).

   A page comes up showing all of the ports available to the user, with the ports that are currently included in the Favorite having a check in their checkboxes:

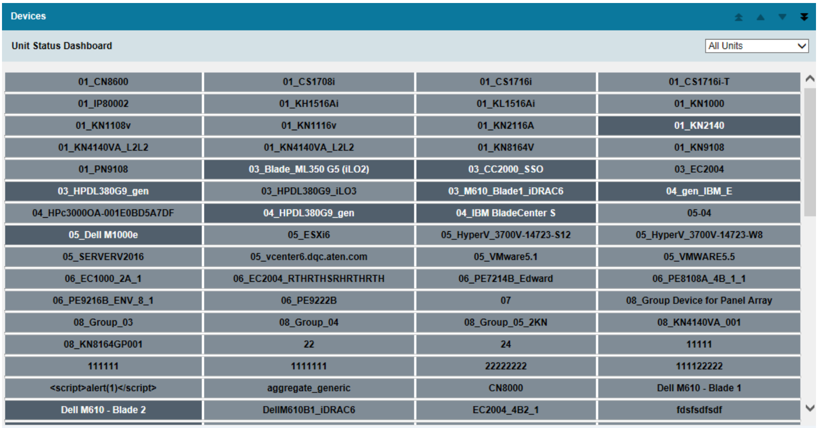


□	Name	Alias	Port	Port Type	Device Name▲	Device Type
☑	KN1116v			KN1116v		
☑	01_KN2140			KN2140v		
☑	PE7324rB			PE7324rB		
□	KA7170			Generic		

3. Check any ports you want to include in the Favorite; uncheck any ports you want to remove from the Favorite.
4. click **Save**.

Dashboard

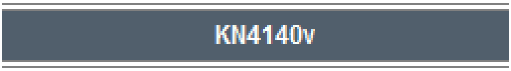
The *Dashboard* page provides a quick view of all devices by category. The Dashboard lets you see the status of each device by color and gives a link to its *Port Status and Operations* page.



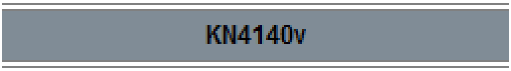
01_CN8600	01_CS1708i	01_CS1716i	01_CS1716i-T
01_IP80002	01_KH1516Ai	01_KL1516Ai	01_KN1000
01_KN1108v	01_KN1116v	01_KN2116A	01_KN2140
01_KN4140VA_L2L2	01_KN4140VA_L2L2	01_KN8164V	01_KN9108
01_PN9108	03_Blade_ML350 G5 (iLO2)	03_CC2000_SSO	03_EC2004
03_HPDL380G9_gen	03_HPDL380G9_iLO3	03_M610_Blade1_iDRAC6	04_gen_IBM_E
04_HPc3000OA-001E0BD5A7DF	04_HPDL380G9_gen	04_IBM BladeCenter S	05-04
05_Dell M1000e	05_ESXi6	05_HyperV_3700V-14723-S12	05_HyperV_3700V-14723-W8
05_SERVERV2016	05_vcenter6.dqc.aten.com	05_VMware5.1	05_VMWARE5.5
06_EC1000_2A_1	06_EC2004_RTHRTHSRHRTHRTH	06_PE7214B_Edward	06_PE8108A_4B_1_1
06_PE9216B_ENV_8_1	06_PE9222B	07	08_Group Device for Panel Array
08_Group_03	08_Group_04	08_Group_05_2KN	08_KN4140VA_001
08_KN8164GP001	22	24	11111
111111	1111111	22222222	111122222
<script>alert(1)</script>	aggregate_generic	CN8000	Dell M610 - Blade 1
Dell M610 - Blade 2	DellM610B1_iDRAC6	EC2004_4B2_1	fdsfsdfsdf

Use the drop down menu at the top right corner of the page to select devices by category. When you select a category, the devices in that category will appear highlighted by the color used in the drop down menu for that type. Devices with a white background are not in the category selected.

Online devices appear with white text and a dark background:



Offline devices appear with black text and a light background:



Unmonitored devices that do not have a protocol to support an on/off status, such as a URL, will always appear **Online**.

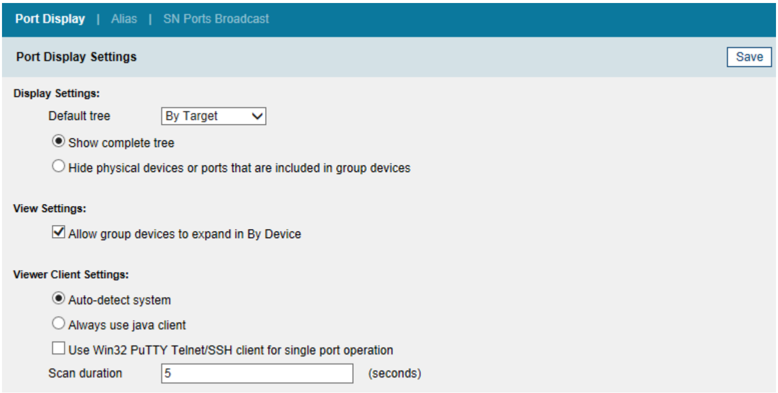
Double Click any device to bring up its *Port Status and Operations* page.

User Preferences

The last item on the Menu Bar, *User Preferences*, is different from the other Menu Bar items in that it doesn't provide an organizational view of the devices and ports. It has two Panel Menu items: *Port Display*, and *Alias*. Port Display lets you configure how the device tree appears in the Sidebar; Alias lets you give nicknames to your devices and ports.

Port Display

The Port Display page is the default that opens when you select *User Preferences*.



Port Display Settings

Display Settings:

Default tree: By Target

● Show complete tree

○ Hide physical devices or ports that are included in group devices

View Settings:

☑ Allow group devices to expand in By Device

Viewer Client Settings:

● Auto-detect system

○ Always use java client

□ Use Win32 PuTTY Telnet/SSH client for single port operation

Scan duration: 5 (seconds)

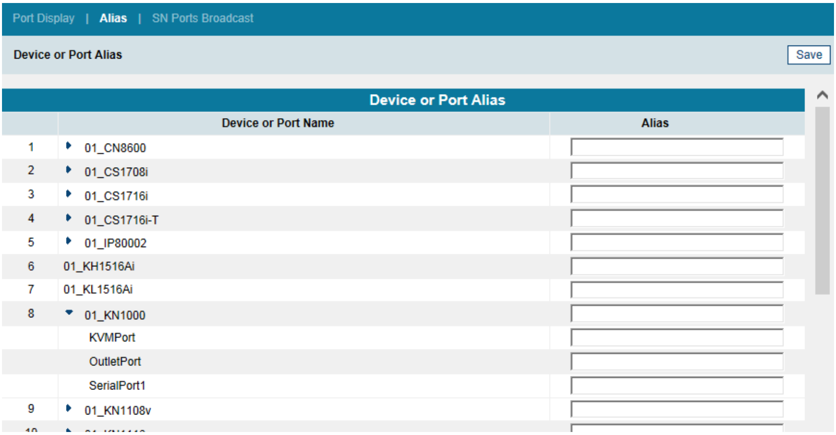
An explanation of the display settings is given in the following table:

Item	Explanation
Display Settings	◆ Drop down the list to select which view you want the page to open to when you click the Port Access tab. ◆ If you choose **Show complete tree**, all the nested devices and ports will display when you click to expand the tree. ◆ If you choose **Hide physical devices or ports that are included in group devices**, physical ports that are included in group devices will not display under their originating devices when you click to expand the tree.
View Settings	If you select **Allow group devices to expand in By Device**, ports nested under aggregate or group devices also appear in the tree view. Otherwise, there is no plus sign in front of the group device, and its ports cannot be displayed.

Item	Explanation
Viewer Client Settings	◆ If you choose **Auto-detect system**, the CC2000 will check to see if you logged in with IE or with another browser. If you logged in with IE, it will open the Windows Client Viewer when you access a device or port. If you logged in with a browser other than IE, it will open the Java Client Viewer. ◆ If you choose **Always use java Client**, the CC2000 will open the Java Client Viewer no matter which browser you logged in with. ◆ Checking **Use Win32 PuTTY Telnet/SSH client for single port operation** will open the PuTTY Telnet/SSH client software when connecting to a serial device via CC2000. ◆ **Scan Duration** sets the interval time for scanning ports when viewing ports in array mode.

Alias

Selecting *Alias* on the Panel Menu, brings up a page that allows you to give your devices, ports, and outlets a nickname to make it more convenient to remember which items you are managing:



Device or Port Alias

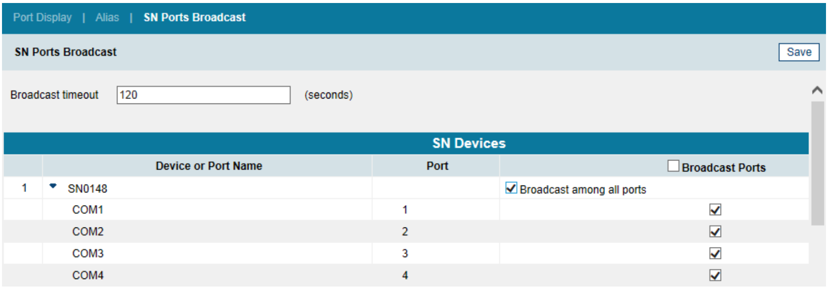
	Device or Port Name	Alias
1	▸ 01_CN8600	
2	▸ 01_CS1708i	
3	▸ 01_CS1716i	
4	▸ 01_CS1716i-T	
5	▸ 01_IP80002	
6	01_KH1516Ai	
7	01_KL1516Ai	
8	▾ 01_KN1000	
	KVMPort	
	OutletPort	
	SerialPort1	
9	▸ 01_KN1108v	

- The default view only shows devices. To give an alias to a port or outlet, click the arrowhead in front of the device's name to show them.
- Key the alias into the *Alias* field that corresponds to the device, port, or outlet. When you return to an organizational view page, the alias appears in the Sidebar instead of the device or port name.

Note: The alias only appears for the particular user that creates it. Other users see the original name (or an alias that they have created).

SN Ports Broadcast

Selecting *SN Ports Broadcast* on the Panel Menu, brings up a page that allows you to select ports on a serial device to receive broadcast commands, by selecting the boxes. Selecting multiple Broadcast Ports allows you to access and make changes on a single serial port and the same change will be made across all Broadcast Ports.



SN Ports Broadcast

Broadcast timeout 120 (seconds)

SN Devices

	Device or Port Name	Port	□ Broadcast Ports
1	SN0148		☑ Broadcast among all ports
	COM1	1	☑
	COM2	2	☑
	COM3	3	☑
	COM4	4	☑

For broadcasting to work, you must access a Broadcast Port using the SNViewer and turn Broadcast on from the Control Panel. See the SN0148 user manual, *Control Panel Functions*, *page 38* for details.

Broadcast timeout: If there is no user input for the amount of time set here, the Broadcast function (to other ports) is automatically ended. Key in a value from 0–240 seconds. A setting of 0 (zero) has the same effect as disabling the function.

Selecting **Broadcast Ports** will put a check in all serial ports and broadcast changes as such.

Selecting **Broadcast among all ports** will put a check in all serial ports for a particular serial device. You can also expand the serial device to select individual ports for broadcasting.

Note: The CC2000 will only list serial devices which are connected to a switch that supports broadcast ports.

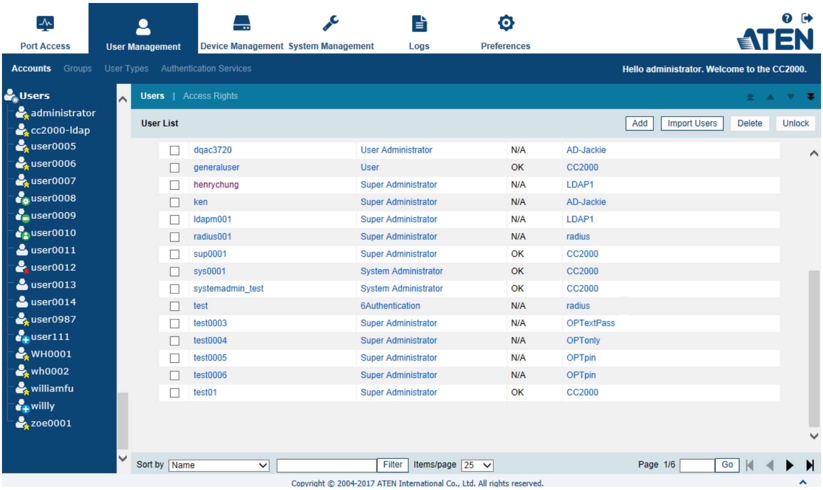
Chapter 5
User Management

Overview

The *User Management* page is used to perform the following functions:

- Add, import, modify and delete user accounts
- Create user groups and assign users to them
- Specify device access rights for users and groups based on system default or custom defined user types
- Specify whether the user's authentication will be performed via the CC2000 (internal) or via an external authentication server

When you click the User Management tab, the CC2000 opens to the default *Accounts* page, which looks similar to the screen, below:



Hello administrator. Welcome to the CC2000.

User List

□	dqac3720	User Administrator	N/A	AD-Jackie
□	generaluser	User	OK	CC2000
□	henrychung	Super Administrator	N/A	LDAP1
□	ken	Super Administrator	N/A	AD-Jackie
□	ldapm001	Super Administrator	N/A	LDAP1
□	radius001	Super Administrator	N/A	radius
□	sup0001	Super Administrator	OK	CC2000
□	sys0001	System Administrator	OK	CC2000
□	systemadmin_test	System Administrator	OK	CC2000
□	test	6Authentication	N/A	radius
□	test0003	Super Administrator	N/A	OPTextPass
□	test0004	Super Administrator	N/A	OPTonly
□	test0005	Super Administrator	N/A	OPTpin
□	test0006	Super Administrator	N/A	OPTpin
□	test01	Super Administrator	OK	CC2000

Page 1/6

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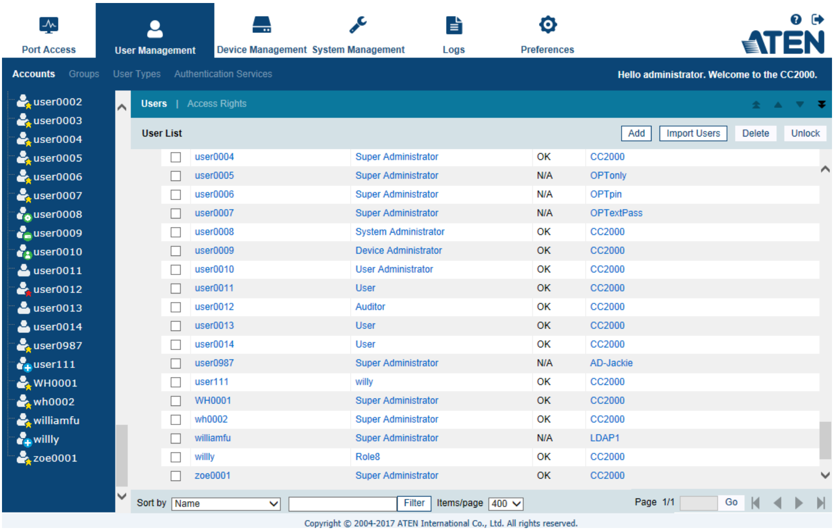
All users and groups, are listed in the Sidebar and in a table in the Interactive Display Panel. To access any user or group, simply click on the name in either location.

Note: The User Management page is for System Administrators and User Administrators. Other user types can omit this chapter.

Accounts

The Accounts page is used to add, modify and delete user accounts. The default Accounts page looks similar to the one below:



Hello administrator. Welcome to the CC2000.

user0002
user0003
user0004
user0005
user0006
user0007
user0008
user0009
user0010
user0011
user0012
user0013
user0014
user0987
user111
WH0001
wh0002
williamfu
willly
zoe0001

User List

□	user0004	Super Administrator	OK	CC2000
□	user0005	Super Administrator	N/A	OPTonly
□	user0006	Super Administrator	N/A	OPTpin
□	user0007	Super Administrator	N/A	OPTextPass
□	user0008	System Administrator	OK	CC2000
□	user0009	Device Administrator	OK	CC2000
□	user0010	User Administrator	OK	CC2000
□	user0011	User	OK	CC2000
□	user0012	Auditor	OK	CC2000
□	user0013	User	OK	CC2000
□	user0014	User	OK	CC2000
□	user0987	Super Administrator	N/A	AD-Jackie
□	user111	willy	OK	CC2000
□	WH0001	Super Administrator	OK	CC2000
□	wh0002	Super Administrator	OK	CC2000
□	williamfu	Super Administrator	N/A	LDAP1
□	willly	Role8	OK	CC2000
□	zoe0001	Super Administrator	OK	CC2000

Sort by: Name | Items/page: 400

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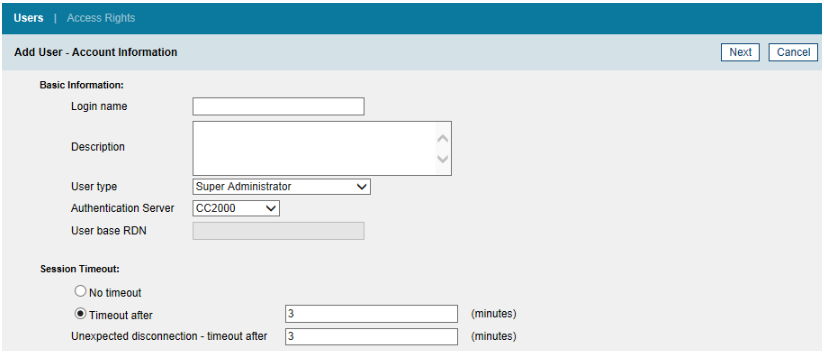
Adding User Accounts

To add a user, do the following:

1. Select **Users** in the Sidebar.
2. Click **Add** at the top-right of the main panel. The *Add User - Account Information* page appears:



Add User - Account Information

Basic Information:

Login name:
Description:
User type: Super Administrator
Authentication Server: CC2000
User base RDN:

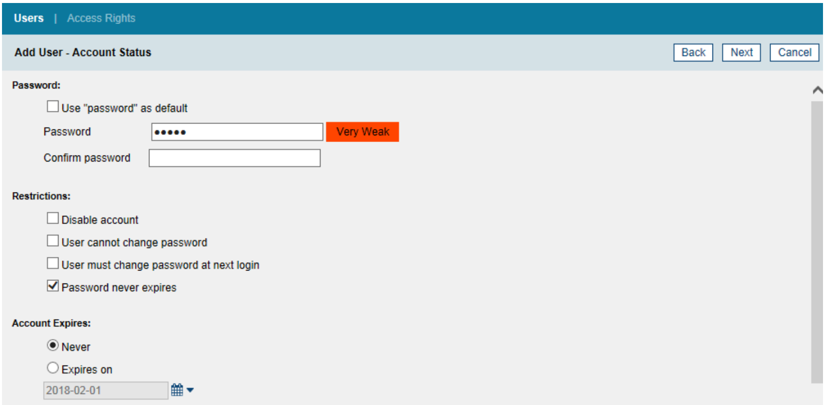
Session Timeout:

○ No timeout
● Timeout after 3 (minutes)
Unexpected disconnection - timeout after 3 (minutes)

3. Enter the required information in the appropriate fields. A description of each of the fields is given in the table below:

Field	Description
Login name	**Internal (CC2000) Accounts:** A maximum of the equivalent of 16 English alphanumeric characters is allowed. The minimum number of characters is based on the CC2000's account policy settings (see *CC2000 Authentication*, page 76). **External Authentication:** The Login name should be one that exists on the external authentication server. **Note:** These external servers provide authentication services only – they do not provide authorization services. Authorization is provided through the CC2000 management system, therefore the access rights need to be set in the CC2000.
Description	Additional information about the user that you may wish to include. A maximum of 256 Bytes is allowed.
User type	Drop down the list to select the User Type you want to assign the new user to. See p. 70 for information about User Types.
Authentication server	For authentication by the CC2000, leave the selection as is. For authentication by an external authentication service, drop down the list to select the one you wish to use. **Note:** Before you can make this selection, an external authentication server must first be added. See *External Authentication Servers*, page 78, for details.
User base RDN	If the authentication server is an LDAP server, the user's base RDN setting must be in this field.
Session Timeout	If you don't want to have a session time out after the user has been idle for a specified amount of time, select the *No timeout* radio button. If you do want to have a session time out after the user has been idle for a specified amount of time, select the *Timeout after* radio button. Valid settings are from 1–99 mins. The default is 3 mins. **Note:** This setting pertains to Web log in sessions.
Unexpected disconnection timeout	If the user unexpectedly disconnects (i.e. closes the browser), the CC2000 times out the user's session after the amount of time specified here. The timeout interval is from 3–10 minutes; default is 3 minutes.

4. Click **Next** at the top-right of the main panel. If CC2000 was chosen for authentication, The *Add User - Account Status* page appears:



Add User - Account Status

Password:

☐ Use "password" as default

Password ●●●●● Very Weak

Confirm password

Restrictions:

☐ Disable account

☐ User cannot change password

☐ User must change password at next login

☑ Password never expires

Account Expires:

● Never

○ Expires on

2018-02-01

Note: If an external authentication server was chose for authentication, the account status information is maintained on that server, so this page doesn't appear. Instead, you go directly to the *Add User - Personal Information* page (see step 5).

A description of each of the fields is given in the table below:

Field	Description
Password	◆ Enabling *Use "password" as default* sets **password** as the user's password. ◆ If you do not enable *Use "password" as default*, enter the user's password in the *Password* field. A maximum of the equivalent of 16 English alphanumeric characters is allowed. The minimum number of characters is based on the CC2000's account policy settings (see *CC2000 Authentication*, page 76). ◆ To be sure there is no mistake in the password, enter it again in the *Confirm Password* field. The two entries must match.

Field	Description
Restrictions	◆ *Disable account* temporarily cancels a user's account without deleting it – so that the account can easily be reinstated at a future time. ◆ If *User cannot change password* is enabled, the user can't change his own password. Otherwise, the user can use the *Preferences* tab to change his own password. See *Password*, page 33 for details. ◆ If *User must change password at next login* is enabled, the user must change his password the next time he logs in. ◆ Enabling *Password never expires*, prevents the user's password from expiring after a given period of time. This overrides the system-wide configuration set on the CC2000's account policy settings (see *CC2000 Authentication*, page 76). **Note:** Enabling some restrictions automatically disables others.
Account Expires	◆ Clicking the *Never* radio button sets it so that the account never expires. ◆ To have the account expire on a certain date, click the *Expires on* radio button; then click the calendar icon to select the expiration date.

5. Click **Next** at the right of the panel. The *Add User - Personal Information* page appears.

   The fields on this page are optional. You can leave them blank, or fill in as much as you like.

6. When you have finished with the *Add User - Personal Information* page, click **Save** at the top-right of the main panel to bring up the *Add Access Rights* page.

   This page lets you set the user's access rights to the devices and ports that exist on the installation. See *Access Rights*, page 61 for information on the configuration settings.

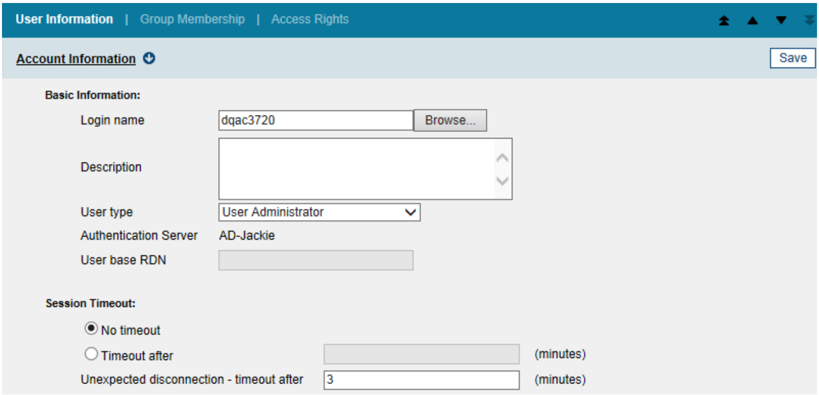
7. When you have finished setting the user's access rights, click **Save** at the top-right of the main panel to add the user to the *Users* list, and bring up the *Access Rights Summary* page. See *Access Rights*, page 61, for details about adding access rights.

Note: To add additional users, you must start by clicking **Users** in the Sidebar.

Managing User Accounts

To manage a user account do the following:

1. Select **Users** in the Sidebar.
2. Either click the user's name in the Sidebar, or click the user's name in the main panel. The user's Account Information page appears:



Login name: dqac3720

Description:

User type: User Administrator

Authentication Server: AD-Jackie

User base RDN:

● No timeout

○ Timeout after (minutes)

Unexpected disconnection - timeout after 3 (minutes)

This page is similar to the adding a user account page, except there are three Panel Menu items at the top: User Information, Group Membership, and Access Rights.

User Information

This Panel Menu item contains all three pages (Account Information, Account Status, and Personal Information), that were in the Adding a User Account procedure (see page 56). They are used to modify a user's account – such as changing the user's password. To modify the information on these pages, you can either move through them sequentially, by clicking the arrow icons, or you can go directly to a page by hovering over the menu and selecting the page from the popup menu that appears.

Group Membership

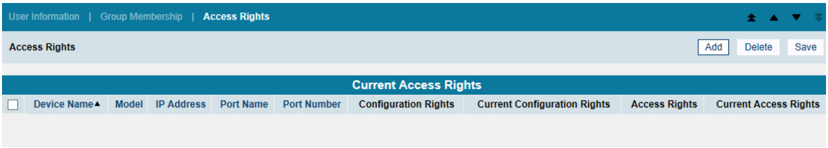
Clicking this Panel Menu item brings up a page that shows a list of all the groups a user belongs to. You can click on the group name in the list to go to the group's *Group Information* page. See *Groups*, page 67 for details about this page.

Access Rights

To configure a user’s access rights to devices, ports, and outlets, do the following:

1. Select **Accounts** on the Menu Bar.
2. Select the User in the Sidebar.
3. Select **Access Rights** on the Panel Menu Bar in the Interactive Display Panel to bring up the user’s *Access Rights* page.

If no devices have been assigned to the user, the page that comes up looks like the one shown below:



□	Device Name▲	Model	IP Address	Port Name	Port Number	Configuration Rights	Current Configuration Rights	Access Rights	Current Access Rights

---

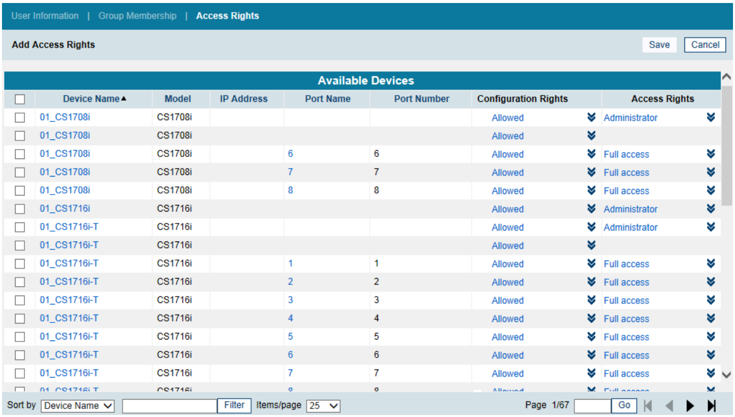
Note: Access rights do not have to be individually assigned in all cases. See *Copy / Paste Access Rights*, page 63, for details.

■ Adding Device Access

To add devices that the user can access, do the following:

1. Click **Add** at the top right of the panel.

   A screen with a list of all the devices on the installation, appears:



□	Device Name▲	Model	IP Address	Port Name	Port Number	Configuration Rights	Access Rights
□	01_CS1708i	CS1708i				Allowed	Administrator
□	01_CS1708i	CS1708i				Allowed	
□	01_CS1708i	CS1708i		6	6	Allowed	Full access
□	01_CS1708i	CS1708i		7	7	Allowed	Full access
□	01_CS1708i	CS1708i		8	8	Allowed	Full access
□	01_CS1716i	CS1716i				Allowed	Administrator
□	01_CS1716i-T	CS1716i				Allowed	Administrator
□	01_CS1716i-T	CS1716i				Allowed	
□	01_CS1716i-T	CS1716i		1	1	Allowed	Full access
□	01_CS1716i-T	CS1716i		2	2	Allowed	Full access
□	01_CS1716i-T	CS1716i		3	3	Allowed	Full access
□	01_CS1716i-T	CS1716i		4	4	Allowed	Full access
□	01_CS1716i-T	CS1716i		5	5	Allowed	Full access
□	01_CS1716i-T	CS1716i		6	6	Allowed	Full access
□	01_CS1716i-T	CS1716i		7	7	Allowed	Full access
□	01_CS1716i-T	CS1716i		8	8	Allowed	Full access

Sort by Device Name Items/page 25 Page 1/67

2. Check the devices, ports, and outlets that you want the user to be able to access.

3. For each selected device, port, and outlet, click on the arrow in the *Configuration Rights* column to set the user's configuration rights for that item. **Allowed** means the user can configure the device or port settings; **Denied** means that the user cannot configure the device or port settings.

4. For each selected device, port, and outlet, click on the arrow in the *Access Rights* column to set the user's access rights for that item. An explanation of the access rights is given in the table, below:

Rights	Port Type	Explanation
Full access and VM (Read / Write)	KVM	The user can access the device (or specified ports on the device), view the screen and can perform I/O operations on it with the keyboard and mouse. The user also has read/write rights to use the virtual media function.
Full access and VM (Read Only)		The user can access the device (or specified ports on the device), view the screen and can perform I/O operations on it with the keyboard and mouse. The user also has read only rights for the virtual media function.
Full access		The user can access the device (or specified ports on the device), view the screen and can perform I/O operations on it with the keyboard and mouse.
View only		The user can access the device (or specified ports on the device), and view the screen, but cannot perform any operations on it.
No access		The user has no access to the device (or specified ports on the device). The device (or the specified ports) will not show up in the *Port Access* Sidebar or List.
Allowed		The user is allowed to configure the power status of the device (or specified ports on the device).
Denied		The user is not allowed to configure the power status of the device (or specified ports on the device). The device (or the specified ports) will not show up in the *Port Access* Sidebar or List.
Telnet	Serial	The device (or specified ports on the device) must be accessed over a Telnet connection.
SSH		The device (or specified ports on the device) must be accessed over an SSH connection.
Administrator	ATEN Generic; Web SSO	The administrator can perform all configurations and operations.

Rights	Port Type	Explanation
User	ATEN Generic; Web Access	The user can perform all operations.
View only		The user can view the screen, but cannot perform any operations.
No access		The user has no access. The Web Access option does not appear as an Operation choice on the Port Access page.

5. When you have finished making your selections, click **Save**.

6. To add access for additional devices, bring up the user's Access Rights page and repeat the procedures described above.

■ Modifying Device Access

To change the access rights to a device, port, or outlet, bring up the user's Access Rights page; make the configuration rights and access rights changes to the desired items; then click **Save**.

■ Removing Device Access

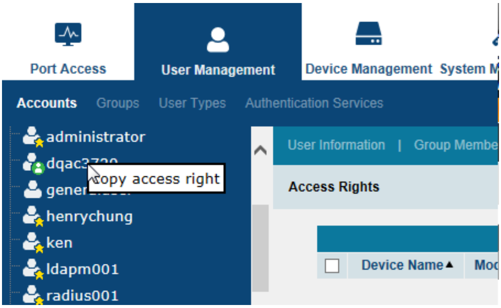
To remove access to a device, port, or outlet, bring up the user's Access Rights page; click to place a check in the box in front of the device you want to remove; then click **Delete**.

■ Managing Devices

You can bring up the Management page of any device, port, or outlet, by clicking on it in the *Device Name* or *Port Name* list.

Copy / Paste Access Rights

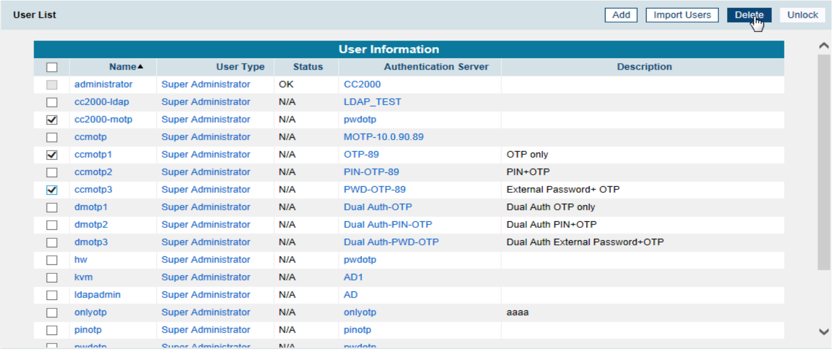
The access rights copy-paste function is enabled between compatible nodes (i.e. user to user). To use this function, in the sidebar tree, right-click on a user's name and select *copy access right*. Right-click on another user and select *paste access right*.



Deleting User Accounts

To delete a user account do the following:

1. Select **Users** in the Sidebar.
2. In the Interactive Display panel, click to put a check in front of the user whose account you wish to delete.



User Information

□	Name▲	User Type	Status	Authentication Server	Description
□	administrator	Super Administrator	OK	CC2000	
□	cc2000-ldap	Super Administrator	N/A	LDAP_TEST	
☑	cc2000-motp	Super Administrator	N/A	pwdotp	
□	ccmotp	Super Administrator	N/A	MOTP-10.0.90.89	
☑	ccmotp1	Super Administrator	N/A	OTP-89	OTP only
□	ccmotp2	Super Administrator	N/A	PIN-OTP-89	PIN+OTP
☑	ccmotp3	Super Administrator	N/A	PWD-OTP-89	External Password+ OTP
□	dmotp1	Super Administrator	N/A	Dual Auth-OTP	Dual Auth OTP only
□	dmotp2	Super Administrator	N/A	Dual Auth-PIN-OTP	Dual Auth PIN+OTP
□	dmotp3	Super Administrator	N/A	Dual Auth-PWD-OTP	Dual Auth External Password+OTP
□	hw	Super Administrator	N/A	pwdotp	
□	kvm	Super Administrator	N/A	AD1	
□	ldapadmin	Super Administrator	N/A	AD	
□	onlyotp	Super Administrator	N/A	onlyotp	aaaa
□	pinotp	Super Administrator	N/A	pinotp	
□	pwdotp	Super Administrator	N/A	pwdotp	

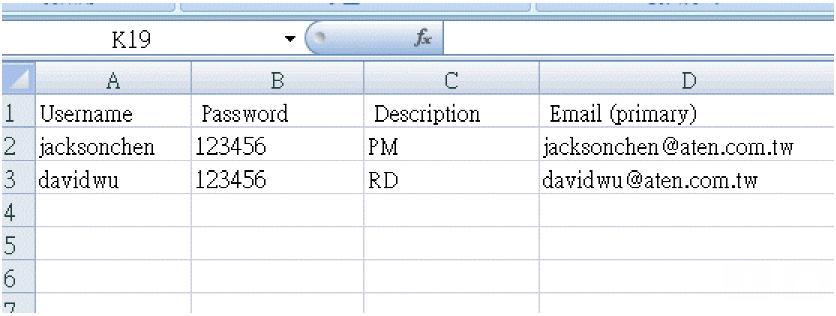
Note: You can delete more than one user by checking as many names as you require. You can delete all deleteable accounts by checking the box at the top of the column.

3. After you have made your selection, click **Delete** at the right of the panel.
4. In the confirmation popup that appears, click **OK**.

Importing User Accounts

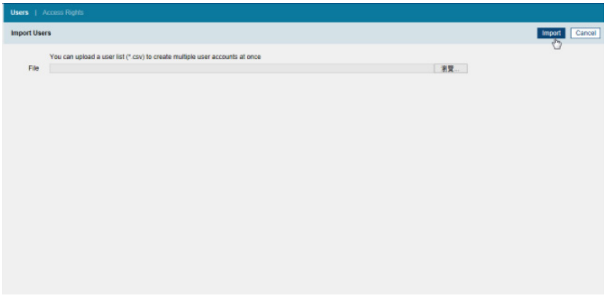
If you have many user accounts to add you can simplify this process by using the *Import Users* feature to open a previously saved users list in *.cvs format. To import a list of users, do the following:

1. Create a spreadsheet with a list of users using the following format to define the data for each user's account:



	A	B	C	D
1	Username	Password	Description	Email (primary)
2	jacksonchen	123456	PM	jacksonchen@aten.com.tw
3	davidwu	123456	RD	davidwu@aten.com.tw
4				
5				
6				
7				

2. Save the spreadsheet as a *.cvs file.
3. Select **Users** in the Sidebar.
4. In the Interactive Display panel, at the upper right corner, click **Import Users**.



You can upload a user list (*.csv) to create multiple user accounts at once

5. Click **Browse** to select the *.cvs file saved in step 2.
6. Click **Import**.

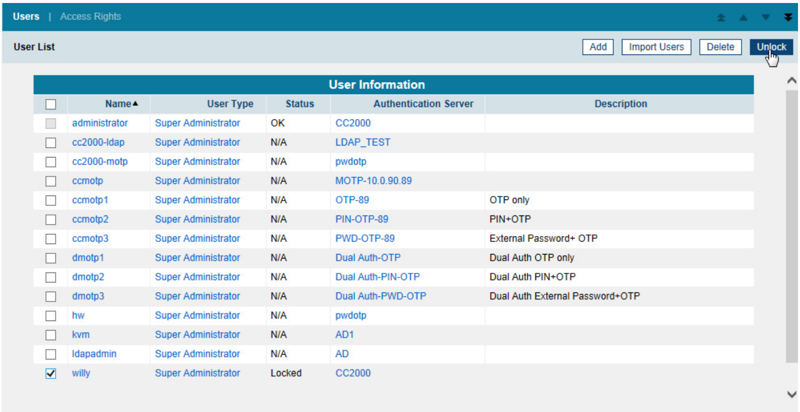
Unlocking User Accounts

If a user has been locked out due to exceeding the number of login attempts, and the *Force manual unlock* option has been enabled (see *Lockout Policy*, page 163), to unlock the user, do the following:

1. Select **Users** in the Sidebar.

   The user account that is locked will show **Locked** in the Status column.

2. In the Interactive Display panel, click to put a check in front of the user whose account you wish to unlock.



User Information

☐	Name▲	User Type	Status	Authentication Server	Description
☐	administrator	Super Administrator	OK	CC2000	
☐	cc2000-ldap	Super Administrator	N/A	LDAP_TEST	
☐	cc2000-motp	Super Administrator	N/A	pwdotp	
☐	ccmotp	Super Administrator	N/A	MOTP-10.0.90.89	
☐	ccmotp1	Super Administrator	N/A	OTP-89	OTP only
☐	ccmotp2	Super Administrator	N/A	PIN-OTP-89	PIN+OTP
☐	ccmotp3	Super Administrator	N/A	PWD-OTP-89	External Password+ OTP
☐	dmotp1	Super Administrator	N/A	Dual Auth-OTP	Dual Auth OTP only
☐	dmotp2	Super Administrator	N/A	Dual Auth-PIN-OTP	Dual Auth PIN+OTP
☐	dmotp3	Super Administrator	N/A	Dual Auth-PWD-OTP	Dual Auth External Password+OTP
☐	hw	Super Administrator	N/A	pwdotp	
☐	kvm	Super Administrator	N/A	AD1	
☐	ldapadmin	Super Administrator	N/A	AD	
☑	willy	Super Administrator	Locked	CC2000	

3. After you have made your selection, click **Unlock** at the right of the panel.

4. In the confirmation popup that appears, click **OK**.

Note: 1. You can unlock more than one user by checking as many names as you require. You can unlock all locked accounts by checking the box at the top of the column.

2. If all users – including the System Administrator – get locked out, the System Administrator can use the CC2000 Utility to restore his account and then unlock the locked out users. See *Restore*, page 265.

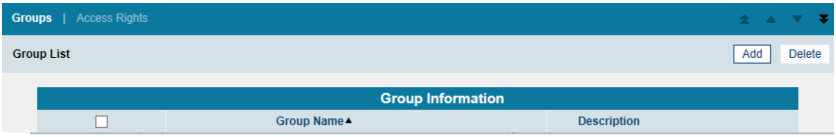
Groups

Groups allow administrators to easily and efficiently manage users and devices. Since device access rights apply to anyone who is a member of the group, administrators need only set them once for the group, instead of having to set them for each user individually. Multiple groups can be defined to allow some users access to specific devices while restricting other users from accessing them.

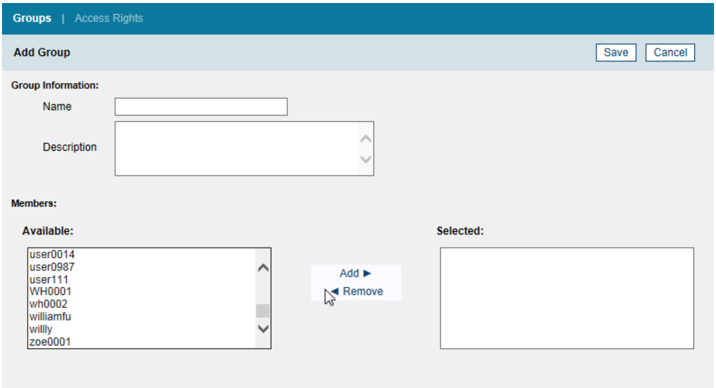
Creating Groups

To add a group, do the following:

1. Select **Groups** from the User Management menu bar. The *Group List* page appears:



2. Click **Add** at the top-right of the main panel. The *Group Information* page appears:



3. Key in a Name and a Description (optional) for the group.

Note: 1. The Name can be the equivalent of from 2–32 English alphanumeric characters, but cannot contain the following: / \ [ ] : ; | = , + * ? < > @ " '

2. The Description can be up to 256 Bytes

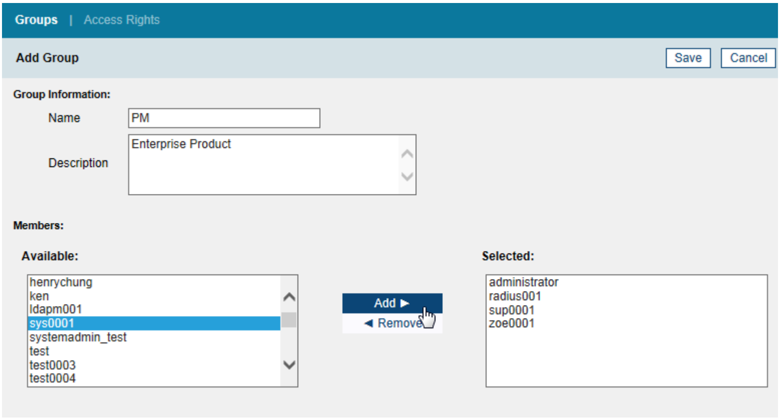
3. Click **Save** to create the group. The group now appears in the Sidebar and the Group Information list in the Interactive Display Panel.

Note: You can add users to the group before performing this step. See the next section for details on adding users to groups.

Adding Users to Groups

To add a user to a group, do the following:

1. Select **Groups** from the User Management menu bar.
2. Either in the Sidebar or the Interactive Display panel, click the group's name. The *Group Information* page appears.



Group Information:

Name: PM

Description: Enterprise Product

Members:

Available:
henrychung
ken
ldapm001
sys0001
systemadmin_test
test
test0003
test0004

Selected:
administrator
radius001
sup0001
zoe0001

3. Select the user you wish to add to the group from the *Available* list, then click **Add** to move the user from the *Available* list to the *Selected* list.
4. Repeat step 3 for any other users you wish to add to the group.

Note: A shortcut for adding multiple users is to select the ones you want in the Available column using Ctrl+Click or Shift+Click before clicking Add to move all the selected ones at once.

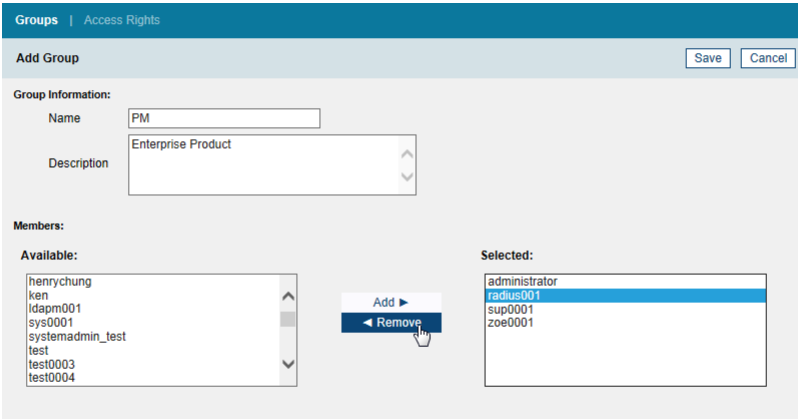
5. When you have finished adding users, click **Save** to complete the procedure.

Note: If a user has permissions in addition to the ones assigned to the group, the user keeps those permissions in addition to the group ones.

Removing Users from Groups

To remove a user from a group, do the following:

1. Select **Groups** from the User Management menu bar.
2. Either in the Sidebar or the Interactive Display panel, click the group's name. The *Group Information* page appears.



Group Information:

Name: PM

Description: Enterprise Product

Members:

Available:
henrychung
ken
ldapm001
sys0001
systemadmin_test
test
test0003
test0004

Selected:
administrator
radius001
sup0001
zoe0001

3. Select the user you wish to remove from the group from the *Selected* list, then click **Remove** to move the user from the *Selected* list to the *Available* list.
4. Repeat step 3 for any other users you wish to remove from the group.

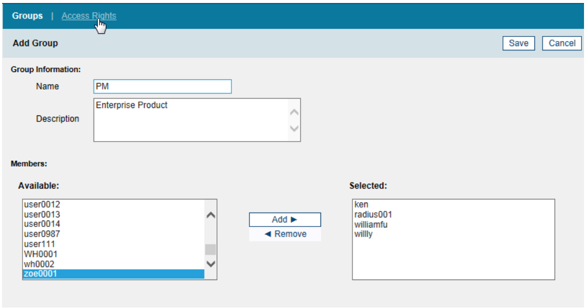
Note: A shortcut for removing multiple users is to select the ones you want in the Selected column using Ctrl+Click or Shift+Click before clicking Remove to move all the selected ones at once.

5. When you have finished removing users, click **Save** to complete the procedure.

Access Rights

To configure the access rights for a group, do the following:

1. Select **Groups** from the User Management menu bar. The *Group List* page appears.
2. Select the group that you want to configure the access rights for.
3. In the *Group Information* page that comes up, select **Access Rights** on the Panel Menu bar:



Group Information:

Name: PM

Description: Enterprise Product

Available:
user0012
user0013
user0014
user0987
user111
WH0001
wh0002
zoe0001

Selected:
ken
radius001
williamfu
willy

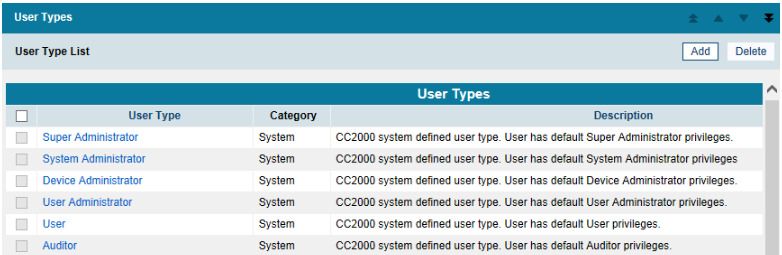
The procedures for configuring Group access rights are similar to the ones described for User Accounts. See *Access Rights*, page 61, for details.

User Types

There are two major categories of user types: System and Custom. By default, the CC2000 supports six user types. These are referred to as *System* user types because they are built in to the system. The roles assigned to members of these user types are fixed and cannot be changed.

The *Custom* user type category, by contrast provides you with the convenience and flexibility of assigning various combinations of roles that best suit your installation's requirements.

When you click **User Types** on the menu bar, the *User Type List* appears in the Interactive Display panel, showing all the user types that have been configured:

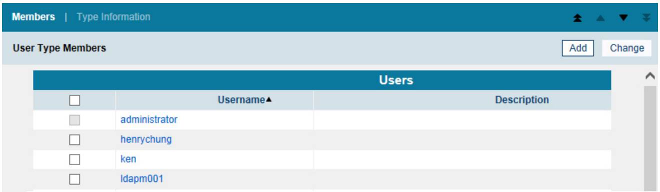


User Types

□	User Type	Category	Description
□	Super Administrator	System	CC2000 system defined user type. User has default Super Administrator privileges.
□	System Administrator	System	CC2000 system defined user type. User has default System Administrator privileges
□	Device Administrator	System	CC2000 system defined user type. User has default Device Administrator privileges.
□	User Administrator	System	CC2000 system defined user type. User has default User Administrator privileges.
□	User	System	CC2000 system defined user type. User has default User privileges.
□	Auditor	System	CC2000 system defined user type. User has default Auditor privileges.

Members

Clicking a user type in the Sidebar or in the Interactive Display panel brings up the *Members* Panel Menu page showing all the users that belong to that type.



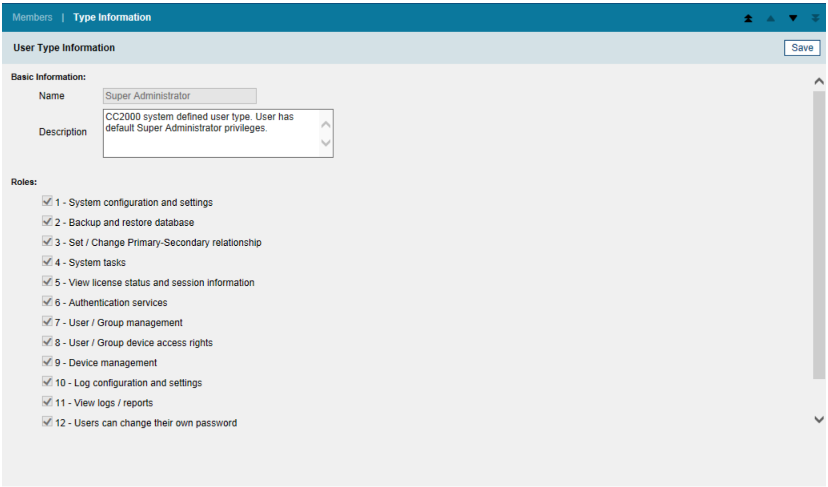
Users

□	Username▲	Description
□	administrator	
□	henrychung	
□	ken	
□	ldapm001	

- Clicking a user's name brings you to that user's *Account Information* page.
- To add a user to the type, click **Add** at the top-right of the main panel. In the page that comes up, select the user you would like to add, then click **OK**.
- To change the user's type, check the box in front of the user's name, then click **Change** at the top-right of the main panel. In the page that comes up, select the new type for the user, then click **OK**.

Type Information

When you are in the *Members* page, you can click **Type Information** to see a description of that user type, as well as, the roles that are assigned to it:



Basic Information:

Name: Super Administrator

Description: CC2000 system defined user type. User has default Super Administrator privileges.

Roles:

☑ 1 - System configuration and settings
☑ 2 - Backup and restore database
☑ 3 - Set / Change Primary-Secondary relationship
☑ 4 - System tasks
☑ 5 - View license status and session information
☑ 6 - Authentication services
☑ 7 - User / Group management
☑ 8 - User / Group device access rights
☑ 9 - Device management
☑ 10 - Log configuration and settings
☑ 11 - View logs / reports
☑ 12 - Users can change their own password

Note: The only change you can make on this page is in the *Description* field where you can provide additional information about the user type.

System Types

The roles performed by members of the System category are fixed. The roles associated with each type are summarized in the table below:

Assigned Roles	Super Admin	System Admin	User Admin	Device Admin	User	Auditor
System configuration and settings	√	√				◊
Backup and restore database	√	√				◊
Set / Change Primary-Secondary relationship	√	√				◊
System tasks	√	√				◊
View license status and session information	√	√				◊
Authentication services	√	√	√			◊
User / Group management	√	√	√			◊
User / Group device access rights	√	√	√			◊
Device management	√	√		√		◊
Log configuration and setting	√	√	√	√		
View logs / reports	√	√	√	√		◊
Users can change their own passwords	√	√	√	√	√	√

Note: 1. The differences between the Super Administrator and The System Administrator are as follows:

- The Super Administrator is authorized for all roles automatically, and includes access to all devices, ports, and outlets. The roles are fixed and can't be changed.
- Each of the System Administrator's roles can be assigned manually, and access to devices, ports, and outlets must be assigned manually.
- The Super Administrator's user type can't be changed; the System Administrator's type can be changed.

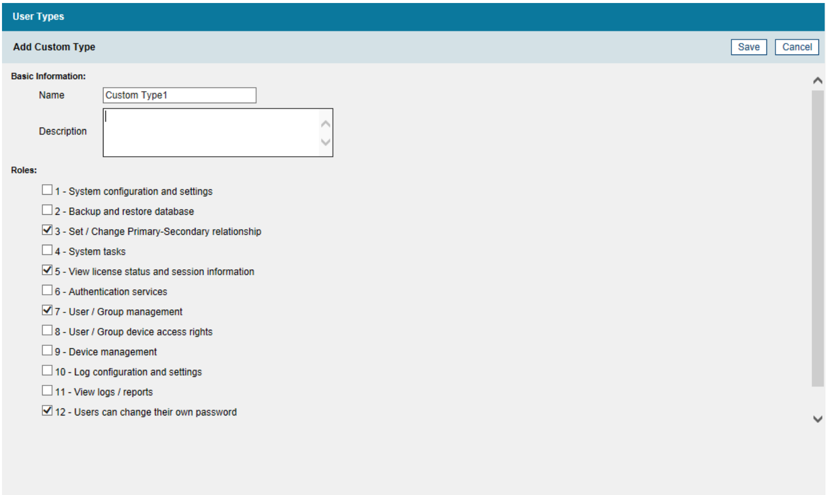
2. With regard to the *Auditor* type:

- The Auditor type can access all tabs and pages, but is restricted to *View Only* rights.
- Under the **Log** tab, the Auditor type can export and print logs in addition to viewing them, but cannot change any settings.
- Under the **Preferences** tab, the Auditor type can change his/her *Color Scheme*, *Web Options*, and *Password* settings.

Custom Types

The CC2000 provides the ability to create custom user types, with any combination of roles assigned to them, which may better suit your requirements than the pre-defined System types. To create a custom user type, do the following:

1. Select **Types** from the User Management menu bar.
2. In the Sidebar, click **Custom Types**. The *User Type List* appears, showing all the Custom user types that have been configured.
3. Click **Add** at the top-right of the panel. In the page that comes up, key in a name and description for the new type, then check the roles you want the new user type to perform.



User Types

Add Custom Type

Basic Information:

Name: Custom Type1

Description:

Roles:

☐ 1 - System configuration and settings
☐ 2 - Backup and restore database
☑ 3 - Set / Change Primary-Secondary relationship
☐ 4 - System tasks
☑ 5 - View license status and session information
☐ 6 - Authentication services
☑ 7 - User / Group management
☐ 8 - User / Group device access rights
☐ 9 - Device management
☐ 10 - Log configuration and settings
☐ 11 - View logs / reports
☑ 12 - Users can change their own password

Note: 1. The Name can be the equivalent of from 2–32 English alphanumeric characters, but cannot contain the following: " ' \

2. The Description can be up to 256 Bytes.

3. Some roles may appear gray (and are unselectable) due to the user role restriction policy. See *User Role Restriction Policy*, page 164.

4. When your selections have been made click **Save**.

Authentication Services

The CC2000 provides an internal *Username / Password* authentication service. In addition, the CC2000 supports the following third party external authentication servers: LDAP, LDAPS, Active Directory, RADIUS, TACACS+, Windows NT Domain and MOTP*.

Note: 1. *Authentication* refers to determining the authenticity of the person logging in; *authorization* refers to assigning permission to use the device's various functions.

2. These external servers provide authentication services only – they do not provide authorization services. Authorization is provided through the CC2000 management system.

3. The CC2000 supports Mobile One-Time Password (MOTP) servers that can be used as 3rd party authentication servers to improve security. If you want to use MOTP authentication, please contact your local distributor. For more information, see *MOTP Settings*, page 302, or visit our web site: *www.aten.com/CC2000-OTP*

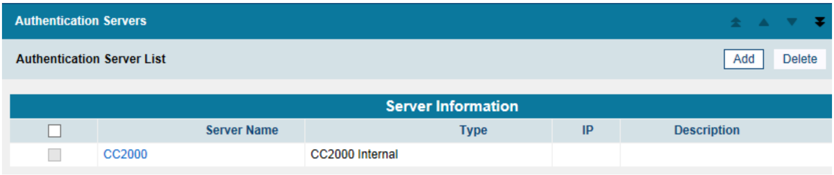
By adding an external authentication server to the CC2000 management system (see page 78 for details), when you add a user account, you can select the external authentication server from the list of authentication servers (see *Adding User Accounts*, page 56).

Note: For LDAP, LDAPS, and Active Directory there is an additional authentication method in which the user attempting to log in does not have an account on the CC2000. In this case, the CC2000 checks the external server to see if it contains an account with the username and password of the user attempting to log in. If it does, the CC2000 checks to see if the user belongs to a group that corresponds to a group that exists on the CC2000. If it does, the CC2000 lets the user log in and assigns him the access rights of the group. See *Group Authorization*, page 84, for details

(Continues on next page.)

(Continued from previous page.)

When you click **Authentication Services** on the menu bar, the *Authentication Server List* appears in the Interactive Display panel, showing all the authentication services that have been configured:



Server Information

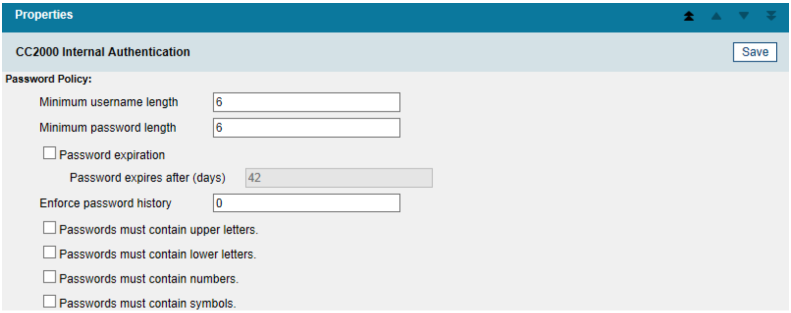
□	Server Name	Type	IP	Description
□	CC2000	CC2000 Internal		

CC2000 Authentication

With regard to the CC2000’s internal authentication services, there are some configuration settings you can make to the password policy function. All user accounts must follow the requirements you set here. To configure the CC2000’s password policy, do the following:

1. Select **Authentication Services** from the User Management menu bar.
2. Either in the Sidebar or in the Interactive Display Panel, click CC2000.

   The *Properties* page appears



CC2000 Internal Authentication

Password Policy:

Minimum username length: 6

Minimum password length: 6

□ Password expiration

Password expires after (days): 42

Enforce password history: 0

□ Passwords must contain upper letters.

□ Passwords must contain lower letters.

□ Passwords must contain numbers.

□ Passwords must contain symbols.

3. Make the configuration choices you desire. (Refer to the table, below, for an explanation of the fields.)

Minimum username length	The username length can be the equivalent of from 1–16 English alphanumeric characters. The default is 6 characters.
Minimum password length	The password length can be the equivalent of from 0–16 English alphanumeric characters. The default is 6 characters. A setting of 0 means that no password is required. Since this leaves your installation in a highly insecure state, we strongly recommend against a setting of 0.
Password expiration	For security purposes you can force users to renew their passwords at specific time intervals. To do so, enable *Password expiration*, then specify the number of days that the password will expire after. Once a password expires, a new one must be set. Passwords start expiring from the time an account is created, or a new password is set.
Enforce password history	For security purposes, enable this setting and enter the number of unique passwords that must be created before a user can use a password that was previously used.
Passwords must contain upper case letters	For security purposes, enable this setting to force the user to include upper case letters in the password.

Passwords must contain upper case letters	For security purposes, enable this setting to force the user to include lower case letters in the password.
Passwords must contain numbers	For security purposes, enable this setting to force the user to include numbers in the password.
Passwords must contain symbols	For security purposes, enable this setting to force the user to include symbols in the password.

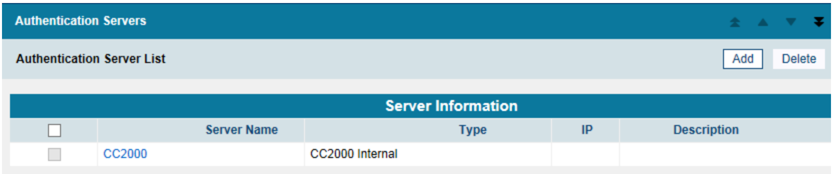
4. When you have finished, click **Save**.

External Authentication Servers

Adding an External Authentication Server

In order to use a third party external authentication server, you must first add it to the Authentication Server list. To do so:

1. Select **Authentication Services** from the User Management menu bar to bring up the Authentication Server list:

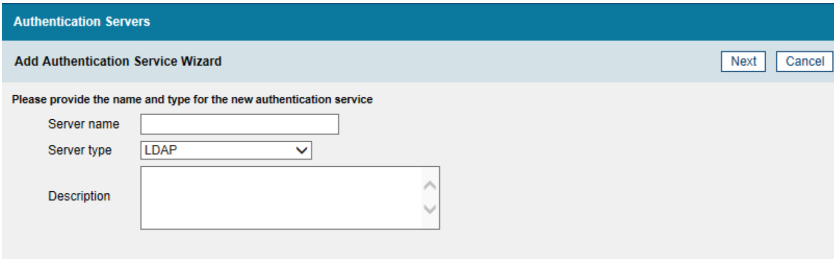


Authentication Servers

Authentication Server List

	Server Information			
□	Server Name	Type	IP	Description
□	CC2000	CC2000 Internal		

2. Click **Add** at the top-right of the main panel. In the *Add Authentication Service* page that appears, drop down the Server type list to select the service you want to add; give it a name and description, then click **Next** at the top-right of the panel.



Authentication Servers

Add Authentication Service Wizard

Please provide the name and type for the new authentication service

Server name:

Server type: LDAP

Description:

3. The page that comes up next depends on the service you have chosen. Follow along with the Wizard's pages, keying in the information required for the external authentication server you selected. When you have finished, click **Save**.

Note: 1. The Server name can be the equivalent of from 2–32 English alphanumeric characters, but cannot contain the following: **" '**

2. The Description can be up to 256 bytes.

Service Information

An explanation of the information required for each of the services is provided, below.

1. LDAP/LDAPS

Heading	Information
Connection Settings	Get the information for these fields from the LDAP administrator. The port default is 636, but check with the LDAP/LDAPS administrator to see if it may be something else. For example settings see *LDAP/LDAPS – OpenLDAP Setting Example*, page 287.
SSL Mode	◆ Click the *Do not use SSL* radio button to use LDAP. ◆ Click the *Use SSL in Trust All mode* radio button to use LDAPS.
LDAP User Schema	Get the information for these fields from the LDAP administrator. For example settings see *LDAP/LDAPS – OpenLDAP Setting Example*, page 287.
Browsing Method	When adding or modifying user accounts (see *Adding User Accounts*, page 56), you can click the **Browse** button to browse all users in *User RDN* to choose the Login name. ◆ Select *Browse with user credentials* to allow the user to browse LDAP/LDAPS using credentials configured on the server. If this is selected the user doesn’t have to input his credentials each time he browses. ◆ Select *User must input credentials when browsing* to have the user input his credentials each time he browses the LDAP/LDAPS.

2. Active Directory

Heading	Information
Connection Settings	Get the information for these fields from the Active Directory administrator. For example settings see *Active Directory Settings Example*, page 289.
SSL Mode	Click a radio button to choose whether or not to use SSL in Trust All mode.
Browsing Method	◆ Select *Browse with user credentials* to allow the user to browse the Active Directory using credentials configured on the server. If this is selected the user doesn't have to input his credentials each time he browses. ◆ Select *User must input credentials when browsing* to have the user input his credentials each time he browses the Active Directory.

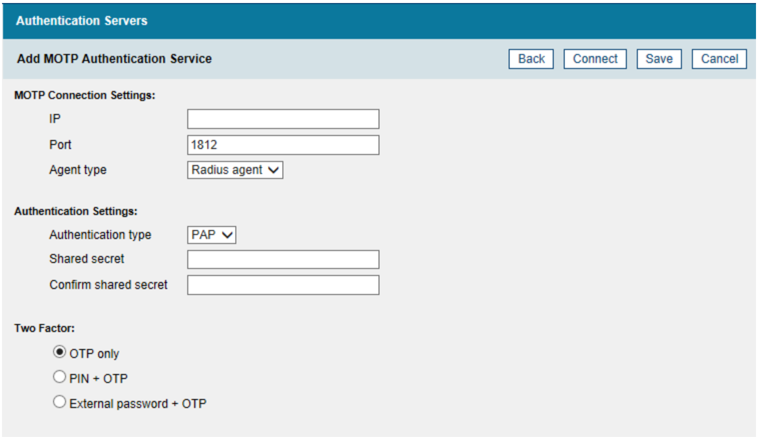
3. RADIUS and TACACS+

Heading	Information
Connection Settings	Get the information for these fields from the service administrator. The default for RADIUS is 1812; the default for TACACS+ is 49, but check with the service administrator to see if it may be something else. For example settings see *RADIUS Settings Example*, page 290 and *TACACS+ Settings Example*, page 292.
Authentication Settings	Get the information for these fields from the service administrator. For example settings see *RADIUS Settings Example*, page 290 and *TACACS+ Settings Example*, page 292. 1. Drop down the list to select the *Authentication type* your RADIUS server is configured for. 2. In the Shared Secret field, key in the character string that you use for authentication with the RADIUS server. 3. Key the shared secret in again in the Confirm Shared Secret field.

4. Windows NT Domain

   Get the information for the Domain Name from the service administrator. For example settings see *NT Domain Settings Example*, page 294.

5. MOTP (Mobile One-Time Password)*



Authentication Servers

Add MOTP Authentication Service

MOTP Connection Settings:

IP:

Port: 1812

Agent type: Radius agent

Authentication Settings:

Authentication type: PAP

Shared secret:

Confirm shared secret:

Two Factor:

● OTP only

○ PIN + OTP

○ External password + OTP

Heading	Information
MOTP Connection Settings	Get the information for the IP and Port fields from the service administrator. The default MOTP port is 1812, but check with the service administrator to see if it has been changed. Select *Radius agent* for the Agent type. For more help with MOTP settings, see *MOTP Settings*, page 302.
Authentication Settings	Get the most up to date information for these fields from the service administrator. For more help with MOTP settings, see *MOTP Settings*, page 302. 1. The Authentication type is set to PAP by default which the MOTP is configured for. 2. In the Shared Secret field, key in the character string that you use for authentication with the MOTP server. 3. Key the shared secret in again in the Confirm Shared Secret field.

Heading	Information
Two Factor	This section allows you to select the authentication method used for logging in to the CC2000. 1. If you select *OTP only*, when you login to the CC2000, only the Username and OTP fields are used to authenticate the user. The Password/PIN field can be ignored. 2. If you select *PIN + OTP*, when you login to the CC2000, the MOTP server will authenticate the Username, PIN and OTP fields. You do not need to key in a CC2000 password in the Password/PIN field on the CC2000 login page. 3. If you select *External password + OTP*, when you login to the CC2000, the MOTP server will authenticate the Username, Password and OTP fields. You do not need to key in a PIN in the Password/PIN field on the CC2000 login page.

Note: 1. The MOTP server is for One-Time Password (OTP) token authentication only. If you want to adopt the OTP function, you need to install a MOTP server first.

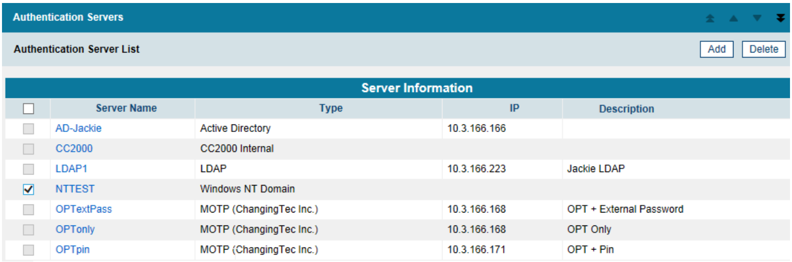
2. If you want to purchase a MOTP server, please contact a local distributor for information.

Deleting an External Authentication Server

To delete an external authentication server, do the following:

1. Select **Authentication Services** from the User Management menu bar to bring up the Authentication Server list:

2. In the Interactive Display panel, click to put a check in front of the external authentication server you wish to delete.



Authentication Servers

Authentication Server List

Server Information

□	Server Name	Type	IP	Description
□	AD-Jackie	Active Directory	10.3.166.166	
□	CC2000	CC2000 Internal		
□	LDAP1	LDAP	10.3.166.223	Jackie LDAP
☑	NTTEST	Windows NT Domain		
□	OPTextPass	MOTP (ChangingTec Inc.)	10.3.166.168	OPT + External Password
□	OPTonly	MOTP (ChangingTec Inc.)	10.3.166.168	OPT Only
□	OPTpin	MOTP (ChangingTec Inc.)	10.3.166.171	OPT + Pin

Note: 1. You can delete more than one server by checking as many names as you require.

2. You can delete all deleteable servers by checking the box at the top of the column.
3. If a user account has been created on the CC2000 that uses an external authentication server, the server cannot be deleted.

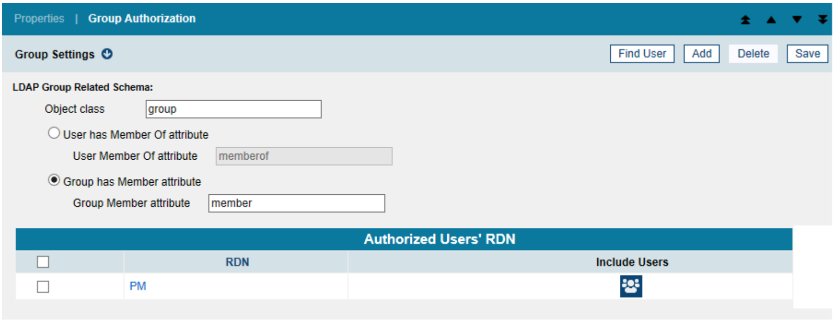
4. After you have made your selection, click **Delete** at the right of the panel.
5. In the confirmation popup that appears, click **OK**.

Group Authorization

For LDAP, LDAPS, and Active Directory there is an additional authentication method in which the access rights for a specified group are set. This function is used to make it easier to authorize users with accounts on an external authentication server. Instead of having to authorize the user on a rights-by-rights basis, the administrator assigns the user to a group, and the user inherits the rights that the group has.

To add a group for group authorization, do the following:

1. Under *User Management* → *Authentication Services*, select the external authentication server from the Sidebar or the main panel list. The server's *Properties* page comes up.
2. Select **Group Authorization** (on the Panel Menu bar). The *Group Authorization* page appears:



LDAP Group Related Schema:

Object class: group

○ User has Member Of attribute

User Member Of attribute: memberof

● Group has Member attribute

Group Member attribute: member

Authorized Users' RDN

□	RDN	Include Users
□	PM	👥

Note: 1. The screenshot shows a page that appears if an LDAP service was chosen. The LDAP Group Related Schema settings fields do not appear if Active Directory was selected.

2. For the LDAP Group Related Schema settings, get the information for these fields from the LDAP administrator. For example settings see *LDAP Group Authorization Setting Examples*, page 295.

3. The default setting for OpenLDAP is *Group has Member attribute* – see *Example 1*, page 295. This method adds members to groups on the LDAP server.

   The alternative setting is *User has Member Of attribute* – see *Example 2*, page 297. With this method groups are added to the users' accounts on the LDAP server.

4. There are two methods to add users to an authorization group:
   - Click **Add**. In the page that comes up either key in the user's RDN, or retrieve it with the *Browse* button, then click **Save**.

     – or –
   - Click **Find User** to see a list of all users in the server's database, then select the user from the list.
5. In the *Properties* page that comes up, key in the *Basic Information* and *Session Timeout* information.

   Note: This page is similar to the adding user account page, see *Adding User Accounts*, page 56 for settings details.

6. In the Sidebar, or the main panel, select the group you just added.
7. Select **Access Rights** on the Panel Menu bar, then click **Add**. A list of available devices appears. See *Access Rights*, page 61 for information on how to assign access rights on this page.
8. After you have made your access rights selections, click **Save** (at the top-right of the panel).

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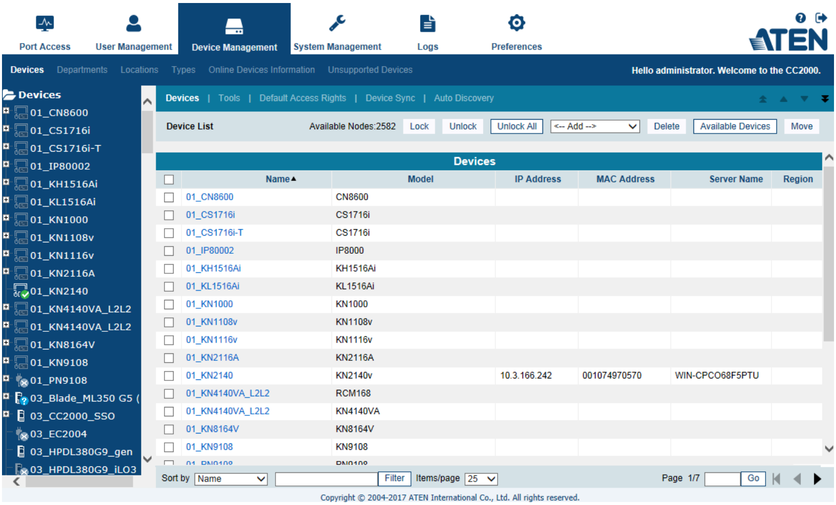
Chapter 6
Device Management

Overview

The *Device Management* page is used to add, configure, and organize the devices that will be managed over the CC2000 network. When you click the Device Management tab, the CC2000 opens to the default *Devices* page, which looks similar to the screen, below:



Devices

□	Name▲	Model	IP Address	MAC Address	Server Name	Region
□	01_CN8600	CN8600				
□	01_CS1716i	CS1716i				
□	01_CS1716i-T	CS1716i				
□	01_IP80002	IP8000				
□	01_KH1516Ai	KH1516Ai				
□	01_KL1516Ai	KL1516Ai				
□	01_KN1000	KN1000				
□	01_KN1108v	KN1108v				
□	01_KN1116v	KN1116v				
□	01_KN2116A	KN2116A				
□	01_KN2140	KN2140v	10.3.166.242	001074970570	WIN-CPCO68F5PTU	
□	01_KN4140VA_L2L2	RCM168				
□	01_KN4140VA_L2L2	KN4140VA				
□	01_KN8164V	KN8164V				
□	01_KN9108	KN9108				
□	01_PN9108	PN9108				

All devices and device folders that have been configured for use on the CC2000 server and have been added into its database are listed in the Sidebar and in a table in the Interactive Display Panel. To access any device item, simply click on it in either location.

Note: The Device Management page is for System Administrators and Device Administrators. Other user types can omit this chapter.

Preliminary Procedures

Before devices can be managed, they must first be added into the system. This involves four basic steps:

1. Connecting the devices to the same network segment as the CC2000. You must do this for the Primary and each of the Secondaries.
2. Once the devices have been connected to the same network segment as the CC2000, the CC2000 managing that segment must be made aware of them. This can be done either by enabling the *CC Management* function on the device's ANMS page (see page 249), or with the *Initialize devices IP/Port* function on the *Tools* menu (see page 125). Each of the Secondaries, then notifies the Primary of the devices connected to it.

Note: 1. Secondaries can make sure that the devices that are connected to them have been successfully recognized by clicking the *Show Available Devices* button (at the top-right of the panel).

2. Clicking the Primary's *Show Available Devices* button lists all the available devices including all of the ones connected to its Secondaries. (This gives the same result as dropping down its **Add** device list.)

3. Devices that already have been added to the CC2000 management system do not show in the list of available devices.

3. Next, from the Primary CC2000 unit, the devices recognized in step 2 must be added to the CC2000's management system (see page 94).
4. Finally, devices can be created either as actual physical port devices (by unlocking each port), or by combining various ports into logical device constructs (Aggregate Devices, Group Devices, etc.). See *Adding an Aggregate Device*, page 102, for details.

Using VPN

In some installations you may prefer to use a VPN (virtual private network) environment for your CC2000 management functions. In this configuration, it is not necessary for the device to be recognized by the CC2000 that manages its network segment. It can be recognized directly by the Primary unit. This is accomplished by enabling the CC Management function (on the device's ANMS page – see page 249) and keying in the IP address of the CC2000 Primary you want the device to be recognized by. See *VPNs*, page 250, for more details.

Menu Structure

The Device Management menu structure is described in the table below:

Tab	Page Menu	Panel Menu	Page
Device Management	Devices	Devices	90
		Tools	125
		Default Access Rights	127
		Device Sync	128
	Sidebar Device Tree	Properties (KVM)	131
		Access Rights (KVM)	134
		Device Configuration (KVM)	138
		Port Configuration (KVM)	139
		Properties (Power)*	141
		Access Rights (Power)*	142
		Station Configuration (Power)*	145
		Outlet Configuration (Power)*	147
		Properties (Serial)	150
		Access Rights (Serial)	150
		Device Configuration (Serial)	152
		Port Configuration (Serial)	153
	Departments, Locations, Types		155
	Unsupported Devices		158

* This item only appears when an outlet belonging to a Power Over the NET™ device is selected.

Devices

The Devices menu has three Panel Menu items: Devices, Tools, and Device Sync. Its default page is the main page of the Devices Panel Menu. The *Devices* Panel Menu is discussed in the following section; the *Tools* Panel Menu is discussed on page 125; the *Device Sync* Panel Menu is discussed on page 127.

Devices

The Devices Panel Menu is used to add, modify, delete, and organize devices and device folders. All device items that have been configured for use on the CC2000 server and have been added into its database are listed in the Sidebar.

On Primary units, device types that can be added and configured are found under the *Add* drop down list at the top of the main panel.

Note: The drop down list is only active on Primary units, since devices can only be added into the CC2000 management system from Primary units. For Secondary units, clicking the Show Available Devices button lists the devices connected to them that can be recognized.

The device types, and an explanation of their purposes are given in the following table:

Type	Purpose
Device	Select this type to add ATEN/Altusen NET™ devices into the CC2000 management system. CC2000 supports CN, CS, KH, KL, KN, PN, SN and PE series devices. The “PE series” here only refers to the ARM-based products (see *Energy Intelligence Rack PDUs*, page 247, for details). If you want to add PE series products that are not ARM-based, see *Adding NRGence PDUs*, page 113, for details. **Note:** When devices are added all of their ports are locked by default and must be unlocked. See *Locking / Unlocking Ports*, page 123, for details. This allows you to add devices containing ports beyond the number allowed by the license. You can then select specific ones to unlock – thereby gaining access to critical ports while remaining within the license restrictions.
APC PDU	Select this type to add an APC Power Distribution Unit (PDU) into the CC2000 management system. The CC2000 supports simple device configuration, WebSSO, and power management for the following models: AP79xx, AP89xx, AP86xx. See *Adding an APC PDU*, page 99.

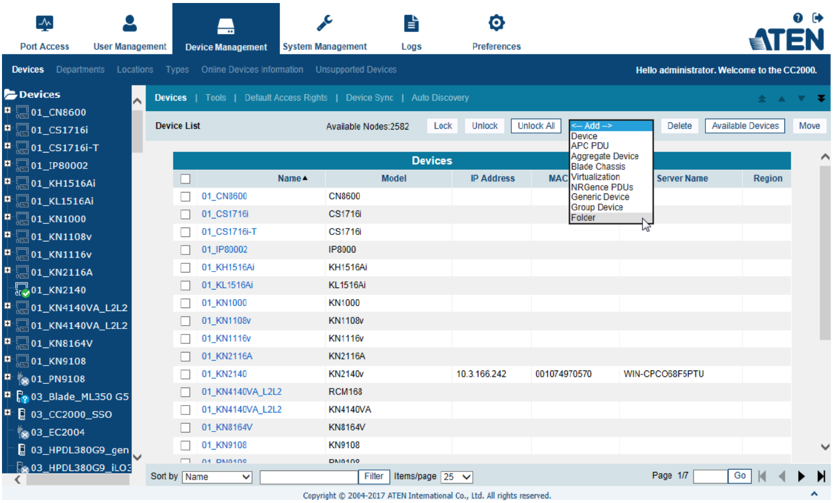
Type	Purpose
Aggregate Device	Select this to create a logical device consisting of ports selected from ATEN/Altusen NET™ devices and some SPMs (e.g. IPMI, HP iLO2, HP iLO3, HP iLO5, IBM RSA II, Dell DRAC 5, Dell iDRAC 6) that have been added to the CC2000 management system. This type of device is used to manage a device with multiple connection methods (KVM, power, and serial ports, for example), without having to use a separate connection for each. Each Aggregate Device counts as one node regardless of the number of ports it contains, so that creating aggregate devices and adding ports to them allows you to manage a number of ports beyond what the physical license restrictions permit. See *Adding an Aggregate Device*, page 102, for details. **Note:** 1. A port that has been made part of an aggregate device can only be used with that device. It cannot be assigned to any other device without being removed from the aggregate device. 2. Once a port has been made part of an aggregate device, it is no longer treated as an individual port, and cannot be locked or unlocked manually. If at some point you want to treat this port as a physical port, or add it to a group device you must first delete it from the aggregate device.
Blade Chassis	Select this to add a blade chassis.
Virtualization	Select this to add a VMware / Citrix virtual machine.
NRGence PDUs	Select this type to add PE Series Energy Intelligence PDUs into the CC2000 management system. The “PE series” here excludes ARM-based PE series products. See *Energy Intelligence Rack PDUs*, page 247, for details. If you want to add PE series products that are ARM-based see *Adding Devices*, page 94, for details.
Generic Device	Third party generic devices (routers, switches, etc.) can consist of any device that contains an Ethernet interface and can be accessed by its URL or IP Address via HTTP/HTTPS, or Telnet/SSH. Since these devices have no provision for CC management, they cannot be authenticated through the CC2000, and are not part of the CC2000’s single sign on configuration. Generic devices do not occupy device node licenses. There is no proxy support for these devices (see page 252) When you select this type of device the CC2000 redirects to the device, itself. You must log in to the device using its own authentication procedure. **Note:** Generic Devices do not count against the number of licensed nodes.

Type	Purpose
Group Device	Up to 64 ports can be added to a group device. Group devices are also created as a composite of ports that exist on actual ATEN/ Altusen NET™ devices. The differences between Group and Aggregate Devices are as follows: Once a physical port is added to an Aggregate device, it cannot be used with any other Aggregate Device – whereas a physical port can be added to any number of Group Devices **Note:** 1. Group Devices do not count against the number of licensed nodes. 2. A physical port that is added to more than one Group Device only counts as one license no matter how many Group Devices it is added to. 3. Group devices and the added ports are related to the display of panel array, please see *Panel Array Mode* on page 44.
Folder	Device folders provide another method (in addition to Departments and Locations) of organizing related devices into useful categories. (Putting all PN0108s into one folder, for example.) Doing so makes it easy to configure and maintain similar types of objects. **Note:** 1. Folders are containers for devices, and as such do not count against the number of licensed nodes. 2. Since Folders are organizational tools for device management, they do not show up in the Port Access Sidebar or main panel list.

Adding a Folder or Device

To add a folder or device, do the following:

1. Click *Add* at the top right of the panel to drop down the list of items that can be added:



□	Name▲	Model	IP Address	MAC	Server Name	Region
□	01_CN8600	CN8600				
□	01_CS1716i	CS1716i				
□	01_CS1716i-T	CS1716i				
□	01_IP80002	IP8000				
□	01_KH1516Ai	KH1516Ai				
□	01_KL1516Ai	KL1516Ai				
□	01_KN1000	KN1000				
□	01_KN1108v	KN1108v				
□	01_KN1116v	KN1116v				
□	01_KN2116A	KN2116A				
□	01_KN2140	KN2140v	10.3.166.242	001074970570	WIN-CPCO68F5PTU	
□	01_KN4140VA_L2L2	RCM168				
□	01_KN4140VA_L2L2	KN4140VA				
□	01_KN8164V	KN8164V				
□	01_KN9108	KN9108				
□	01_PN9108	PN9108				

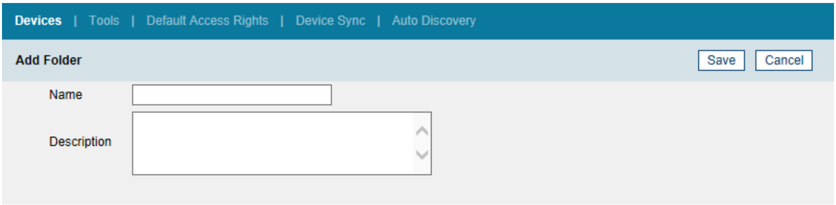
Note: Before dropping down the list, you can click **Show Available Devices** for a list of the physical devices that are available.

2. Click on the item in the list that you would like to add. Depending on your selection, a page appears to provide the interface to set it up.

The sections that follow describe the procedures involved for setting up each of the devices listed.

■ Adding Folders

Creating folders is an organizational option (in addition to *Departments* and *Locations*) that allows you to organize your enterprise-wide devices into useful categories. When you select *Folder* as an item to be added, the *Add Folder* page comes up:


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Add Folder
Save
Cancel
Name
Description

Fill in a name (PN9108-All, for example), and a description (optional) for the folder, then click **Save**. The new folder is added to the Sidebar and the Device List table.

To place devices inside a folder, first select the folder in the Sidebar, then go through one of the *Add* procedures, described below.

Note: 1. The only way that devices can be placed inside of folders is to add them after the folder you want to place them in has been selected.

2. Folders can be nested. Simply go through the adding a folder procedure after selecting the parent folder in the Sidebar.

■ Adding Devices

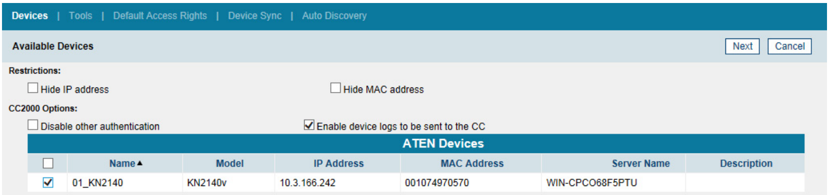
This item refers to adding ATEN/Altusen NET™ devices into the CC2000 management system. CC2000 supports CN, CS, KH, KL, KN, PN, SN and PE series devices. The “PE series” here only refers to the ARM-based products (see *Energy Intelligence Rack PDUs*, page 247, for details).

If you want to add PE series products that are not ARM-based see *Adding NRGence PDUs*, page 113, for details.

Note: 1. Before attempting to add an ATEN/Altusen NET™ device to the CC2000 server, make sure it has been recognized. See *Preliminary Procedures*, page 88, for details.

2. If you want to see a list of devices that are available to be added, click **Show Available Devices** (at the top-right of the panel)

When you select *Device* as an item to be added, the *Choose Device* page comes up listing all the online devices that can be added:


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Next
Cancel

Available Devices

Restrictions:

☐ Hide IP address ☐ Hide MAC address

CC2000 Options:

☐ Disable other authentication ☑ Enable device logs to be sent to the CC

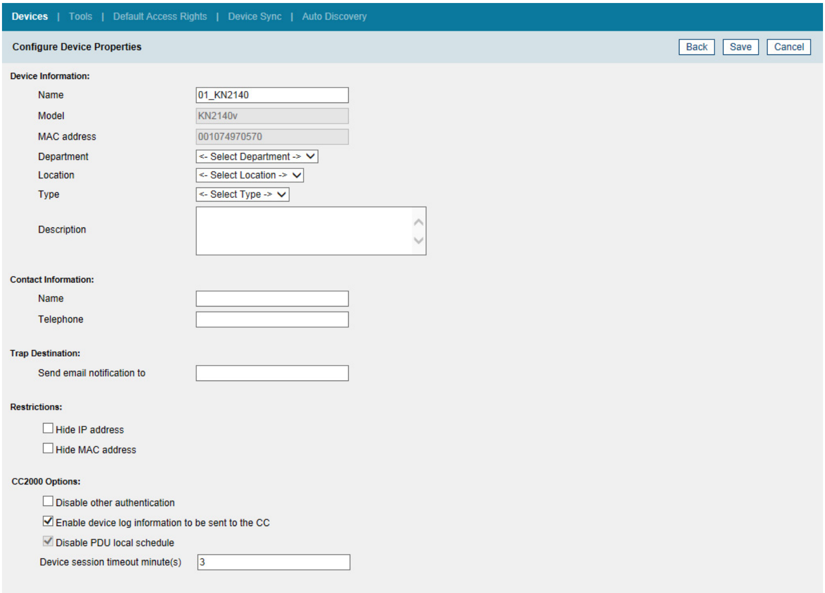
ATEN Devices

☐	Name▲	Model	IP Address	MAC Address	Server Name	Description
☑	01_KN2140	KN2140v	10.3.166.242	001074970570	WIN-CPCO68F5PTU	

For information about **Restrictions** or **CC2000 Options**, see *Restrictions*, page 96 or *CC2000 Options*, page 97.

To add a device, do the following:

1. Click to put a check in the checkbox in front of the device you wish to add.
2. Click **Next**. The *Configure Device Properties* page come up:


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Back
Save
Cancel

Configure Device Properties

Device Information:

Name	01_KN2140
Model	KN2140v
MAC address	001074970570
Department	<- Select Department ->
Location	<- Select Location ->
Type	<- Select Type ->
Description	

Contact Information:

Name	
Telephone	

Trap Destination:

Send email notification to	

Restrictions:

☐ Hide IP address

☐ Hide MAC address

CC2000 Options:

☐ Disable other authentication

☑ Enable device log information to be sent to the CC

☑ Disable PDU local schedule

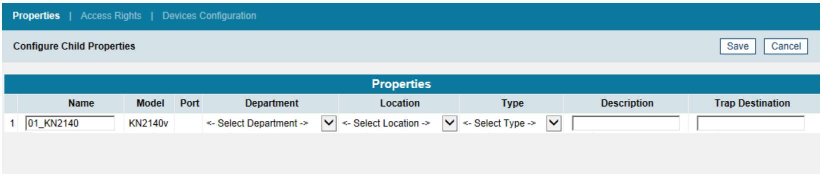
Device session timeout minute(s) 3

3. Fill in the fields according to the information provided in the table, below:

Field	Information
Basic Information	**Name:** Provide a name to identify the device. The default is the name given to the device under its independent configuration. If you change the name here, the change only takes place in the CC2000 database. The name on the original configuration remains the same. **Model:** The CC2000 recognizes the device model and fills in this field automatically. It cannot be edited. If the device is a Cat5e KVM switch, the KVM Adapter Cable model displays here. **MAC Address:** The CC2000 fills in this field automatically. It cannot be edited. **Department:** For organizational purposes you can establish department categories (R&D, for example), and assign devices to them. If you wish to assign this device to a department, drop down the list of departments (you have previously created – see *Departments, Locations and Types*, page 155), and click on the one you want the device to belong to. **Location:** For organizational purposes you can establish location categories (West Coast, for example), and assign devices to them. If you wish to assign this device to a location, drop down the list of locations (you have previously created – see *Departments, Locations and Types*, page 155), and click on the one you want the device to belong to. **Type:** For organizational purposes you can specify the type of device that this is. If you wish to do so, drop down the list of types (you have previously created – see *Departments, Locations and Types*, page 155), and click on the one you want. **Description:** If you wish to provide extra information to describe the device, enter it here. This field is optional.
Contact Information	The name and telephone number of the device administrator. These fields are optional.
Trap Destination	The email address of the person you want to receive trap notifications. This field is optional.
Restrictions	**Hide IP Address:** As an added security measure, if this feature is enabled, it keeps the device's IP address from appearing in the Port Access *Status and Operation* List when users log in via their browser. **Hide MAC Address:** As an added security measure, if this feature is enabled, it keeps the device's MAC address from appearing in the Port Access *Status and Operation* List when users log in via their browser.

Field	Information
CC2000 Options	**Disable other authentication:** As an added security measure, if this feature is enabled, the device will only accept logins through the CC2000. While the device is connected to the CC2000 system, users cannot log in to the device using the device's own authentication system, and they can only manage the device through the CC2000's interface. **Note:** 1. If the device becomes disconnected from the CC2000 system, users will be able to log into the device using its own authentication system. 2. If the checkbox is unchecked it means that other authentication is enabled and users can log into the device using its own authentication system. **Enable device log information to be sent to the CC2000:** If this feature is enabled, the CC2000 acts as the device's log server – receiving and storing the device's tick event information, and having it available for retrieval. **Enable Trap notification to be sent to the CC2000:** If this feature is enabled, the CC2000 receives notification of Trap events that take place on the device, and stores it for retrieval and auditing purposes. **Enable monitor data to be sent to the CC2000.** If this feature is enabled, environment data that is being monitored is sent to the CC2000 to be recorded in its log files. After enabling this feature, drop down the list to set the **Time interval** between transmissions. **Device session timeout:** If this feature is enabled If there is no input from the user for the amount of time set with this function, the session is terminated. The setting range is 2–99 minutes. A setting of 0 (zero) disables this function. The default is 3 minutes.

4. When you have finished, click **Save** to complete the procedure. You go to the *Configure Child Properties* page, where you can configure properties, as shown below:

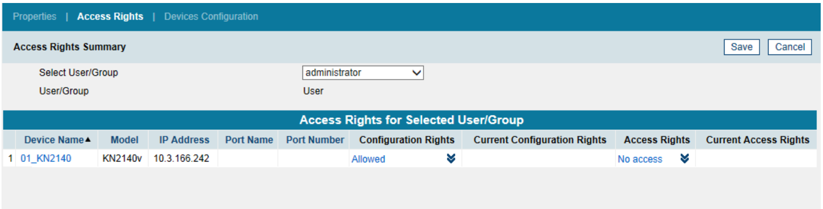


Properties | Access Rights | Devices Configuration
Configure Child Properties
Save
Cancel

Properties

	Name	Model	Port	Department	Location	Type	Description	Trap Destination
1	01_KN2140	KN2140v		<- Select Department ->	<- Select Location ->	<- Select Type ->		

5. When you have finished filling in the fields, click **Save**. The *Access Rights Summary* page comes up:



Access Rights Summary

Select User/Group: administrator

User/Group: User

Access Rights for Selected User/Group

	Device Name▲	Model	IP Address	Port Name	Port Number	Configuration Rights	Current Configuration Rights	Access Rights	Current Access Rights
1	01_KN2140	KN2140v	10.3.166.242			Allowed		No access	

6. Drop down the list to select the user or group you want to set the access rights for.

7. Click the arrow in the Access Rights column; check the appropriate boxes; then click **Save**.

8. Repeat steps 6 and 7 for any additional users and/or groups.

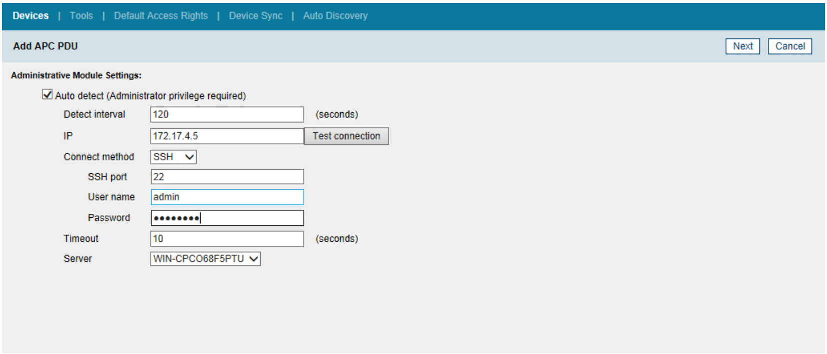
9. Click **Save** to complete the procedure.

Note: 1. After adding a device, its ports are locked. See *Locking / Unlocking Devices*, page 123, for details.

2. For Cat5 KVM switches, only the ports that are have a KVM adapter cable attached, and are online are recognized and are added to the Device List. This is because each adapter cable has its own independent identity and if it is not online there is no way for it to be recognized. Once a port has been added, it will appear in the list even if it is off line.

■ Adding an APC PDU

When you select *APC PDU* as an item to be added, the *Add APC PDU* page comes up:


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Add APC PDU
Next
Cancel
Test connection

Administrative Module Settings:

☑ Auto detect (Administrator privilege required)

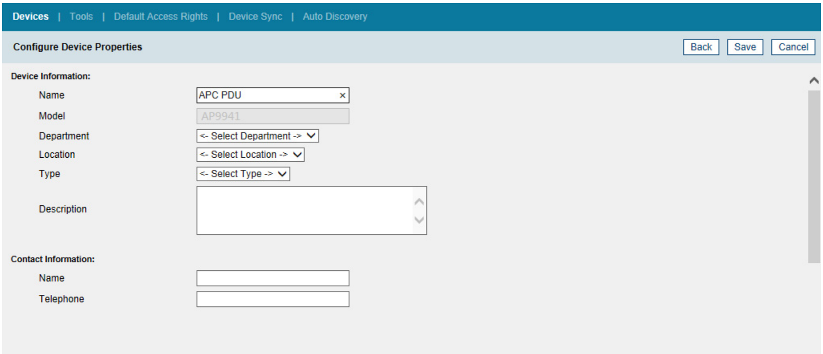
Detect interval	120	(seconds)
IP	172.17.4.5	
Connect method	SSH	
SSH port	22	
User name	admin	
Password	••••••••	
Timeout	10	(seconds)
Server	WIN-CPCO68F5PTU	

To add an APC PDU, do the following:

1. Fill in the fields according to the information provided in the table, below:

Field	Information
Auto Detect	If you are adding one of the specifically mentioned types and enable Auto detect, the CC2000 will check if the device is online. Only a user with administrator privileges can enable this function.
Detect Interval	Set the detect interval by entering a value in seconds. This is how often the system automatically checks that the APC PDU is online.
IP	Key in the APC PDUs IP address Click **Test Connection** to confirm that the IP has been correctly detected.
Connect Method	Select either SSH or Telnet from the drop-down menu.
Port	Key in the access port used to connect to it (via browser). The default SSH port is 22; Telnet is 23.
Username / Password	Key in a username and password that will be required to access the APC PDU (via Telnet only).
Timeout	The amount of time to wait for a connection request to complete before cancelling the request.
Server	Select the CC2000 unit that the APC PDU server is connected under.

2. When you have finished with this page, click **Next**. The *Configure Device Properties* page comes up:


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Back
Save
Cancel

Configure Device Properties

Device Information:

Name	APC PDU
Model	AP9941
Department	<- Select Department ->
Location	<- Select Location ->
Type	<- Select Type ->
Description	

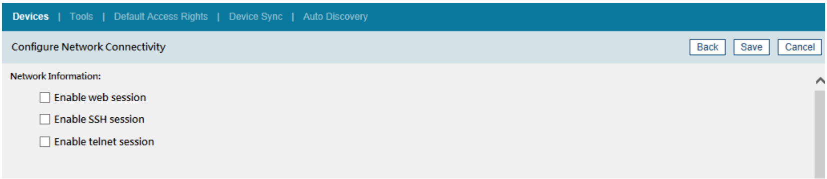
Contact Information:

Name	
Telephone	

3. Fill in the fields according to the information provided in the table, following:

Field	Information
Device Information	**Name:** Provide a name to identify the device. **Department:** For organizational purposes you can establish department categories (R&D, for example), and assign devices to them (see *Departments, Locations and Types*, page 155). If you wish to assign this device to a department, drop down the list of departments (you have previously created), and click on the one you want the device to belong to. **Location:** For organizational purposes you can establish location categories (West Coast, for example), and assign devices to them (see *Departments, Locations and Types*, page 155). If you wish to assign this device to a location, drop down the list of locations (you have previously created), and click on the one you want the device to belong to. **Type:** Drop down the list to select the type of device it is. **Description:** If you wish to provide extra information to describe the device, enter it here. This field is optional.
Contact Information	The name and telephone number of the device administrator. These fields are optional.

4. Click **Next** to go to the *Configure Network Connectivity* page, where you can enable web / SSH / Telnet sessions:

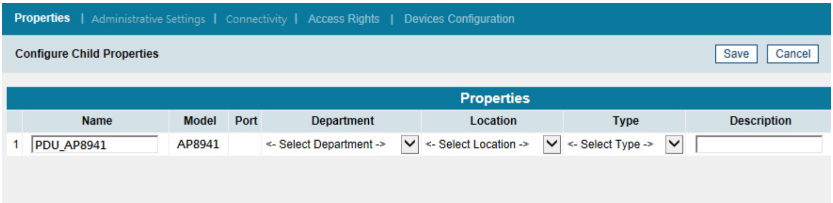

Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Back
Save
Cancel

Configure Network Connectivity

Network Information:

- □ Enable web session
- □ Enable SSH session
- □ Enable telnet session

5. When you have finished, click **Save** to complete the procedure. You go to the *Configure Child Properties* page, where you can configure properties, as shown below:


Properties | Administrative Settings | Connectivity | Access Rights | Devices Configuration
Save
Cancel

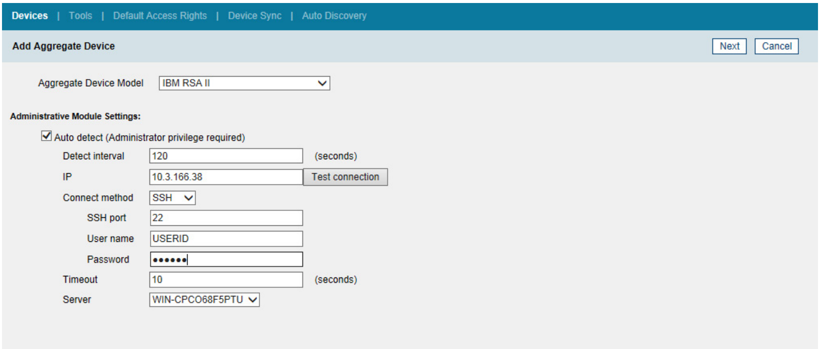
Configure Child Properties

Properties

	Name	Model	Port	Department	Location	Type	Description
1	PDU_AP8941	AP8941		<- Select Department ->	<- Select Location ->	<- Select Type ->	

■ Adding an Aggregate Device

When you select *Aggregate Device* as an item to be added, the *Add Aggregate Device* page comes up:


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Next
Cancel
Test connection

Add Aggregate Device

Aggregate Device Model: IBM RSA II

Administrative Module Settings:

☑ Auto detect (Administrator privilege required)

Detect interval: 120 (seconds)
IP: 10.3.166.38
Connect method: SSH
SSH port: 22
User name: USERID
Password: ••••••
Timeout: 10 (seconds)
Server: WIN-CPCO68F5PTU

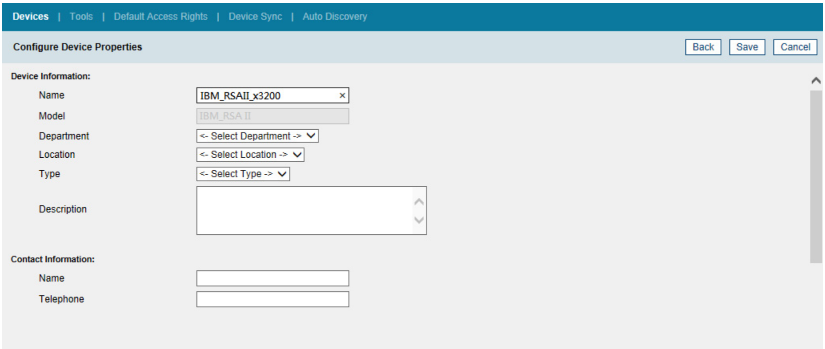
Note: See *Aggregate Device*, page 91, for further details.

To add an Aggregate Device, do the following:

1. Select the Aggregate Device Model from the drop-down menu. Then, Fill in the fields according to the information provided in the table, below:

Field	Information
Auto Detect	If you are adding one of the specifically mentioned Aggregate Device Model types and enable Auto detect, the CC2000 will check if the device is online. Only a user with administrator privileges can enable this function.
Detect Interval	Set the detect interval by entering a value in seconds. This is how often the system automatically checks that the Aggregate Device is online.
IP	Key in the Aggregate Device's IP address Click **Test Connection** to confirm that the IP has been correctly detected.
Connect Method	Select either SSH or Telnet from the drop-down menu.
Port	Key in the access port used to connect to it (via browser). The default SSH port is 22; Telnet is 23.
Username / Password	Key in a username and password that will be required to access the Aggregate Device.
Login name field / password field	Key in the information so the CC2000 knows where to put the login name and password information under certain single sign-on situations
Timeout	The amount of time to wait for a connection request to complete before canceling the request.
Server	Select the CC2000 unit that the Aggregate Device server is connected under.

2. In the *Configure Device Properties* page, provide a name to identify the aggregate device in the *Name* field.


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Back
Save
Cancel

Configure Device Properties

Device Information:

Name	IBM_RSAII_x3200
Model	IBM_RSA II
Department	<- Select Department ->
Location	<- Select Location ->
Type	<- Select Type ->
Description	

Contact Information:

Name	
Telephone	

3. (Optional) Provide a further description of the aggregate device in the *Description* field.

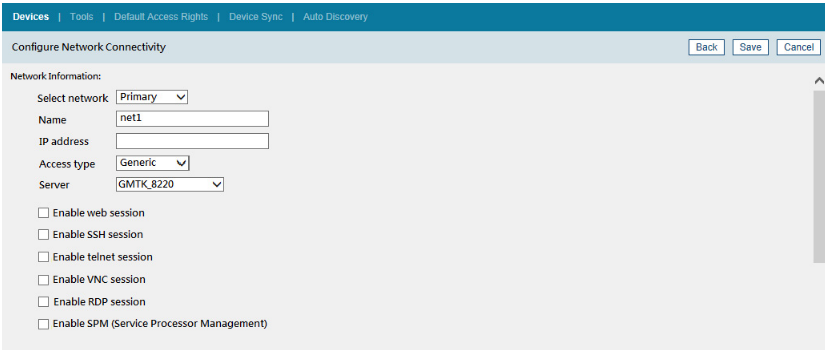
4. (Optional) Drop down the Department, Location, and/or Type list(s) and click on the one(s) you want the aggregate device to belong to.

5. (Optional) Provide the name and telephone number of the device administrator in the *Contact Information* field.

6. (Optional) Set the Power Control Options as outlined, below:
   - Click the box to enable confirmation for power operation
   - Click the box to enable delay for power operation, and set the Power on delay/ Power off delay fields in seconds.

Note: If the SPMs does not support this function, option will not work.

7. When you have finished with this page, click **Next**. The *Configure Network Connectivity* page comes up:


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Back
Save
Cancel

Configure Network Connectivity

Network Information:

Select network	Primary
Name	net1
IP address	
Access type	Generic
Server	GMTK_8220

□ Enable web session
□ Enable SSH session
□ Enable telnet session
□ Enable VNC session
□ Enable RDP session
□ Enable SPM (Service Processor Management)

8. Fill in the fields according to the information in the table, below:

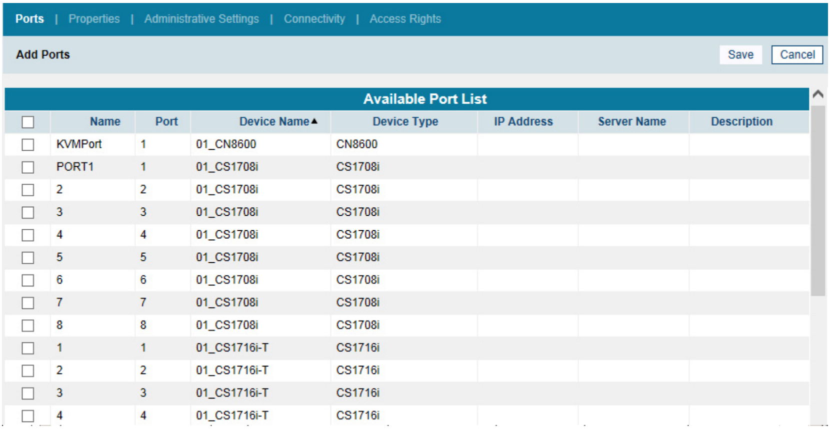
Field	Explanation
Network Information	**Select network:** If the server for the aggregate device only has one network interface, select **Primary**, then move on to configure the remaining fields. If it has more than one network interface, after you finish configuring the Primary one, come back to choose the additional ones and configure each of them in turn. **Name:** For convenience, each of the network interfaces can be named. **IP Address:** Enter the Aggregate Device's IP address here. **Access Type:** Drop down the list to select the access type. The choices are Generic, Dell DRAC 5, Dell iDRAC 6, HP iLO2, HP iLO3, HP iLO5, and IBM RSA II. Only the *Generic* option supports VNC and RDP connectivity. **Server:** Select the CC2000 unit that the Aggregate Device server is connected under.
Web Session	**URL:** To access the Aggregate Device server via the Web, key in the URL that will bring up its management page. **Enable SSO**: Check this box to enable single sign on functionality, and then select which credentials to use. ◆ Select *Use login user credentials* to use the same account username and password as the CC2000 user account. ◆ Select *Use following credentials* and enter new credentials in the fields below. **Login name, Password:** Fill in these fields according to the Aggregate Device server's authentication and authorization procedures. **Note:** Due to frequent updates applied to browsers, JRE, and SPM firmware, some compatibility problems may occur that affect support for SPM and SSO with the CC2000.
Login name field / password field	Key in the information so the CC2000 knows where to put the login name and password information under certain single sign-on situations
SSH/Telnet Session	**IP address, Login name, Password, SSH / Telnet port:** To access the Aggregate Device server via an SSH / Telnet session, key the appropriate information into these fields according to the Aggregate Device server's authentication and authorization procedures. **Note:** An SSH session also requires entering login string information
VNC Session	**Port:** Enter the port number for the VNC session **Enable SSO**: Check this box to enable single sign on functionality, and then enter *View only* and *Full control* passwords.
RDP Session	**RDP Port:** Enter the port number for the VNC session **Enable SSO**: Check this box to enable single sign on functionality, and then select which credentials to use. ◆ Select *Use login user credentials* to use the same account username and password as the CC2000 user account. ◆ Select *Use following credentials* and enter new credentials in the fields below.

Field	Explanation
SPM (Service Processor Management)	**SPM Method:** Select from the drop-down menu. Options are IPMI, Dell DRAC 5, Dell iDRAC 6, HP iLO2, HP iLO3, HP iLO5, and IBM RSA II. **Port:** Enter the port number for the SPM session. **Login name, Password:** Fill in these fields according to the SPM server’s authentication and authorization procedures. **Timeout:** Set the amount of time to wait for a connection request to complete before cancelling the request.

■ Adding Ports to an Aggregate Device

To add ports to your Aggregate Device, do the following:

1. Select your Aggregate Device in the Device List or the Sidebar. The *Port List* page comes up.
2. Click **Add** (at the top-right of the panel). The *Add Ports* page appears, listing all available ports that can be added:



Ports | Properties | Administrative Settings | Connectivity | Access Rights
Add Ports
Save
Cancel

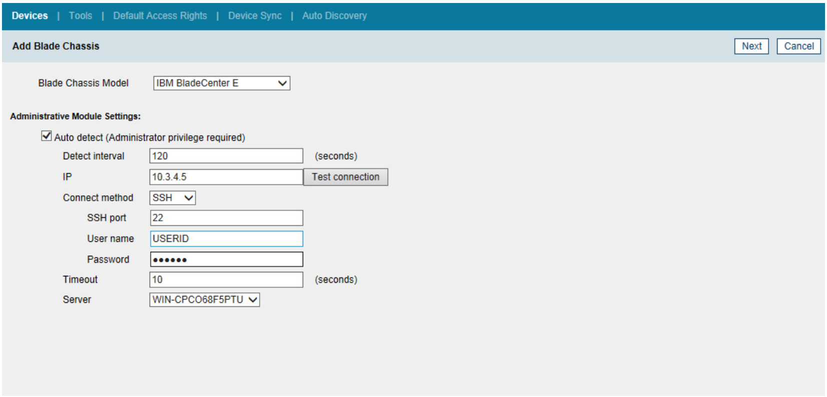
Available Port List

□	Name	Port	Device Name▲	Device Type	IP Address	Server Name	Description
□	KVMPort	1	01_CN8600	CN8600			
□	PORT1	1	01_CS1708i	CS1708i			
□	2	2	01_CS1708i	CS1708i			
□	3	3	01_CS1708i	CS1708i			
□	4	4	01_CS1708i	CS1708i			
□	5	5	01_CS1708i	CS1708i			
□	6	6	01_CS1708i	CS1708i			
□	7	7	01_CS1708i	CS1708i			
□	8	8	01_CS1708i	CS1708i			
□	1	1	01_CS1716i-T	CS1716i			
□	2	2	01_CS1716i-T	CS1716i			
□	3	3	01_CS1716i-T	CS1716i			
□	4	4	01_CS1716i-T	CS1716i			

3. You can combine any of the ports that are listed on the page in the Aggregate Device. Put a check in the checkbox in front of the ports that you want, then click **Save**.
4. If a port is already part of another aggregate or group device, a dialog box appears to notify you that it will be removed from the original device when added to this aggregate device and asks you to confirm that this is what you want to do. Click **OK** to accept the change or Cancel to abort.
5. When you return to the *Port List* page. The selected ports are automatically unlocked and are listed as being associated with the Aggregate Device. The ports are also nested under the Aggregate Device in the Sidebar.

■ Adding a Blade Chassis

When you select *Blade Chassis* as an item to be added, the *Add Blade Chassis* page comes up.



Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Add Blade Chassis
Next
Cancel

Blade Chassis Model: IBM BladeCenter E

Administrative Module Settings:

☑ Auto detect (Administrator privilege required)

Detect interval: 120 (seconds)

IP: 10.3.4.5 Test connection

Connect method: SSH

SSH port: 22

User name: USERID

Password: ••••••

Timeout: 10 (seconds)

Server: WIN-CPCO68F5PTU

1. Fill in the fields according to the information provided in the table, below:

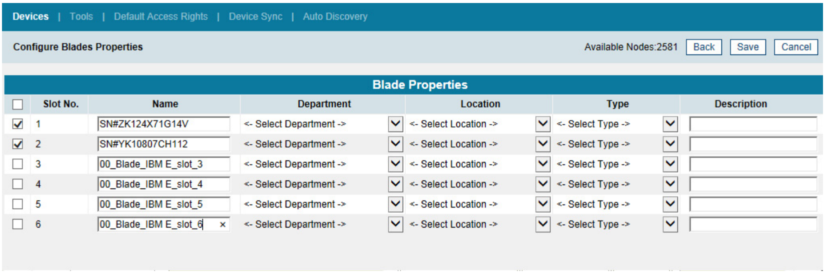
Field	Information
Model	Drop down the list to select the model type you are adding. If it is not one of the three specifically mentioned types, select *Generic with iKVM* if the chassis supports this function; or *Generic without iKVM* if it doesn't.
Auto detect	If you are adding one of the specifically mentioned Aggregate Device Model types and enable Auto detect, the CC2000 will check if the device is online. Only a user with administrator privileges can enable this function.
Detect Interval	Set the detect interval by entering a value in seconds. This is how often the system automatically checks that the blade server is online.
IP / Method / Port	If Auto detect is not being used, key in the blade server's IP address and the access port used to connect to it (via Telnet or SSH). Select the connection method. The default port is 22 (SSH). Click **Test Connection** to confirm that the IP and port settings have been correctly detected.
Username / Password	Key in a username and password that will be required to access the blade server (via Telnet or SSH). **Note:** Use an account with administrator privileges to get needed information.
Login name field / password field	Key in the information so the CC2000 knows where to put the login name and password information under certain single sign-on situations
Timeout	The amount of time to wait for a connection request to complete before canceling the request.
Server	Select the CC2000 unit that the Aggregate Device server is connected under.

2. When you have finished with this page, click **Next**. The *Configure Device Properties* page comes up.
3. Fill in the fields according to the information provided in the table, below:

Field	Information
Device Information	**Name:** Provide a name to identify the device. **Description:** If you wish to provide extra information to describe the device, enter it here. This field is optional. **Department:** For organizational purposes you can establish department categories (R&D, for example), and assign devices to them (see *Departments, Locations and Types*, page 155). If you wish to assign this device to a department, drop down the list of departments (you have previously created), and click on the one you want the device to belong to. **Location:** For organizational purposes you can establish location categories (West Coast, for example), and assign devices to them (see *Departments, Locations and Types*, page 155). If you wish to assign this device to a location, drop down the list of locations (you have previously created), and click on the one you want the device to belong to. **Type:** Drop down the list to select the type of device it is.
Contact Information	The name and telephone number of the device administrator. These fields are optional.
Power Control Options	Set the Power Control Options as outlined, below: ◆ Click the box to enable confirmation for power operation ◆ Click the box to enable delay for power operation, and set the Power on delay/ Power off delay fields in seconds.

4. When you have finished with this page, click **Next**. The *Configure Network Connectivity* page comes up.
   - The *Maximum number of slots* field is for information purposes and can't be configured on supported chassis. It can only be set on generic chassis.
   - For the *Blade switching hotkey*, this information is filled in automatically with the details of the assigned model.
   - The remainder of the fields are the same as the ones discussed under *Adding an Aggregate Device*. See page 104 for details

5. When you have finished with this page, click **Next**. The *Configure Blade Properties* page comes up:



Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Back
Save
Cancel

Configure Blades Properties

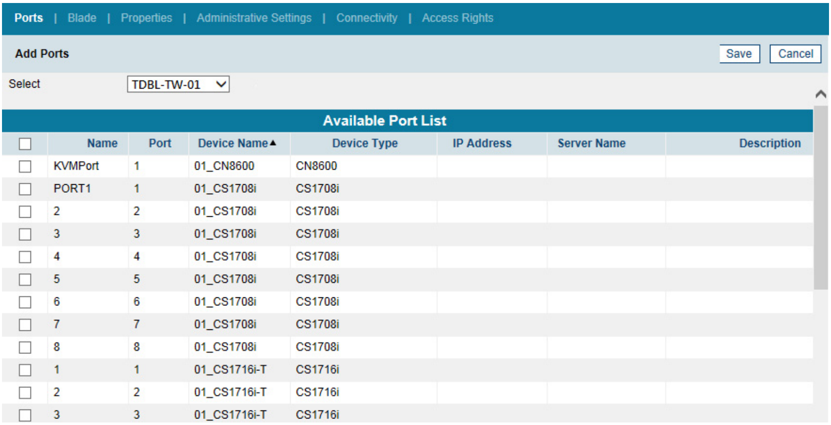
Available Nodes:2581

Blade Properties

□	Slot No.	Name	Department	Location	Type	Description
☑	1	SN#ZK124X71G14V	<- Select Department ->	<- Select Location ->	<- Select Type ->	
☑	2	SN#YK10807CH112	<- Select Department ->	<- Select Location ->	<- Select Type ->	
□	3	00_Blade_IBM E_slot_3	<- Select Department ->	<- Select Location ->	<- Select Type ->	
□	4	00_Blade_IBM E_slot_4	<- Select Department ->	<- Select Location ->	<- Select Type ->	
□	5	00_Blade_IBM E_slot_5	<- Select Department ->	<- Select Location ->	<- Select Type ->	
□	6	00_Blade_IBM E_slot_6	<- Select Department ->	<- Select Location ->	<- Select Type ->	

6. For each blade, you can specify its Department, Location, and Type, and provide a brief Description.

7. When you have finished with this page, click **Save**. The *Add Ports* page comes up:



Ports | Blade | Properties | Administrative Settings | Connectivity | Access Rights
Save
Cancel

Add Ports

Select TDBL-TW-01

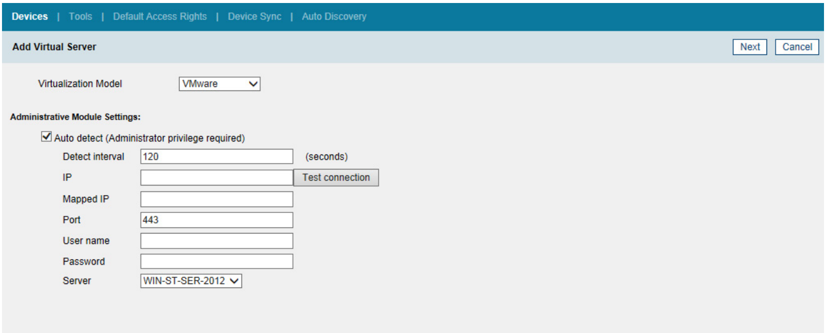
Available Port List

□	Name	Port	Device Name▲	Device Type	IP Address	Server Name	Description
□	KVMPort	1	01_CN8600	CN8600			
□	PORT1	1	01_CS1708i	CS1708i			
□	2	2	01_CS1708i	CS1708i			
□	3	3	01_CS1708i	CS1708i			
□	4	4	01_CS1708i	CS1708i			
□	5	5	01_CS1708i	CS1708i			
□	6	6	01_CS1708i	CS1708i			
□	7	7	01_CS1708i	CS1708i			
□	8	8	01_CS1708i	CS1708i			
□	1	1	01_CS1716i-T	CS1716i			
□	2	2	01_CS1716i-T	CS1716i			
□	3	3	01_CS1716i-T	CS1716i			

8. Check any ports the blade chassis connects to, then click **Save**.

■ Adding a Virtual Machine

When you select *Virtualization* as an item to be added, the *Add Virtual Server* page comes up.


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Add Virtual Server
Next
Cancel
Test connection

Virtualization Model: VMware

Administrative Module Settings:

☑ Auto detect (Administrator privilege required)

Detect interval: 120 (seconds)

IP:

Mapped IP:

Port: 443

User name:

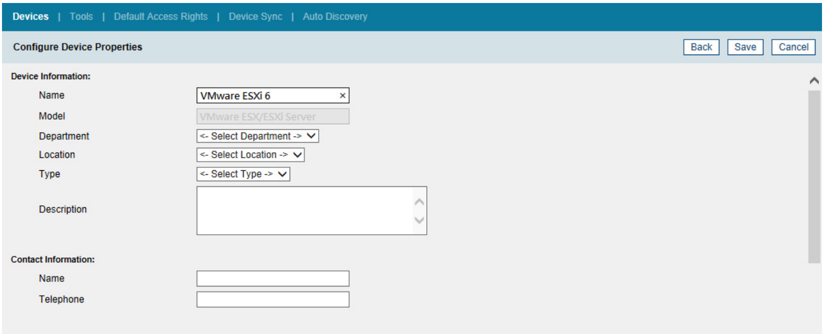
Password:

Server: WIN-ST-SER-2012

1. Fill in the fields according to the information provided in the table, below:

Field	Information
Virtualization Model	Select either VMware or Citrix from the drop-down menu.
Auto Detect	Enable this function so the system automatically checks that the virtual machine is online. Only a user with administrator privileges can enable this function.
Detect Interval	Set the detect interval by entering a value in seconds. This is how often the system automatically checks that the virtual machine is online.
IP / Port	Key in the virtual machine's IP address and the access port used to connect to it (via browser). The default port is 443. Click **Test Connection** to confirm that the IP and port settings have been correctly detected.
Mapped IP	This function is not available in the Add VM tool, only in the Admin settings. It is enabled after an already-installed VM is selected in the sidebar. See *Mapped IP Function*, page 112.
Username / Password	Key in a username and password that will be required to access the virtual machine (via browser).
Login name field / password field	Key in the information so the CC2000 knows where to put the login name and password information under certain single sign-on situations
Server	Select the CC2000 unit that the Aggregate Device server is connected under.

2. When you have finished with this page, click **Next**. The *Configure Device Properties* page comes up:


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Back
Save
Cancel

Configure Device Properties

Device Information:

Name: VMware ESXi 6

Model: VMware ESX/ESXi Server

Department: <- Select Department ->

Location: <- Select Location ->

Type: <- Select Type ->

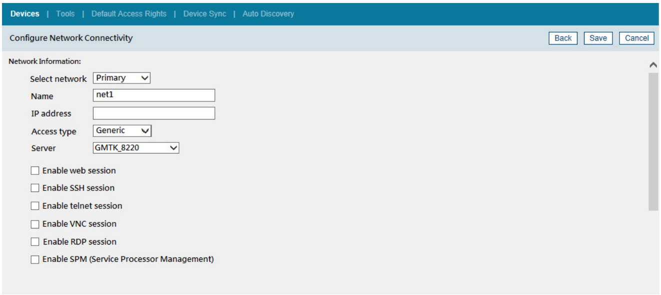
Description

Contact Information:

Name

Telephone

3. This page is similar to the one described under *Adding an Aggregate Device*. Fill in the fields according to the information provided on page 102, then click **Next**. The *Configure Network Connectivity* page comes up.


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Back
Save
Cancel

Configure Network Connectivity

Network Information:

Select network: Primary

Name: net1

IP address

Access type: Generic

Server: GMTK_8220

☐ Enable web session

☐ Enable SSH session

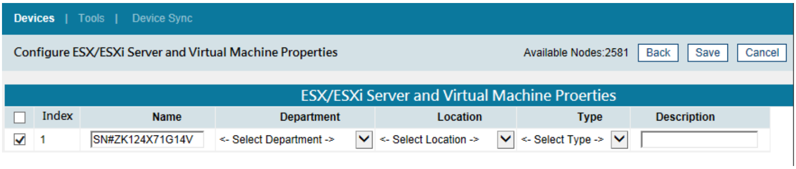
☐ Enable telnet session

☐ Enable VNC session

☐ Enable RDP session

☐ Enable SPM (Service Processor Management)

4. This page is similar to the one described under *Adding an Aggregate Device*. Fill in the fields according to the information provided in the table starting on page 104, then click **Next**. The *Server and Virtual Machine Properties* page comes up:



Configure ESX/ESXi Server and Virtual Machine Properties

Available Nodes:2581

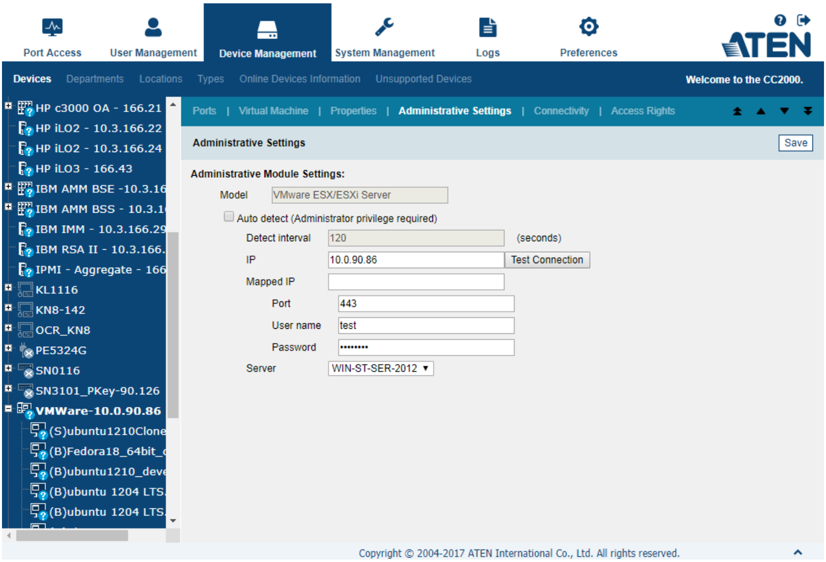
ESX/ESXi Server and Virtual Machine Proerties

☐	Index	Name	Department	Location	Type	Description
☑	1	SN#ZK124X71G14V	<- Select Department ->	<- Select Location ->	<- Select Type ->	

5. Drop down the lists to select Department, Location, and Type, then click **Save**.

■ Mapped IP Function

Once a VM has been installed, the Mapped IP function becomes enabled. Select the VM in the sidebar and open the Administrative Settings tab:



Administrative Module Settings:

Model: VMware ESX/ESXi Server

□ Auto detect (Administrator privilege required)

Detect interval: 120 (seconds)

IP: 10.0.90.86

Mapped IP:

Port: 443

User name: test

Password: ••••••••

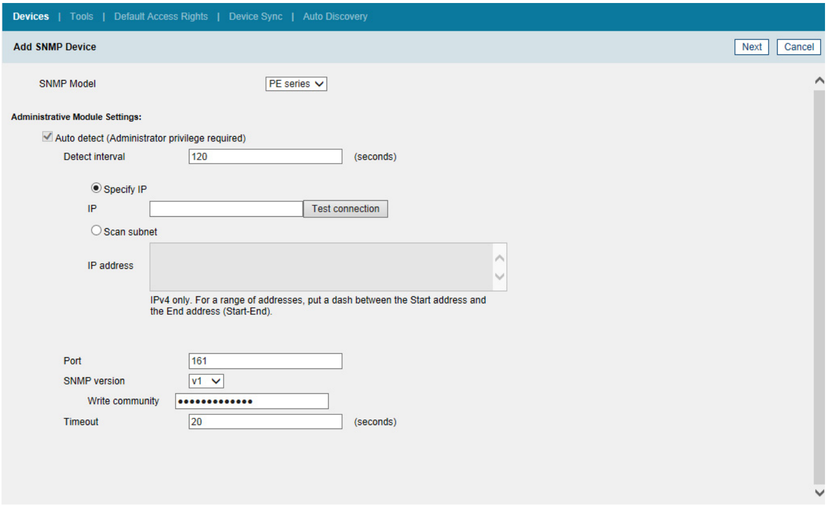
Server: WIN-ST-SER-2012

The Mapped IP function is for VMware remote console support (VMRC through router/firewall).

- To enable the function, enter the router's external IP address in the *Mapped IP* field.

■ Adding NRGence PDUs

When you select *NRGence PDUs* as an item to be added, the *NRGence PDU* page comes up:


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Add SNMP Device
Next
Cancel
Test connection

SNMP Model: PE series

Administrative Module Settings:

☑ Auto detect (Administrator privilege required)

Detect interval: 120 (seconds)

● Specify IP

IP:

○ Scan subnet

IP address:

IPv4 only. For a range of addresses, put a dash between the Start address and the End address (Start-End).

Port: 161

SNMP version: v1

Write community: •••••••••••••

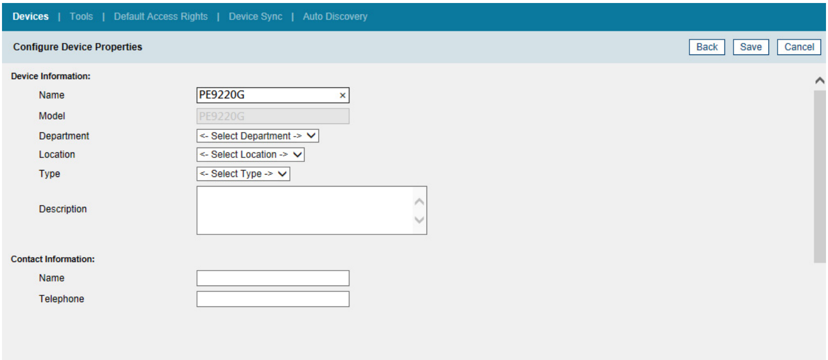
Timeout: 20 (seconds)

1. Fill in the fields according to the information provided in the table, below:

Field	Information
NRGence PDU Model	The “PE series” here refers to Energy Intelligence PDUs that are not ARM-based products (see *Energy Intelligence Rack PDUs*, page 247, for details). **Note:** To add PE series ARM-based products see *Adding Devices*, page 94, for details.
Auto detect	Enable this function to allow the system to automatically check if the device is online. Only a user with administrator privileges can enable this function.
Detect interval	Set the detect interval by entering a value between 30 and 300 seconds. This sets how often the system automatically checks that the device is online.
Specify IP	Key in the IP address of the device. Click the **Test connection** button to confirm that the IP address has been detected.
Scan subnet / IP address	Key in a range of subnet IP addresses that can help search for the device.
Port	Key in the port number used to access the device. The default port is 161.
SNMP version	Select the SNMP version to use: v1, v2c, or v3.
Write community	Key in the community value(s) if required by the SNMP version.

Field	Information
User name	Key in the User name if required by the SNMP version.
Security Level	Select the security to use: “No Auth, No Priv”, “Auth, No Priv” or “Auth, Priv”.
Auth Protocol / Auth Password	If *Auth* is selected, then the *Auth protocol* can be chosen. There are two choices MD5 and SHA. The *Auth password* is required and cannot be less than 8 characters.
Privacy protocol/ Privacy password	If *Priv* is selected, then the privacy protocol can be chosen. There are four choices: DES, AES-128, AES-192 and AES-256. The privacy password is required and cannot be less than 8 characters.
Context Name	Enter a context name for the device. This field can be left blank.
Timeout	Key in the server timeout value. The range is between 10 and 120.
Server	Select the server to use.

2. When you have finished with this page, click **Next**. The *Configure Device Properties* page appears.


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Back
Save
Cancel

Configure Device Properties

Device Information:

Name: PE9220G

Model: PE9220G

Department: <- Select Department ->

Location: <- Select Location ->

Type: <- Select Type ->

Description:

Contact Information:

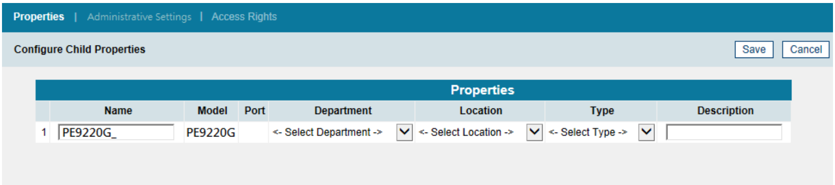
Name:

Telephone:

3. Fill in the fields according to the information provided in the table, below:

Field	Information
Device Information	**Name**: Provide a name to identify the device. **Department**: For organizational purpose you can establish department categories (R&D, for example), and assign devices to them (See *Departments, Locations and Types*, page 155, for details). If you wish to assign this device to a department, use the drop-down menu of departments (you have previously created) and click the one you want the device to belong to. **Location**: For organizational purposes you can establish location categories (West Coast, for example), and assign devices to them (See *Departments, Locations and Types*, page 155, for details). If you wish to assign this device to a location, use the drop-down menu of locations (you have previously created) and click the one you want the device to belong to. **Type**: Use the drop-down menu to select the device type. **Description**: If you wish to provide extra information to describe the device, enter it here. This field is optional.
Contact Information	Enter the name and telephone number of the administrator. These fields are optional.

4. When you have finished with this page, click **Next**. The *Configure Child Properties* page appears, where you can configure the properties, as shown below:

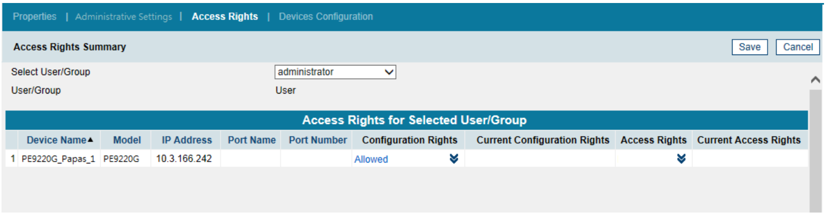


Configure Child Properties

Properties

	Name	Model	Port	Department	Location	Type	Description
1	PE9220G_	PE9220G		<- Select Department ->	<- Select Location ->	<- Select Type ->	

5. When you have finished with this page, click **Save**. The *Access Rights Summary* page appears:


Properties | Administrative Settings | Access Rights | Devices Configuration
Save
Cancel

Access Rights Summary

Select User/Group: administrator

User/Group: User

Access Rights for Selected User/Group

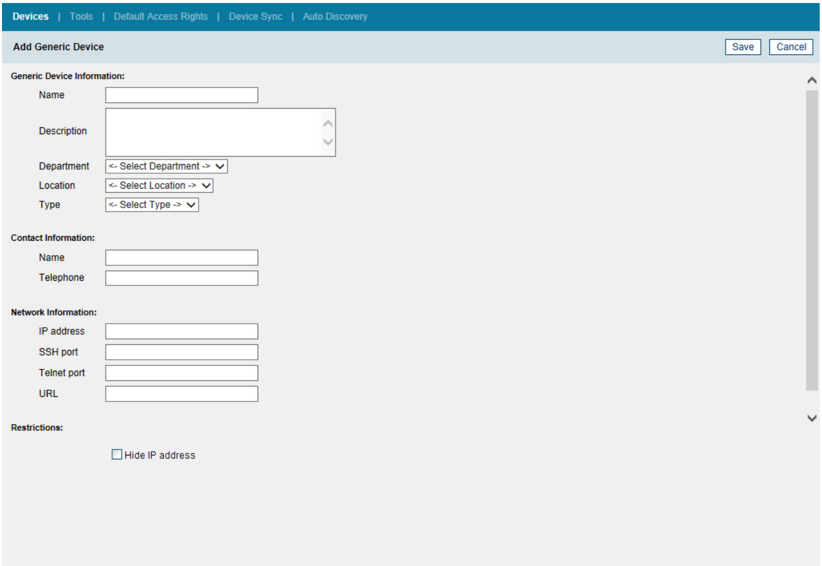
	Device Name▲	Model	IP Address	Port Name	Port Number	Configuration Rights	Current Configuration Rights	Access Rights	Current Access Rights
1	PE9220G_Papas_1	PE9220G	10.3.166.242			Allowed			

6. Use the *Select User/Group* drop-down menu to select a user or group that you want to set the access right for.
7. Click the arrow in the *Configuration Rights* and *Access Rights* column; check the appropriate boxes; then click **Save**.
8. Repeat steps 6 and 7 for any additional users or groups.
9. Click **Save** to complete the procedure.

Note: After adding a device, its ports are locked. **See** *Locking / Unlocking Ports*, **page 123**.

■ Adding a Generic Device

When you select *Generic Device* as an item to be added, the *Add Generic Device* page comes up:



Note: See *Generic Device*, page 91, for an explanation of generic devices.

1. Fill in the fields according to the information provided in the table, below:

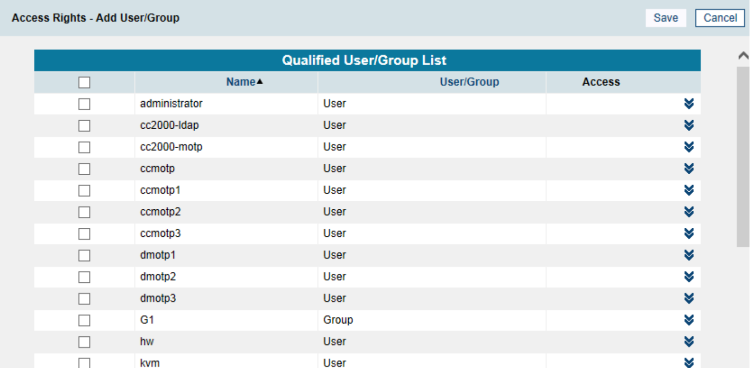
Field	Information
Device Information	**Name:** Provide a name to identify the device. **Description:** If you wish to provide extra information to describe the device, enter it here. This field is optional. **Department:** For organizational purposes you can establish department categories (R&D, for example), and assign devices to them (see *Departments, Locations and Types*, page 155). If you wish to assign this device to a department, drop down the list of departments (you have previously created), and click on the one you want the device to belong to. **Location:** For organizational purposes you can establish location categories (West Coast, for example), and assign devices to them (see *Departments, Locations and Types*, page 155). If you wish to assign this device to a location, drop down the list of locations (you have previously created), and click on the one you want the device to belong to. **Type:** Drop down the list to select the type of device it is.

Field	Information
Contact Information	The name and telephone number of the device administrator. These fields are optional.
Network Information	Fill in the fields according to the following information: ◆ If the Generic Device is to be accessed via a web browser, key its web (or IP) address in the URL field. ◆ If the Generic Device is to be accessed via Telnet or SSH, key in the IP Address in the IP Address field and the Telnet and/or SSH port numbers in their corresponding fields. ◆ If the Generic Device has all three methods available, you can fill in all or any of them that you wish.
Restrictions	As an added security measure, if *Hide IP Address* is enabled, the device's IP address won't appear in the Port Access *Status and Operation* List. This setting is optional.

2. When you have finished with this page, click **Save**. You return to the Device List page. The Generic Device now appears in the list and in the Sidebar.

To give users and groups access rights to the device, do the following:

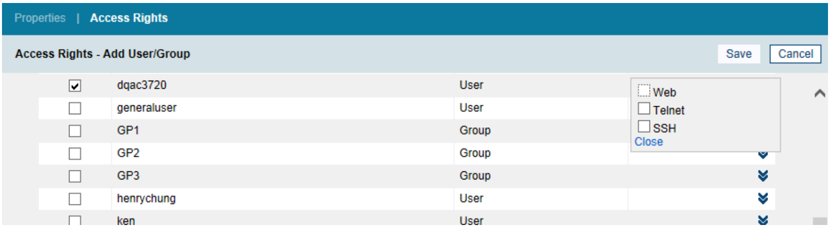
1. Select the newly added Generic Device in the main panel or the Sidebar, then select *Access Rights* on the Panel Menu bar. The User/Group List page comes up.
2. Click **Add** (at the top-right of the panel). The *Qualified User/Group List* page appears, listing the users who can be given access rights to the device:



Qualified User/Group List

□	Name▲	User/Group	Access
□	administrator	User	⌄
□	cc2000-ldap	User	⌄
□	cc2000-motp	User	⌄
□	ccmotp	User	⌄
□	ccmotp1	User	⌄
□	ccmotp2	User	⌄
□	ccmotp3	User	⌄
□	dmotp1	User	⌄
□	dmotp2	User	⌄
□	dmotp3	User	⌄
□	G1	Group	⌄
□	hw	User	⌄
□	kvm	User	⌄

3. Put a check in the box if front of the user or group name, then click the arrow at the right of the Access column to drop down a list of access rights choices.



Access Rights - Add User/Group

☑	dqac3720	User
☐	generaluser	User
☐	GP1	Group
☐	GP2	Group
☐	GP3	Group
☐	henrychung	User
☐	ken	User

☐ Web
☐ Telnet
☐ SSH

4. Put a check in front of the rights you want the user or group to have, then click **Save** (at the top-right of the panel). You return to the Device List page. The Generic Device now appears in the list and in the Sidebar.

Note: The items that appear in the access rights panel depend on the settings choices that were made when the generic device was created (see *Network Information*, page 118).

■ Adding a Group Device

When you select *Group Device* as an item to be added, the *Add Group Device* page comes up. The procedure for adding Group Devices is essentially the same as that for adding Aggregate Devices. Follow the steps described in that section (see page 102) to add a Group device and assign ports to it.

Note: 1. Refer back to *Group Device*, page 92, for an explanation of the differences between Aggregate and Group devices.

2. A port can belong to any number of Group devices. When a port is made part of a Group Device it retains the locked/unlocked status of the original physical port. If you lock or unlock any of these ports, all the ports – including the original physical port – change to the new locked/unlocked status,

Modifying Devices

To modify a device’s settings, do the following:

1. Select **Devices** either in the Sidebar (if it is available), or on the main menu bar (the orange bar).
2. Select the device you want to modify either from the Sidebar list, or in the main panel list.
3. Make your changes using the links that become available on the Panel Menu bar (the black bar). See *Sidebar Device Configuration*, page 131 for details concerning these Panel Menus.

Deleting Devices

To delete a device, do the following:

1. Select **Devices** either from the Sidebar list, or on the main menu bar (the orange bar).
2. Click to put a check in front of the device you wish to delete.

Note: You can delete more than one device by checking as many of them as you require. You can delete all of them at once by checking the box at the top of the column.

3. After you have made your selection, click **Delete** (at the top-right of the panel).
4. In the confirmation popup that appears, click **OK**.

Note: When you delete an Aggregate Device, all of its ports return to their original physical devices with their status changed to locked.

Deleting Unused Nodes

All unused nodes can also be deleted from the sidebar. To delete an unused node, do the following:

1. In the **Device** tab, select the node in the sidebar, and click **Delete** (at the top-right of the panel).

Note: Only detachable nodes, such as dongles, PN stations, etc., can be deleted in this way; outlets cannot.

Detached Devices

In addition to the device types described above, there is another category of device, a *Detached Device*, which represents devices or ports that have been detected to have some sort of conflict with other valid devices or ports.

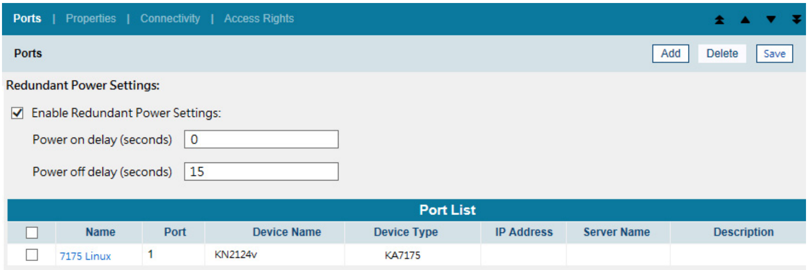
Examples:

1. On a CC2000 managed Cat5e KVM switch, if there are Adapter Cables connected to ports 4 and 6, and you remove the adapter from port 4, the CC2000 will assume that the device connected to port 4 is off line.
2. If on the CC2000 managed Cat5e KVM switch you unplug the adapter cable from port 6 and plug it into port 4, the cable's Adapter ID will not match the device information for port 4 stored in the CC2000's database. The CC2000 will recognize the new Adapter ID for port 4 and will treat the original port 4 Adapter ID as a detached device.
3. If you plug the Adapter Cable originally connected to port 4 in *Example 2*, into any other port on the KVM switch, the CC2000 will recognize the cable's Adapter ID and update its database accordingly, and the cable will not be treated as a detached device.

Detached devices can be found at the bottom of the tree. You can look at the device to try to resolve the conflict. Detached devices that haven't been resolved within 10 days are automatically removed.

Redundant Power

This page section becomes available in the *Ports* Panel Menu when a device has a Power Over the NET™ (PNxxxx) device associated with it. It is provided so that a second PON outlet can be configured for devices with redundant power supplies – with the second (redundant) outlet connected to the device's redundant power port. Should the power over the first outlet fail, power to the device will continue through the redundant outlet.



Redundant Power Settings:

☑ Enable Redundant Power Settings:

Power on delay (seconds) 0

Power off delay (seconds) 15

Port List

☐	Name	Port	Device Name	Device Type	IP Address	Server Name	Description
☐	7175 Linux	1	KN2124v	KA7175			

To configure a redundant outlet, do the following:

1. Click **Add** (at the top-right of the panel).
2. In the list of available outlets that comes up, put a check in front of the outlet you want to be the redundant one, then click **Save**.
3. When you return to the *Redundant Power* page, put a check in the *Enable redundant power* checkbox, and set the *Power on delay* and *Power off delay* parameters according to the information given in the table, below:

Power on delay	Sets the amount of time the PNXXXX waits after the Power Button is clicked before it turns on the computer attached to the corresponding outlet.
Power off delay	Sets the amount of time the PNXXXX waits after the Power Button is clicked before it shuts down the computer attached to the corresponding outlet. See the *Power Management Configuration* section of the PN's User Manual for further details.

4. click **Save** (at the top-right of the panel).

Locking / Unlocking Ports

When physical devices are added to the CC2000 management system, their ports are locked by default – to make a port available, it must be unlocked. When a port is selected, two buttons appear at the top-right of the Port Properties page: *Lock* and *Unlock*. To unlock a port, select it in the Sidebar or Interactive Display Panel, and click **Unlock**.

The ability to lock and unlock ports allows you to have pre-configured device nodes set up on your installation that are in excess of the amount licensed. If the total number of device nodes on the installation exceeds the number you have been licensed for, you can choose which device nodes to exclude by selecting them and clicking **Lock**. You can utilize them when necessary by locking different ones to create room, and then unlocking them.

Note: Ports are automatically unlocked when they are added to an Aggregate Device, but if you only want to use one or two of the device's physical ports, it is not necessary to go through the procedure involved in creating an Aggregate Device to do so. Simply select the target port(s) and click **Unlock**.

Locking / Unlocking Devices

When physical devices are added to the CC2000 management system, their ports are locked by default – to make a port available, it must be unlocked. You can lock/unlock all ports on a device using the buttons described below.

The **Lock**, **Unlock**, and **Unlock All** buttons are found at the top of the *Devices* page and on each Device's Properties page. The buttons allow you to lock and unlock all ports on the selected device. When a locked device is expanded from the sidebar, all ports will appear with an **X**. To lock and unlock individual ports see the *Locking / Unlocking Ports* section above for details.

To lock or unlock a device, select the device(s) from the *Devices* main page by checking the box; or click the device from the sidebar; and click the **Lock** or **Unlock** button.

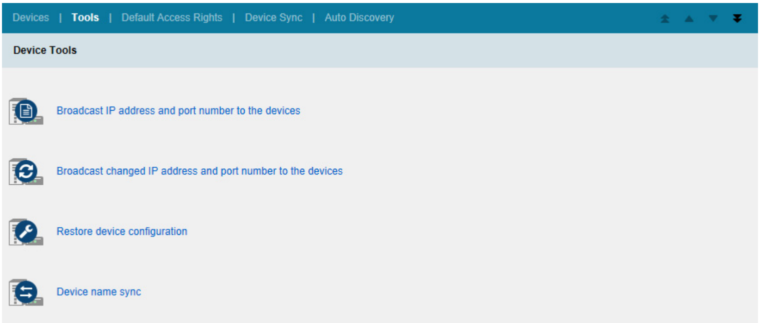
Using the **Unlock All** button will unlock all devices on the CC2000 - from top to bottom, until the available node licenses run out.

Transfer Device Settings

The **Transfer** button is found at the top of each device's Properties page. The button allows you to transfer the device settings and access rights from the selected device to another. After clicking the Transfer button a page appears displaying the available devices (the model must be the same) to transfer the settings to. Choose a device by selecting the radio button and click **OK**. An alert will appear asking you to confirm the transfer. The CC2000 will transfer all device settings (excluding Device ID, model name and port number) and access rights to the device. The transfer does not affect the settings of the source device and it only applies to the device/dongle with the same model name and physical location (port); unmatched port/dongle settings and access rights will be ignored.

Tools

When you click *Tools* on the Panel Menu bar, the following page comes up:



Devices | Tools | Default Access Rights | Device Sync | Auto Discovery

Device Tools

Broadcast IP address and port number to the devices

Broadcast changed IP address and port number to the devices

Restore device configuration

Device name sync

Clicking an icon performs a specific task. The task that each of the icons performs is described in the table, on the next page.

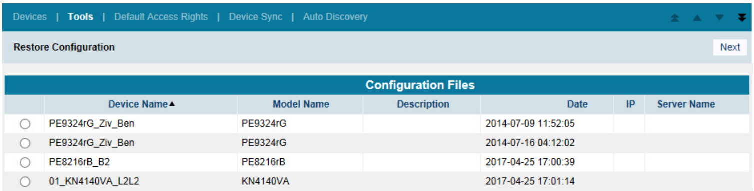
Icon	Task
🗎	**Broadcast IP address and port number to the devices:** Before a device can communicate with the CC2000, its ANMS settings have to specify the CC2000's IP address and device management port number. Clicking this icon causes the CC2000 to broadcast its IP address and device management port number to the devices connected to it on its network, which automatically sets them on the devices (instead of having to set them manually on the device, itself). This is done the first time that you connect a device to the CC2000 network, or if a device has been reset to its default settings. **Note:** 1. This function uses UDP to broadcast the information. Therefore the devices must be on the same network segment (VPN will not work). UDP uses port 18768 – make sure that the network settings for computers that the CC2000 is installed on have this port open. 2. For heightened security, once the broadcast is done and the information has been sent to the device, the device will not accept UDP broadcasts from any other CC2000. 3. If you change CC2000s, you must use the ANMS settings page to specify the IP Address and port number (see *Device Configuration (For KVM Devices)*, page 138).
🔄	**Broadcast changed IP address and port number to the devices:** This feature is used when the CC2000's IP address and/or device management port number changes. Clicking this icon causes the CC2000 to broadcast its new IP address and/or device management port number to the devices connected to it on its network – automatically updating their ANMS settings accordingly. **Note:** 1. This function uses UDP to broadcast the information. Therefore the devices must be on the same network segment (VPN will not work). 2. For heightened security, the receiving devices will only accept UDP broadcasts from the CC2000 that originally initialized them.

Icon	Task
	Restore device configuration: This feature is used to restore a device's configuration and/or account information to one saved on a previously backed up configuration file (See *Backup Device Configuration/Account Information*, page 204). See the section, below, for the restoration procedure.
	Device Name Sync: If device name changes have taken place, this feature is used to manually sync the names between the devices and the CC2000.See *Default Access Rights*, page 127 for automatic syncing details.

Restoring Device Configurations

To restore a device's configuration and/or account information to one saved on a previously backed up configuration file, do the following:

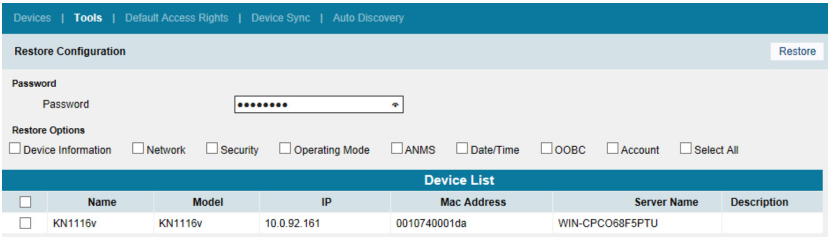
1. In the Device Management → Devices → Tools, Panel Menu, click **Restore device configuration**. A list of saved configuration files comes up:


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Restore Configuration
Next

Configuration Files

	Device Name▲	Model Name	Description	Date	IP	Server Name
○	PE9324rG_Ziv_Ben	PE9324rG		2014-07-09 11:52:05		
○	PE9324rG_Ziv_Ben	PE9324rG		2014-07-16 04:12:02		
○	PE8216rB_B2	PE8216rB		2017-04-25 17:00:39		
○	01_KN4140VA_L2L2	KN4140VA		2017-04-25 17:01:14		

2. Select the file you would like to restore, then click **Next**. The Restore Configuration page comes up:


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Restore Configuration
Restore

Password

Password ••••••••

Restore Options

□ Device Information □ Network □ Security □ Operating Mode □ ANMS □ Date/Time □ OOBC □ Account □ Select All

Device List

□	Name	Model	IP	Mac Address	Server Name	Description
□	KN1116v	KN1116v	10.0.92.161	0010740001da	WIN-CPCO68F5PTU	

3. Key the password you used when the file was created in the *Password* field.

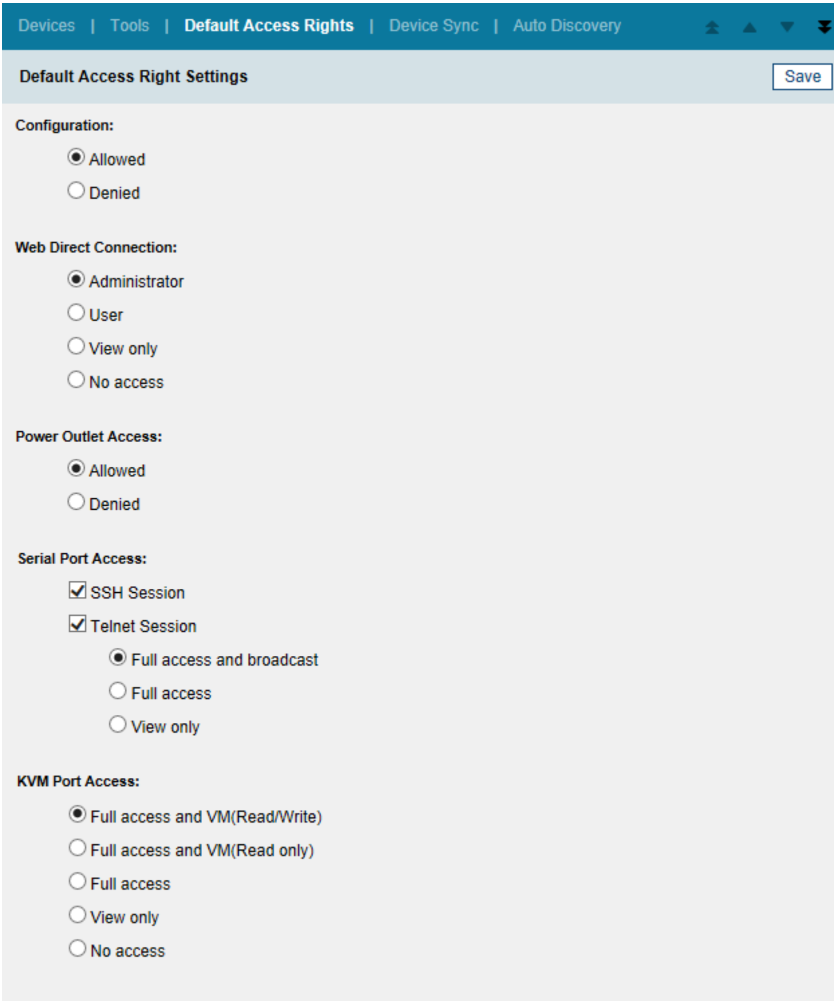
4. Click the appropriate checkbox to restore only the device account information; only the device configuration settings; or both.

5. Click the checkbox in front of the name of the device you want to restore, then click **Restore**.

   When the restoration is complete, a message appears informing you of the result.

Default Access Rights

The *Default Access Rights* page allows you to set the default access rights for all new devices added to the CC2000 installation.


Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Save

Default Access Right Settings

Configuration:

● Allowed
○ Denied

Web Direct Connection:

● Administrator
○ User
○ View only
○ No access

Power Outlet Access:

● Allowed
○ Denied

Serial Port Access:

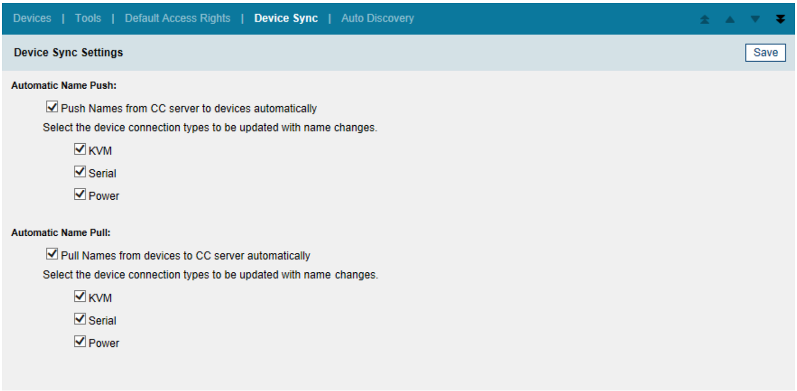
☑ SSH Session
☑ Telnet Session
  ● Full access and broadcast
  ○ Full access
  ○ View only

KVM Port Access:

● Full access and VM(Read/Write)
○ Full access and VM(Read only)
○ Full access
○ View only
○ No access

Device Sync

When you click *Device Sync* on the Panel Menu bar, the following page comes up:



Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Save

Device Sync Settings

Automatic Name Push:

☑ Push Names from CC server to devices automatically

Select the device connection types to be updated with name changes.

☑ KVM

☑ Serial

☑ Power

Automatic Name Pull:

☑ Pull Names from devices to CC server automatically

Select the device connection types to be updated with name changes.

☑ KVM

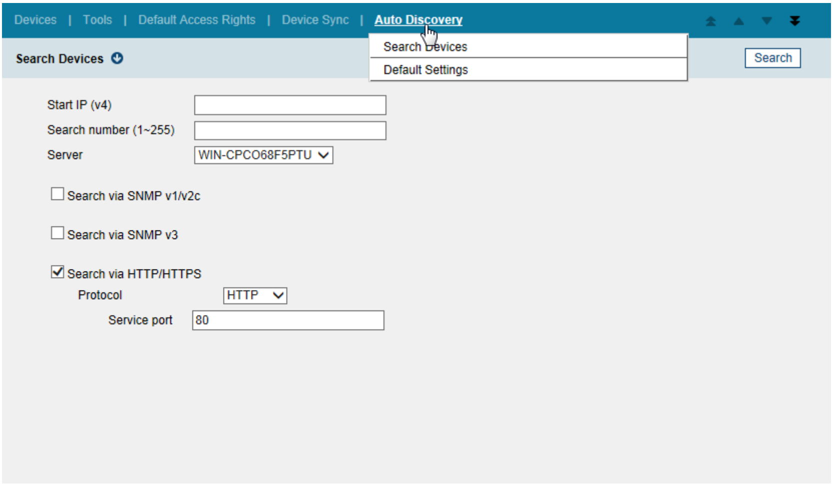
☑ Serial

☑ Power

This page lets you configure automatic syncing of names between the CC2000 and the installed devices. Check the boxes for the features you want to enable, then click **Save**.

■ Auto Discovery

When you select Auto Discovery, two items appear allowing you select the **Default Settings** to scan subnets or **Search Devices** to search for a specific IP address to add third party servers which support service processors (e.g. HP iLO3, APC's PDUs, and Virtualization servers), as shown here:



Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Search Devices
Default Settings
Search

Search Devices

Start IP (v4)

Search number (1~255)

Server: WIN-CPCO68F5PTU

□ Search via SNMP v1/v2c

□ Search via SNMP v3

☑ Search via HTTP/HTTPS

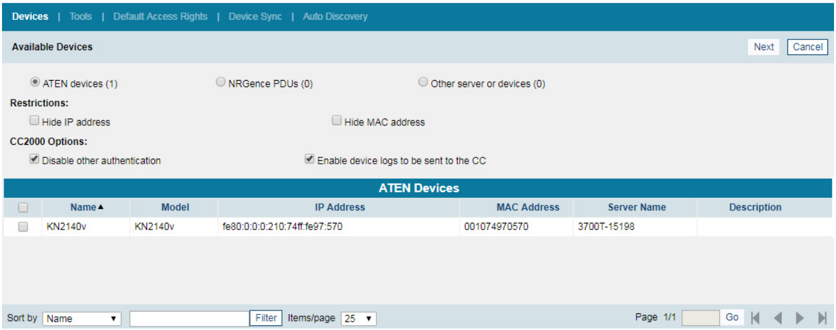
Protocol: HTTP

Service port: 80

1. Fill in the fields according to the information provided in the table, below:

Field	Information
Start IP (v4)	Enter the IP address in an IPv4 format to set the beginning of a search scope.
Search number (1~255)	Enter a number (1~255) to set the end of a search scope.
Server	Use the drop-down menu to select the CC2000 server that the device is connected to.
Search via SNMP v1/v2c	If you check this box, fill in the related SNMP information for the Port, SNMP version, Write community and Timeout. This will search for devices that use the SNMP v1/2c protocol.
Search via SNMP v3	If you check this box it will search for devices that use the SNMP v3 protocol.
Search via HTTP/HTTPS	If you check this box, use the drop-down menu to select the Protocol and enter the Service port number. This will search for devices that match the HTTP or HTTPS settings.

2. Click **Search** and a table will appear with the results. Use the radio buttons to select what type of devices to display in the table (ATEN devices, NRGence PDUs or Other server or devices):



Devices | Tools | Default Access Rights | Device Sync | Auto Discovery
Available Devices
Next
Cancel

● ATEN devices (1)　○ NRGence PDUs (0)　○ Other server or devices (0)

Restrictions:

□ Hide IP address　□ Hide MAC address

CC2000 Options:

☑ Disable other authentication　☑ Enable device logs to be sent to the CC

ATEN Devices

□	Name ▲	Model	IP Address	MAC Address	Server Name	Description
□	KN2140v	KN2140v	fe80:0:0:0:210:74ff:fe97:570	001074970570	3700T-15198	

Sort by Name ▾　Filter　Items/page 25 ▾　Page 1/1　Go

When **Restrictions** and **CC2000 Options** are selected, the *ATEN Devices* table will change as the condition(s) is changed.

Note: Searches take an extended period of time when the CC2000 software is installed on a Windows XP platform.

The *Description* column reveals one of three results:

Result	Information
Empty	No such device or server found.

Result	Information
IP Matched	A device or server has been found in CC2000 with the same IP address but of a different type.
Matched	A device or server has been found in CC2000 that matches both the IP address and type.

3. Click the check box for the device or server you would like to add.
4. Click **Next**.
5. Use the instructions found in this chapter to configure the device type you are adding.

Sidebar Device Configuration

Certain aspects of a device’s configuration are established when the device is created. There are additional settings for managing your devices that become available when you select a device item in the Sidebar or from the Device List in the main panel.

Clicking a device item in the Sidebar or from the Device List in the main panel invokes several Panel Menu items that allow you to refine the device item’s configuration settings. The items offered, as well as the setting items offered under the Panel Menus, vary depending on which device is selected. An explanation of the Panel Menus and their settings is provided in the sections below.

Note: Access rights can be configured on an individual, port-by-port, basis. Giving a user access and configuration rights to a device does not necessarily mean giving the user rights to every port on the device.

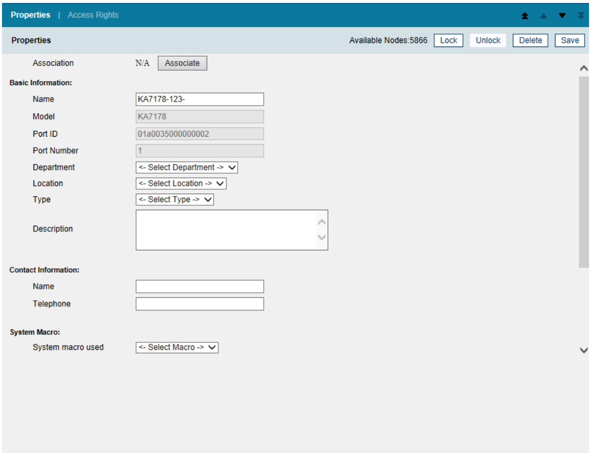
KVM Devices and Ports

Selecting a KVM device, such as the IP8000 or KN4132, or one of its ports, brings up a page with two entries on the Panel Menu bar: Properties, and Access Rights. Each of these items is discussed in the sections that follow.

Properties

The settings found on the *Properties* page for devices are similar to the ones described in the *Adding Devices* section. See the table on page 96, for details.

The Port Properties page looks similar to the screen shown below:



Available Nodes:5866

Association N/A

Basic Information:

Name KA7178-123-

Model KA7178

Port ID 01a0035000000002

Port Number 1

Department <- Select Department ->

Location <- Select Location ->

Type <- Select Type ->

Description

Contact Information:

Name

Telephone

System Macro:

System macro used <- Select Macro ->

An explanation of the property items is given in the table, below:

Item	Explanation
Associate	This *Associate* button is used for aggregate devices that can associate different ports on different devices in order to more easily manage ports.
Basic Information	**Name:** Provide a name to identify the port. The default is the port name it was given under its original device configuration. If you change the name here, the change only takes place in the CC2000 database. The name on the original configuration remains the same. **Model:** The CC2000 recognizes the device model and fills in this field automatically. It cannot be edited. If the device is a Cat5e KVM switch, the KVM Adapter Cable model displays here. **Port ID:** Port IDs are unique and permanent – they cannot be edited. The CC2000 fills in this field automatically. For Cat5e KVM switch ports, the ID is derived from the KVM Adapter Cable ID. **Port Number:** The CC2000 ascertains which port on the KVM switch is the one being configured and fills in this field automatically. It cannot be edited. **Department:** For organizational purposes you can establish department categories (R&D, for example), and assign ports to them. If you wish to assign this port to a department, drop down the list of departments (you have previously created – see *Departments, Locations and Types*, page 155), and click on the one you want the port to belong to. **Location:** For organizational purposes you can establish location categories (West Coast, for example), and assign ports to them. If you wish to assign this port to a location, drop down the list of locations (you have previously created – see *Departments, Locations and Types*, page 155), and click on the one you want the port to belong to. **Type:** For organizational purposes you can specify the type of device that this is. If you wish to do so, drop down the list of types (you have previously created – see *Departments, Locations and Types*, page 155), and click on the one you want. **Description:** If you wish to provide extra information to describe the port, enter it here. This field is optional.
Contact Information	The name and telephone number of the device administrator. These fields are optional.
System Macro	If system macros have been made, drop down the list to select the one you want. When you close the KVM viewer the macro will be sent to the server connected to this port and the server will run it. **Note:** This item only appears on ports that have servers connected to them.
Trap Destination	The email address of the person you want to receive trap notifications. This field is optional.

Properties Page Action Buttons

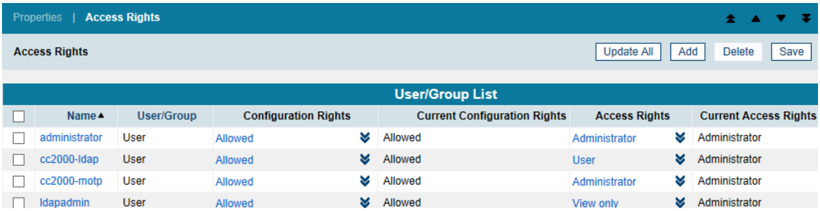
When a top-level (non-nested) ATEN/Altusen device is selected in the Sidebar or the Interactive Display Panel, a series of action buttons appear at the top-right of the Interactive Display Panel. The purpose of these buttons are explained in the following table:

Button	Purpose
Update All	Clicking this button brings up a page listing all of the items nested underneath the top-level device. This page allows you to configure (or reconfigure) the Department, Location, Type, Description, and Trap Destination of each nested (child) item.
Lock All	If the total number of device nodes on the installation exceeds the number you have been licensed for, you can choose which device nodes to exclude by locking them. Click this button to lock all of the device's ports. See *Locking / Unlocking Ports*, page 123 for more information.
Unlock All	If any of the device's ports have been locked, click this button to unlock all of them.
Save	If you make any changes on the Properties page, click **Save** to save them and move on.
Update	If the installation information for a device doesn't match the information for it stored in the CC2000's database – for example, if an adapter is moved to a different port, or a new adapter is connected to a port – a question mark is added to its icon in the Sidebar and the *Update* button is enabled. Selecting the device in the Sidebar and clicking **Update** causes the CC2000 to update the device's installation information in its database.
Move	Click this button to move the device into a different folder. Select the target folder in the dialog box that comes up, then click **OK**.

When a port is selected only the *Lock*, *Unlock* and *Save* buttons appear at the top-right of the page. These buttons allow you to lock and unlock the ports individually. See *Locking / Unlocking Ports*, page 123 for more information.

Access Rights – KVM Devices

When a KVM device is selected in the Sidebar or the Interactive Display Panel, you can set the configuration and access rights for it by clicking the *Access Rights* Panel Menu item. Clicking this item brings up a page that shows a list of all the users and groups that have been given access to it.



User/Group List

□	Name ▲	User/Group	Configuration Rights	Current Configuration Rights	Access Rights	Current Access Rights
□	administrator	User	Allowed	Allowed	Administrator	Administrator
□	cc2000-ldap	User	Allowed	Allowed	User	Administrator
□	cc2000-motp	User	Allowed	Allowed	Administrator	Administrator
□	ldapadmin	User	Allowed	Allowed	View only	Administrator

■ Adding Users or Groups to the Device User/Group List

To give a user or group access to the device, do the following:

1. Click **Add**. A list of qualified users and groups appears.
2. Click to put a check in the checkbox in front of the names of the users or groups that you want to access the device or port.
3. Set the configuration rights for the users or groups:
   - **Allowed** – The user or group can configure the device's settings.
   - **Denied** – The user or group cannot configure the device's settings.
4. Set the access rights for the users or groups:
   - **Administrator** – When accessing the device, the user or group has administrator privileges on it (according to the device's authorization policy).
   - **User** – When accessing the device, the user or group has user privileges on it (according to the device's authorization policy).
   - **View Only** – When accessing the device, the user or group can only view its ports – they cannot perform any actions on them.
   - **No Access** – The user or group cannot access any of the device's ports.
5. When you have finished making your configuration rights settings, click **Save**. The new users and groups are added to the device's User/Group list.

■ Modifying a User’s or Group’s Rights

To modify a user’s or group’s rights to the device, do the following:

1. In the *Configuration Rights* column that corresponds to the user or group you want to modify, click on the arrow; make your new selection; then click **Close**.
2. In the *Access Rights* column that corresponds to the user or group you want to modify, click on the arrow; make your new selection; then click **Close**.
3. click **Save** (at the top-right of the panel).

■ Deleting a User’s or Group’s Rights

To remove a user’s or group’s rights to the device, do the following:

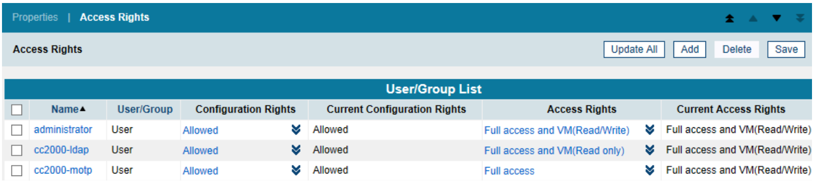
1. Click to put a check in the checkbox in front of the names of the users or groups that you want to remove.
2. Click **Delete** (at the top-right of the panel).

■ Action Buttons

In addition to Add, Delete, and Save, there is an *Update All* button (at the top-right of the panel). Clicking that button takes you to a page that lets you set the configuration and access rights for all users and groups on the selected device or port.

Access Rights – KVM Ports

When a port is selected in the Sidebar or the Main panel list you can set the rights for which users will be allowed to configure and access it by clicking the Access Rights Panel Menu item. Clicking this item brings up a page that shows a list of all the users and groups that have been given access to it.



User/Group List

□	Name▲	User/Group	Configuration Rights	Current Configuration Rights	Access Rights	Current Access Rights
□	administrator	User	Allowed	Allowed	Full access and VM(Read/Write)	Full access and VM(Read/Write)
□	cc2000-ldap	User	Allowed	Allowed	Full access and VM(Read only)	Full access and VM(Read/Write)
□	cc2000-motp	User	Allowed	Allowed	Full access	Full access and VM(Read/Write)

■ Adding Users or Groups to the Port User/Group List

To give a user or group access to the port, do the following:

1. Click **Add**. A list of qualified users and groups appears.
2. Click to put a check in the checkbox in front of the names of the users or groups that you want to access the port.
3. Set the configuration rights for the users or groups:
   - **Allowed** – The user or group can configure the port’s settings.
   - **Denied** – The user or group cannot configure the port’s settings.

   Note: This setting is only available with ports on Cat5e KVM switches.

4. Set the access rights for the users or groups:
   - **Full access and VM (Read / Write) / Read Only**– The user can view the remote screen and can perform operations on the remote system from his keyboard and monitor. The user has read/write or ready only rights to use the virtual media function.

     Note: This setting is only available on KN2124v, KN2140v, KN4124v, and KN4140v switches.

   - **Full access** – The user can view the remote screen and can perform operations on the remote system from his keyboard and monitor.
   - **View only** – The user can only view the remote screen; he cannot perform any operations on it.
   - **No access** – The port does not appear in the user’s Port Access Sidebar or Status and Operation List (see *Port Access*, page 35).
5. When you have finished making your access rights settings, click **Save**. The new users and groups are added to the port’s User/Group list.

■ Modifying a User's or Group's Rights

To modify a user's or group's rights to the port, do the following:

1. In the *Configuration Rights* column that corresponds to the user or group you want to modify, click on the arrow; make your new selection; then click **Close**.
2. In the *Access Rights* column that corresponds to the user or group you want to modify, click on the arrow; make your new selection; then click **Close**.
3. click **Save** (at the top-right of the panel).

■ Deleting a User's or Group's Access Rights

To remove a user's or group's access rights to a port, do the following:

1. Click to put a check in the checkbox in front of the names of the users or groups that you want to remove.
2. Click **Delete** (at the top-right of the panel).

■ Action Buttons

In addition to Add, Delete, and Save, there is an *Update All* button (at the top-right of the panel). Clicking that button takes you to a page that lets you set the configuration and access rights to the port for all users and groups.

Copy-Paste Access Rights

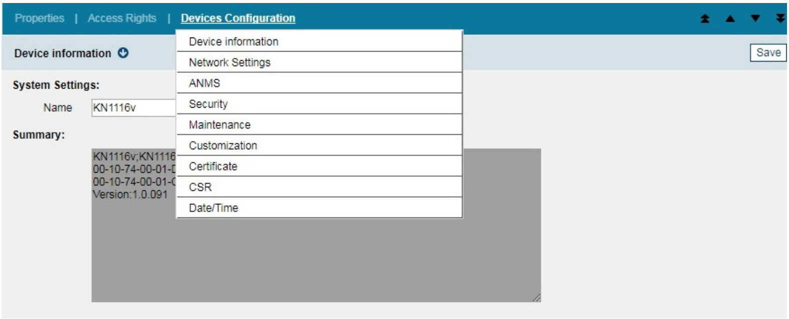
The access rights copy-paste function is enabled between compatible nodes (i.e. outlet to outlet). To use this function, in the sidebar tree, right-click on an outlet and select copy access right. Right-click on another outlet and select paste access right.

Device Configuration (For KVM Devices)

The purpose of Device Configuration is to allow you to configure the device from within the CC2000, without having to access the device directly. Changes on these pages actually get made on the device, itself.

Note: If the link between the CC2000 and the device should be broken for some reason, device configuration changes made on these pages will not be transmitted to the device. To make device configuration changes you can log in to the device directly (see *CC2000 Options*, page 97, for details).

This Panel Menu item contains several secondary pages. To modify the information on these pages, you can either move through them sequentially, by clicking the arrow icons (⬇ and ⬆) at the left of the main panel in the gray bar, or you can go directly to a page by hovering over the menu and selecting the page from the popup menu that appears.



System Settings:

Name KN1116v

Summary:

KN1116v;KN1116
00-10-74-00-01-[
00-10-74-00-01-(
Version:1.0.091

Note: The Device Configuration Panel Menu doesn’t appear if the device is offline

The secondary Panel Menu pages correspond to the administration functions described in the device's User Manual. For configuring the settings, refer to the manual's Device Management chapters to obtain the necessary information. When you have finished making your configuration settings, click **Save**.

Note: 1. On the CC2000's secondary Panel Menu ANMS settings page, in addition to the entry labeled *Preferred CC Server Settings*, there is an entry called *Alternate CC Server Settings*. The Preferred settings correspond to the ANMS settings on the device (see *Device ANMS Settings*, page 249) Changes to this setting take place on the device. The Alternate settings entry allows you to set an IP address and port for a CC2000 redundant Secondary server (see *CC2000 Redundant Secondary Servers*, page 23). Although this setting does not appear on the device's ANMS page, it will take effect on the device if the preferred server becomes unavailable.

2. On the CC2000's secondary Panel Menu Customization settings page, there is an entry called *Port timeout*. This field sets a time threshold for users on ports whose Access Mode has been set to *Occupy* (see *Mode*, page 140).

This corresponds to the *Access Mode* setting on the original device. If there is no activity from the user occupying the port for the amount of time set here, the user is timed out and the port is released. The first user to send keyboard or mouse input after the port has been released gets to occupy the port.

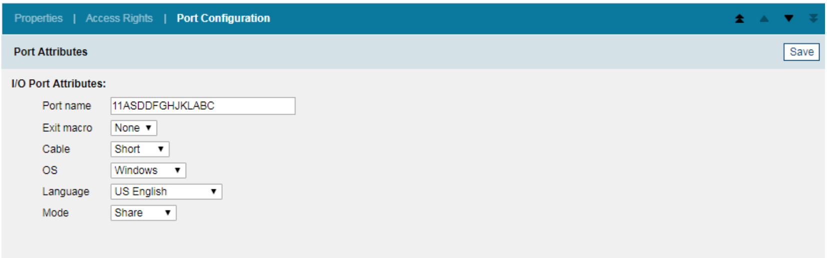
Input a value from 0 to 255 seconds. The default is 3 seconds. A setting of 0 causes the port to be released the instant there is no input.

Port Configuration (For Cat5e KVM Devices)

The purpose of Port Configuration is to allow you to configure the port from within the CC2000, without having to access the device directly. Changes on these pages actually get made on the device, itself.

Note: If the link between the CC2000 and the device should be broken for some reason, device configuration changes made on these pages will not be transmitted to the device. To make device configuration changes you can log in to the device directly (see *CC2000 Options*, page 97, for details).

This Panel Menu page is used to set the I/O attributes of the selected port:



I/O Port Attributes:

Port name 11ASDDFGHJKLABC
Exit macro None
Cable Short
OS Windows
Language US English
Mode Share

The meanings of the attribute headings are described in the table, below:

Heading	Meaning
Port Name	This is the name given to the port.
Exit Macro	If system macros have been made, drop down the list to select the one you want. When you close the KVM viewer the macro will be sent to the server connected to this port and the server will run it.
Cable	Specifies the length of the Cat5e cable that is used to connect the computer to the port.
OS	Specifies the operating system that the computer on the connected port is using.
Language	Specifies the OS language being used by the computer on the connected port.
Mode	This corresponds to the Access Mode setting on the original device (Share, Occupy, Exclusive). It defines how the port is to be accessed when multiple users have logged on. **Exclusive:** The first user to switch to the port has exclusive control over the port. No other users can view the port. The *Timeout* function does not apply to ports which have this setting. **Occupy:** The first user to switch to the port has control over the port. However, additional users may view the port's video display. If the user who controls the port is inactive for longer than the time set in the *Timeout* box, port control is transferred to the next user to move the mouse or strike the keyboard. **Share:** Users simultaneously share control over the port. Input from the users is placed in a queue and executed chronologically.

To configure the settings, refer to the device's User Manual to obtain the necessary information. When you have finished making your configuration settings, click **Save**.

Power Devices, Stations, and Outlets

Selecting a Power device or one of its outlets, brings up a page with two entries on the Panel Menu bar: Properties, and Access Rights. Each of these items is discussed in the sections that follow.

Note: 1. When you select a Power Device (PN9108) in the Sidebar, and expand the entries below it, the first station shown below the PN9108 entry is actually the PN9108, itself. The second station is the power station (PN9108 or PN0108) that is daisy chained from the first station.

2. Although additional PN9108s can be daisy chained from a first station PN9108, since they can all be accessed with a single sign on through the CC2000, it isn't necessary to daisy chain them to achieve management through a single IP address. They therefore can be deployed independently, rather than being daisy chained.

3. The CC2000 doesn't support the PN0108 directly. Since PN0108s are not capable of Internet access they are only supported when daisy chained to PN9108s.

Properties

The settings found on the *Properties* page for the device, station, or outlet are similar to the ones described in the *KVM Devices and Ports* section. See page 131 for details.

Properties Page Action Buttons

The action buttons on the devices, stations, and outlets pages are the same, and perform the same functions as those found on the KVM properties pages. See *Properties Page Action Buttons*, page 133, for details.

Access Rights – Power Devices, Stations, and Outlets

Access rights can be configured for the entire device (nested stations and outlets), station-by-station, or outlet-by-outlet. After selecting the device, station, or outlet, clicking this Panel Menu item brings up a page that shows a list of all the users and groups that have been given access to it.

■ Adding Users or Groups to the Device, Station, or Outlet Access List

Configuration and access rights for devices, stations and outlets, can be set for users and groups. To set the rights for users or groups, do the following:

1. Click **Add**. A list of qualified users and groups appears.
2. Click to put a check in the checkbox in front of the names of the users or groups that you want to access the device, station, or outlet.
3. Set the configuration rights for the users or groups. (See page 134 for details.)
4. Set the access rights for the users or groups. (See page 134 for details.)
5. When you have finished making your access rights settings, click **Save**. The new users and groups are added to the device, station, or outlet User/ Group list.

■ Modifying a User's or Group's Rights

To modify a user's or group's rights to the device, station, or port, do the following:

1. In the *Configuration Rights* column that corresponds to the user or group you want to modify, click on the arrow; select the new value; then click **Close**.
2. In the *Access Rights* column that corresponds to the user or group you want to modify, click on the arrow; select the new value; then click **Close**.
3. click **Save** (at the top-right of the panel).

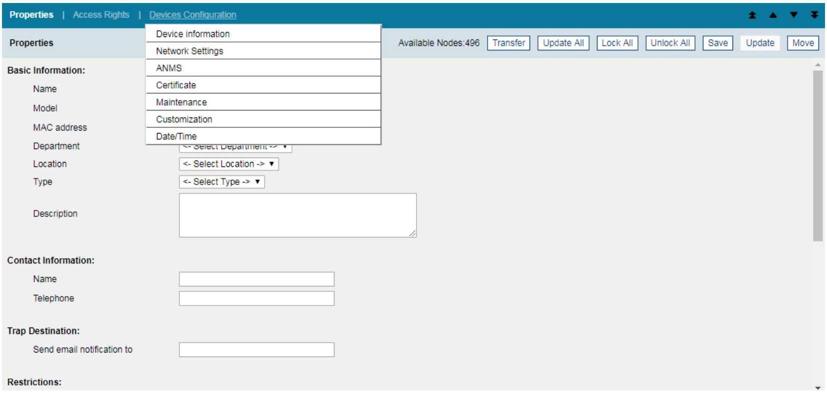
■ Deleting a User's or Group's Rights

To remove a user's or group's rights to a device, station, or outlet, do the following:

1. Click to put a check in the checkbox in front of the names of the users or groups that you want to remove.
2. Click **Delete** (at the top-right of the panel).

Device Configuration (For Power Devices)

This Panel Menu item is similar to the one for KVM device configuration discussed on page 138, except it has different secondary pages:



Properties

Basic Information:

Name

Model

MAC address

Department <- Select Department ->

Location <- Select Location ->

Type <- Select Type ->

Description

Contact Information:

Name

Telephone

Trap Destination:

Send email notification to

Restrictions:

The purpose of these secondary pages is to allow you to configure the device from within the CC2000, without having to access the device directly.

Note: 1. If the link between the CC2000 and the device should be broken for some reason, device configuration changes made on these pages will not be transmitted to the device. When this happens, you can log in to the device directly to make the changes. See *CC2000 Options*, page 97, for details.

2. The Device Configuration item does not appear if the device is offline, or if the device is on a port nested under another device.

The secondary pages correspond to the administration functions described in the device's User Manual. For configuring the settings, refer to the manual's *Administration* chapter to obtain the necessary information. When you have finished making your configuration settings, click **Save**.

Note: 1. On the CC2000's secondary Panel Menu ANMS settings page, in addition to the entry labeled *Preferred CC Server Settings*, there is an entry called *Alternate CC Server Settings*. The Preferred settings correspond to the ANMS settings on the device (see *Device ANMS Settings*, page 249) Changes to this setting take place on the device. The Alternate settings entry allows you to set an IP address and port for a CC2000 redundant Secondary server (see *CC2000 Redundant Secondary Servers*, page 23). Although this setting does not appear on the device's ANMS page, it will take effect on the device if the preferred server becomes unavailable.

2. On the CC2000's secondary Panel Menu ANMS settings page, there is an entry labeled *Event Trap and Notification*. There are four events listed, as described in the following table:

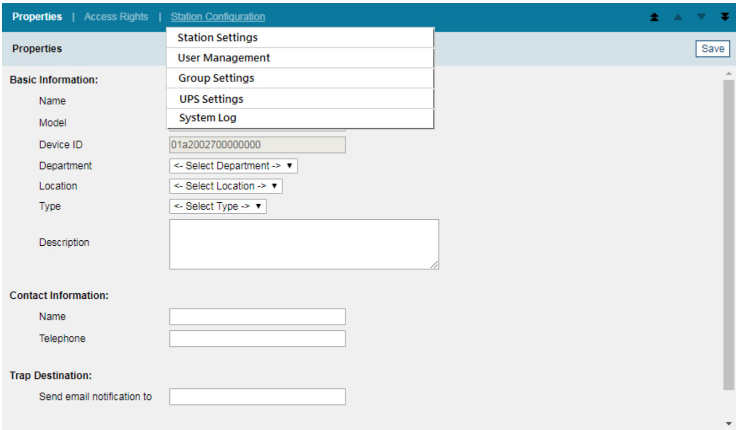
Event	Description
System Power On	When the Power device is powered on.
System Restart	When the Power device is restarted.
Outlet Fault	When a problem with an outlet port occurs (an overcurrent situation, or the relay has failed).
UPS Fault	When a problem with the UPS device (connected between the power source and the Power device in a simple signal configuration) occurs. Refer to the first UPS section of the device's User Manual for further information.

Put a check in the checkbox to enable the item events you wish to be notified of when the specified events occur.

Station Configuration (For Power Devices)

Since Power devices can be daisy chained, the chained stations are nested under the Power device's entry in the Sidebar. The *Properties* and *Access Rights* pages for this Panel Menu item have already been discussed, starting on page 141.

This Panel Menu item is similar to the one for Power device configuration discussed on page 143, except it has different secondary pages:



Basic Information:

Name

Model

Device ID 01a2002700000000

Department <- Select Department ->

Location <- Select Location ->

Type <- Select Type ->

Description

Contact Information:

Name

Telephone

Trap Destination:

Send email notification to

The secondary pages correspond to the administration functions described in the device's User Manual. For configuring the settings, refer to the manual's *Administration* chapter to obtain the necessary information. When you have finished making your configuration settings, click **Save**.

Note: 1. The Station Configuration Panel Menu does not appear if the device is offline, or if the device is on a port nested under another device.

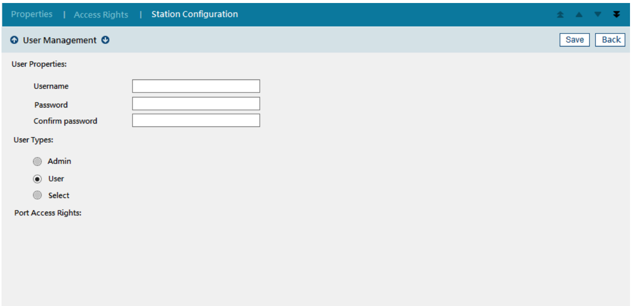
2. The changes you make to the User Management settings affects the Power device's internal authentication operations. It does not affect the authentication procedures of the CC2000.

3. If the link between the CC2000 and the device should be broken for some reason, station configuration changes made on these pages will not be transmitted to the device. When this happens, you can log in to the device directly to make the changes. See *CC2000 Options*, page 97, for details.

The User Management secondary Panel Menu page lets you Add, Edit, and Remove user access to the ports on the station.

- To Add a user, do the following:

1. Click the **Add** button (at the top-right of the panel). The User Management page comes up:



User Properties:

Username

Password

Confirm password

User Types:

○ Admin

● User

○ Select

Port Access Rights:

2. Key in the Username and Password in the User Properties fields
3. Skip the *User Type* entry – it is fixed and can't be changed.
4. The Outlet Access Rights default is *Denied* for all outlets. For each outlet that you want the user to have access to, first select it in the list, then click the *Allowed* radio button.
5. When you have finished with this page, click **Save**.

- To edit a user's information, do the following:

1. From the User Management secondary Panel Menu page, click **Edit** (at the top-right of the panel).
2. When the User Management page comes up, make your changes, then click **Save**.

- To remove a user's port access rights, do the following:

1. From the User Management secondary Panel Menu page, click to select the radio button in front of the user's name.
2. Click **Remove** (at the top-right of the panel).

For configuring the remaining secondary pages, refer to the *Configuration* section of the device's User Manual. Depending on the device, the section will be found under *Power Management Configuration*, or *Device Control*.

When you have finished making your configuration settings on each of these pages, click **Save** (at the top-right of the panel).

Port (Outlet) Configuration (For Power Devices)

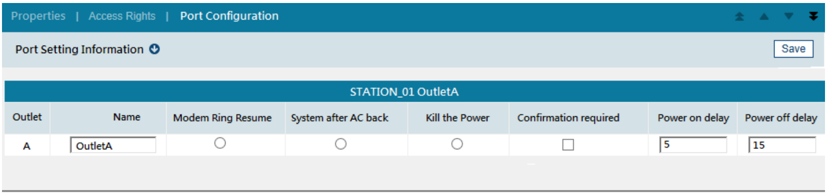
Power outlets are nested under each of their stations. Each outlet's settings can be configured independently – on an outlet-by-outlet basis. The *Port Configuration* Panel Menu has two secondary items: *Port Settings* and *Schedule Settings*.

Note: 1. The Port Configuration Panel Menu does not appear if the device is offline, or if the device is on a port nested under another device.

2. If the link between the CC2000 and the device should be broken for some reason, port configuration changes made on these pages will not be transmitted to the device. When this happens, you can log in to the device directly to make the changes. See *CC2000 Options*, page 97, for details.

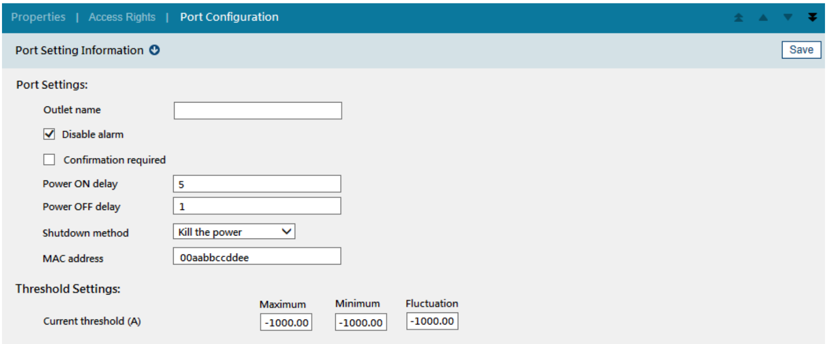
■ Port Settings

To bring up the port settings page for a particular outlet, select it in the sidebar, then click **Port Configuration** on the Panel Menu bar. A page, similar to one of the ones shown below comes up:



STATION_01 OutletA

Outlet	Name	Modem Ring Resume	System after AC back	Kill the Power	Confirmation required	Power on delay	Power off delay
A	OutletA	○	○	○	□	5	15



Port Settings:

Outlet name

☑ Disable alarm

□ Confirmation required

Power ON delay: 5

Power OFF delay: 1

Shutdown method: Kill the power

MAC address: 00aabbccddee

Threshold Settings:

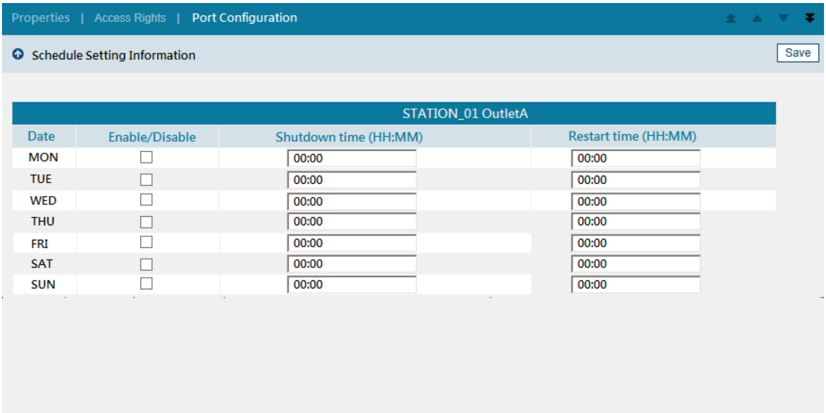
	Maximum	Minimum	Fluctuation
Current threshold (A)	-1000.00	-1000.00	-1000.00

If you want to make changes to the settings, refer to the configuration sections of the device's User Manual for an explanation of the fields. Depending on the device, the sections will be found under *Outlet Level Configuration* (PN7XXX Series)*, Power Management Configuration* (PN9108), or *Device Control* (PN0108). When you have finished making your changes on this page, click **Save**.

■ Schedule Settings

The Schedule Settings page allows you to set up a scheduled Power On/Off configuration for each of the outlets. To bring up the schedule settings page for a particular outlet, select it in the sidebar; hover over **Port Configuration** on the Panel Menu bar; then select **Schedule Settings** on the secondary menu that appears.

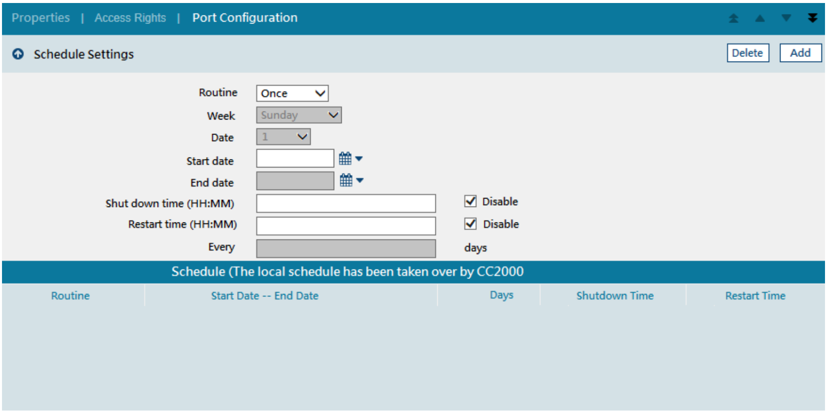
If the outlet is on a PN0108 or PN9108, the page that comes up looks similar to the screen below:


Properties | Access Rights | Port Configuration
Schedule Setting Information
Save

STATION_01 OutletA

Date	Enable/Disable	Shutdown time (HH:MM)	Restart time (HH:MM)
MON	□	00:00	00:00
TUE	□	00:00	00:00
WED	□	00:00	00:00
THU	□	00:00	00:00
FRI	□	00:00	00:00
SAT	□	00:00	00:00
SUN	□	00:00	00:00

If the outlet is on a PN7xxxx Series PDU, the page that comes up looks similar to the screen below:



Schedule Settings

Routine	Once	
Week	Sunday	
Date	1	
Start date		
End date		
Shut down time (HH:MM)		☑ Disable
Restart time (HH:MM)		☑ Disable
Every		days

Schedule (The local schedule has been taken over by CC2000

Routine	Start Date -- End Date	Days	Shutdown Time	Restart Time

Refer to the *Schedule* section of each device's User Manual for a description of how to set up a scheduled Power On/Off configuration for the outlets. When you have finished making your changes on the Port Configuration page, click **Save**.

Note: The schedule settings for power device outlets made on the CC2000 replace any schedule settings made locally on the device, itself.

Serial Devices and Ports

Selecting a Serial device, such as the SN0108, brings up a page with the following entries on the Panel Menu bar: Properties, Access Rights, and Device Configuration. When you select a port on the Serial device, the *Device Configuration* heading changes to *Port Configuration*.

Properties

With the exception of one additional menu item, *Enable SN device session history to be sent to the CC*, the settings found on the *Properties* page for the device, or port are similar to the ones described in the *Adding Devices* section. (See the table on page 96, for details.)

■ SN device session history

If *Enable SN device session history to be sent to the CC* is selected, the serial device's session history will be sent to, and stored on the CC2000 server, where it will becomes part of the CC2000's searchable database.

■ Action Buttons

These buttons perform the same functions as they do on KVM ports.
See *Properties Page Action Buttons*, page 133, for details.

Access Rights

Access rights can be configured for the entire device or port-by-port. After selecting the device, or port, clicking this Panel Menu item brings up a page that shows a list of all the users and groups that have been given access to it.

■ Adding Users or Groups to the Device or Port Access List

To give a user or group access to the device or port, do the following:

1. Click **Add**. A list of qualified users and groups appears.
2. Click to put a check in the checkbox in front of the names of the users or groups that you want to access the device or port.
3. Set the configuration rights for the users or groups:
   - **Allowed** – The user or group can configure the device's settings.
   - **Denied** – The user or group cannot configure the device's settings.
4. If a Device was selected, set the access rights for the users or groups: These are the same as the ones described for KVM devices. See *Set the access rights for the users or groups:*, page 134, for details
5. If a Port was selected, set the access rights for the users or groups:
   - **Telnet** – The user or group must access the port via a Telnet session.
   - **SSH** – The user or group must access the port via an SSH session.

6. When you have finished making your access rights settings, click **Save**. The new users and groups are added to the device or port User/Group list.

■ Modifying a User’s or Group’s Rights

To modify a user’s or group’s rights to the device, station, or port, do the following:

1. In the *Configuration Rights* column that corresponds to the user or group you want to modify, click on the arrow; select **Allowed** or **Denied**; then click **Close**.
2. If a Device was selected, in the *Access Rights* column that corresponds to the user or group you want to modify, click on the arrow; select **Administrator**, **User**, **View only**, or **No access**.
3. If a Port was selected, in the *Access Rights* column that corresponds to the user or group you want to modify, click on the arrow; select **Telnet, SSH, (**or both of them); then click **Close**.
4. click **Save** (at the top-right of the panel).

■ Deleting a User’s or Group’s Rights

To remove a user’s or group’s rights to a device, station, or port, do the following:

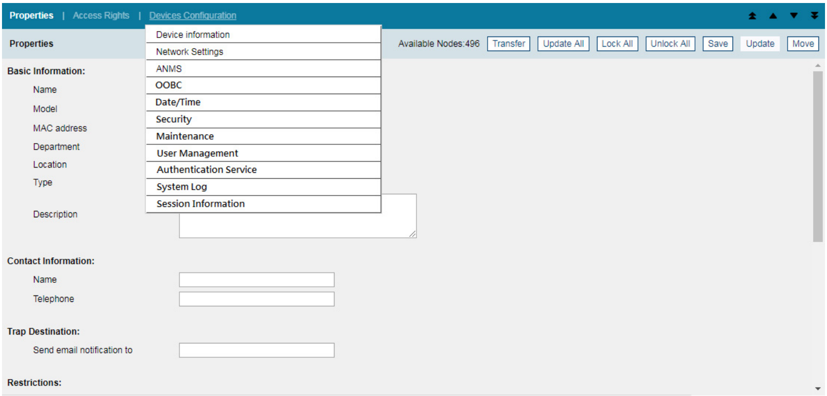
1. Click to put a check in the checkbox in front of the names of the users or groups that you want to remove.
2. Click **Delete** (at the top-right of the panel).

■ Action Buttons

In addition to Add, Delete, and Save, there is an *Update All* button (at the top-right of the panel). Clicking that button takes you to a page that lets you set the configuration and access rights for all users and groups on the selected device or port.

Device Configuration (For Serial Devices)

The *Device Configuration* page is similar to the one for *Power Devices, Stations, and Outlets* (see *Device Configuration (For Power Devices)*, page 143), but there are some differences in the secondary Panel Menu pages:



The purpose of these secondary pages is to allow you to configure the device from within the CC2000, without having to access the device directly.

The secondary pages correspond to the administration functions described in the device's User Manual. For configuring the settings, refer to the manual's *Administration* chapter to obtain the necessary information. When you have finished making your configuration settings, click **Save**.

Note: 1. The Device Configuration Panel Menu does not appear if the device is offline, or if the device is on a port nested under another device.

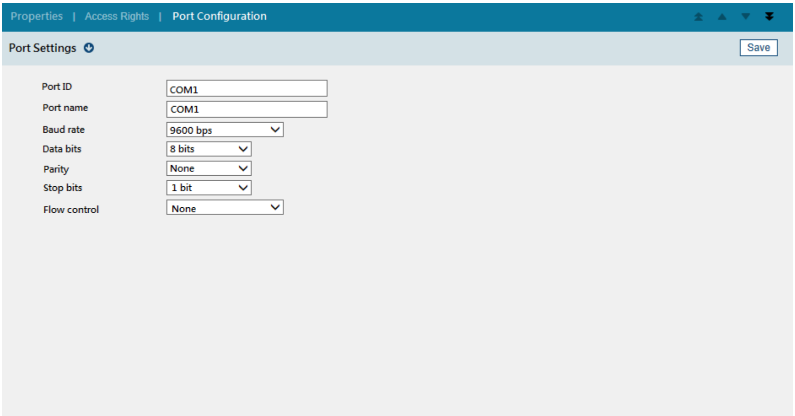
2. If the link between the CC2000 and the device should be broken for some reason, you can access the device directly (with its URL), but you must uncheck the *Disable other authentication* function if it has been selected (see *CC2000 Options*, page 97).

Port Configuration (For Serial Devices)

Serial COM ports are nested under each of their devices. Each port's settings can be configured independently – on a port-by-port basis. Port Configuration has two secondary Panel Menu items: *Port Settings* and *Advanced Port Settings*.

■ Port Settings

To bring up the settings page for a particular port, select it in the sidebar, then click **Port Configuration** on the Panel Menu bar. A page, similar to the one below, comes up:



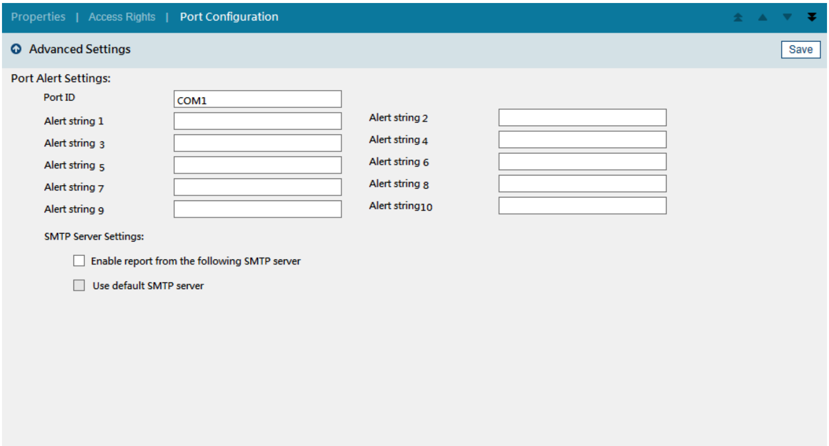
Port ID: COM1
Port name: COM1
Baud rate: 9600 bps
Data bits: 8 bits
Parity: None
Stop bits: 1 bit
Flow control: None

Refer to the *Port Property Settings* section of the device's User Manual for an explanation of the fields. When you have finished making your changes on this page, click **Save**.

■ Advanced Port Settings

This page provides a way for you to be notified about problems that occur on a device’s COM ports on a port-by-port basis. To configure notification, do the following:

1. Select the port in the sidebar; hover over *Port Configuration* on the Panel Menu bar; then select **Advanced Port Settings** on the menu that appears. A page, similar to the one below, comes up:



Port Alert Settings:

Port ID	COM1		
Alert string 1		Alert string 2	
Alert string 3		Alert string 4	
Alert string 5		Alert string 6	
Alert string 7		Alert string 8	
Alert string 9		Alert string10	

SMTP Server Settings:

□ Enable report from the following SMTP server

□ Use default SMTP server

2. Refer to the *Port Alert Settings* section of the device’s User Manual for an explanation of the fields. When you have finished making your changes on this page, click **Save**.

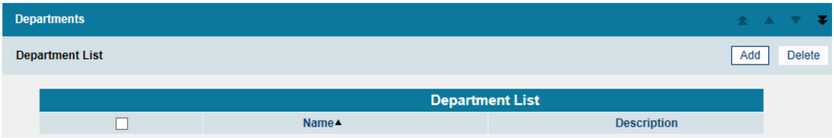
Departments, Locations and Types

For convenience, and ease of management, the *Departments*, *Locations*, and *Types* pages provide three more ways of organizing your devices. To use this organizational scheme, you would first create appropriate categories (such as *R&D* and *Manufacturing* under Departments; *East Coast Operations* under Locations; and *Power* under Types), and then assign devices to them (from the device's Properties page), as described in the sections that follow.

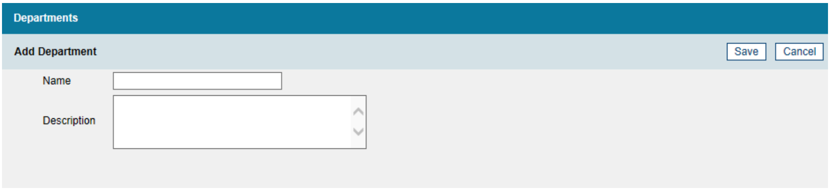
Adding a Department Location or Type

To create a Department, Location, or Type, do the following:

1. Select **Department**, **Location**, or **Type** on the Menu Bar. The *Department*, *Location*, or *Type* List page comes up:



2. Click **Add** (at the top-right of the panel). The Add Department (or Location or Type) page comes up:



3. Fill in the Name and Description fields, then click **Save**.

Assigning Devices and Ports

To assign a device or port to a Department, Location, or Type, do the following:

1. Select **Devices** on the Menu Bar.
2. In the Sidebar, select the device or port you want to assign to a Department, Location, or Type. Its *Properties* page comes up (see page 95).
3. Drop down the list of Departments, Locations, or Types and click on the one(s) you want the device or port to belong to.

Modifying a Department, Location, or Type

To change the name or description of a Department, Location, or Type, do the following:

1. Select **Department**, **Location**, or **Type** on the Menu Bar.
2. In the Sidebar or Main Panel, select the Department, Location, or Type you want to modify.
3. On the Panel Menu bar, select **Properties**.
4. Make your changes, then click **Save**.

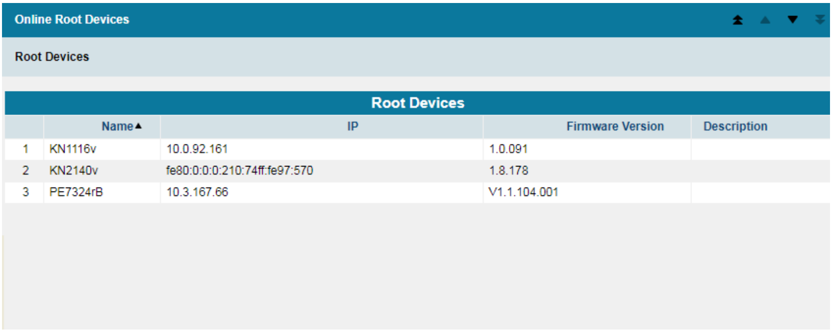
Deleting a Department, Location, or Type

To delete a Department, Location, or Type, do the following:

1. Select **Department**, **Location**, or **Type** on the Menu Bar. The *Department*, *Location*, or *Type* List page comes up.
2. Click to put a check mark in front of the name of the Department, Location, or Type you wish to remove, then click **Delete** (at the top-right of the panel).

Online Devices Information

The *Online Devices Information* tab is a convenient way to view information of devices that are being managed by the CC2000. Clicking in the tab brings up a list of devices/dongles deployed in the installation and displays their IP address and firmware version, as shown below:



Root Devices

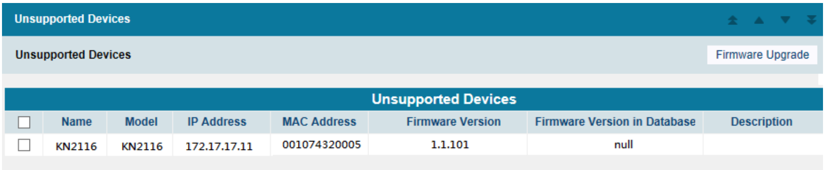
	Name▲	IP	Firmware Version	Description
1	KN1116v	10.0.92.161	1.0.091	
2	KN2140v	fe80:0:0:0:210:74ff:fe97:570	1.8.178	
3	PE7324rB	10.3.167.66	V1.1.104.001	

Note: 1. This is a view-only tab – no actions can be performed.

2. The Root Devices list is sortable by Name, Type, and IP

Unsupported Devices

Unsupported devices are ATEN/Altusen devices whose firmware level is not compatible with the CC2000's current firmware level. Clicking *Unsupported Devices* on the Menu Bar brings up a page that lists all such devices deployed on the CC2000 installation:



Unsupported Devices

□	Name	Model	IP Address	MAC Address	Firmware Version	Firmware Version in Database	Description
□	KN2116	KN2116	172.17.17.11	001074320005	1.1.101	null	

To make these devices available for management under the CC2000, their firmware must be upgraded to the latest version. To do this, do the following:

1. Add the device's firmware upgrade file to the CC2000. See *Appliance Files*, page 210, for details on how to do this.
2. Once the device's firmware upgrade file is stored on the CC2000, its checkbox on this page becomes active. Click to put a check mark in the checkbox.
3. Following Step 2, the *Firmware Upgrade* button, (at the top-right of the panel), becomes active.
4. Click **Firmware Upgrade** to upgrade the device's firmware.

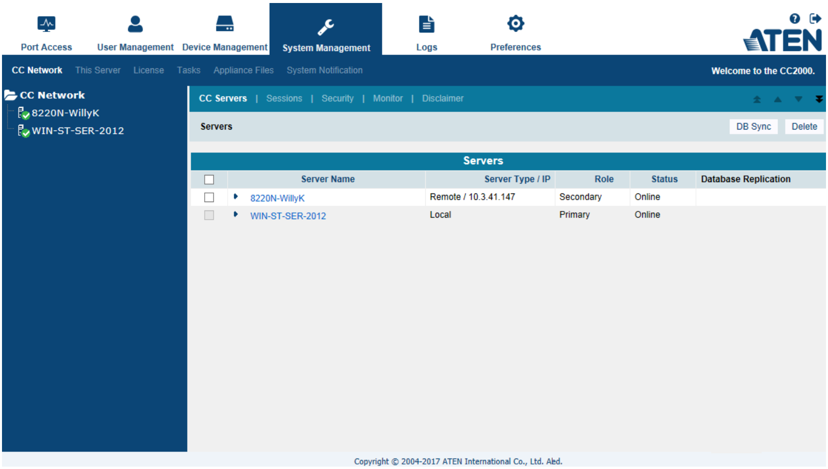
Once the firmware upgrade completes, the device is removed from the Unsupported Devices list, and now appears in the Available Devices list (see *Adding a Folder or Device*, page 93).

Chapter 7
System Management

Overview

A CC2000 installation is comprised of CC2000 compatible devices residing on a network segment that are connected – over-IP – to a CC2000 server that also resides on that same network segment. By connecting individual CC2000 server segments through their IP addresses into an integrated worldwide network, the CC2000 Control Center Over the NET™ provides secure, centralized, single IP address login access, to all your data center equipment from anywhere there is an internet connection, at any time.

For administrative and deployment purposes, one of the CC2000 servers is considered the *Primary* server; the others are considered *Secondaries*. When you click the System Management tab, the CC2000 opens to the default *CC Network* page, which looks similar to the screen, below:



□	Server Name	Server Type / IP	Role	Status	Database Replication
□	8220N-WillyK	Remote / 10.3.41.147	Secondary	Online	
□	WIN-ST-SER-2012	Local	Primary	Online	

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Note: The System Management page is for System Administrators. Other user types can omit this chapter.

Menu Structure

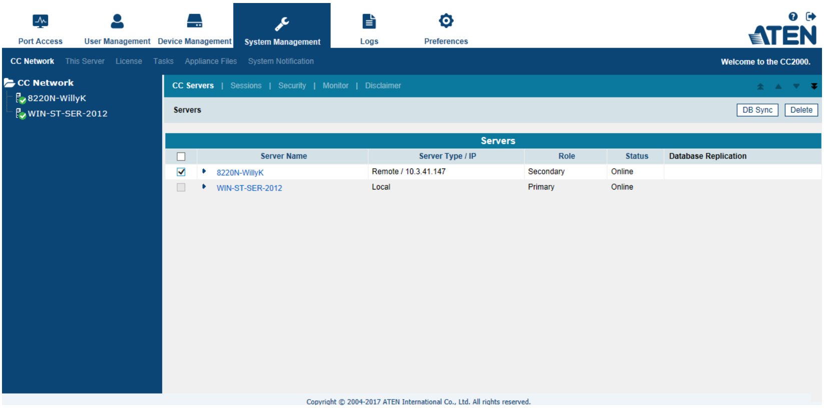
The System Management menu structure is described in the table below:

Tab	Page Menu	Panel Menu	Panel Menu Submenus	Page
System Management	CC Network	CC Servers	Properties	161
			Sessions	214
		Sessions		162
		Security		163
		Monitor		164
	This Server	Server Information		166
		Server Settings	SMTP	170
			NTP	172
			Syslog	173
			Dial In	177
			Dial Out	178
		Primary Settings[1]		181
		VMware Settings		182
		Security		183
		Certificate		186
	License			190
	Tasks			194
	Appliance Files			210
	System Notification			215

Note: 1. This item only appears on the menu of CC2000 Secondary servers.

CC Network

The *CC Network* menu offers four Panel Menu choices: CC Servers, Sessions, Security, and Monitor. The default CC Network page is CC Servers, and looks similar to the one below:



Servers

□	Server Name	Server Type / IP	Role	Status	Database Replication
☑	8220N-WillyK	Remote / 10.3.41.147	Secondary	Online	
□	WIN-ST-SER-2012	Local	Primary	Online	

CC Servers

The Sidebar provides a tree view listing of all the CC2000 servers that exist on the installation. A green check on the icon means that the server is currently accessible; a red X means that it is not currently accessible.

The Interactive Display Panel provides a table listing of the CC2000 servers, along with some basic information about them.

If this page is being viewed from a Primary, any Secondaries can be deleted by putting a check in the box before its name, and clicking **Delete** at the top-right of the main panel.

If this page is being viewed from a Secondary server, you can use the **DB Sync** button at the top-right corner of the page to manually initiate a database replication from the Primary CC2000 server.

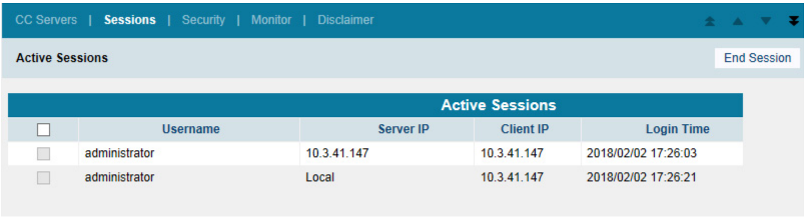
Note: Servers can only be deleted from a Primary server.

The meanings of the Server table headings are given below:

Heading	Meaning
Server Name	The name given to the server when it was installed (see *Server Information*, page 166).
Server Type /IP	*Local* indicates the CC2000 that you have logged into. For other CC2000s on the installation, the term *Remote* and the CC2000's IP address appears.
Role	The two major roles in the CC2000 management system are Primary and Secondary. In addition, there is a third role, *Substitute Primary*, in which one of the Secondaries temporarily takes over the Primary's role should the Primary become disconnected from the system (due to network problems, for example). The substitute Primary returns to its Secondary status when the Primary comes back on line. **Note:** 1. The CC2000 that acts as the Substitute Primary is automatically chosen by the CC2000 management system. The choice is based on the CC2000 registration sequence (the earliest CC2000 to register with the Primary becomes the substitute Primary). 2. The substitute Primary performs the Primary's role in regard to providing centralized management control – it cannot be used to add or delete devices; it can not register Secondary servers; Secondaries cannot replicate their databases to the substitute Primary.
Status	Indicates whether the CC2000 is online or offline

Sessions

Clicking the *Sessions* Panel Menu item that appears when *CCNetwork* is selected on the Page Menu, or in the Sidebar, lists all the sessions currently taking place on all the CC2000s on the installation (Primary and Secondaries), and provides information concerning the "who, where and when" of each.



Active Sessions

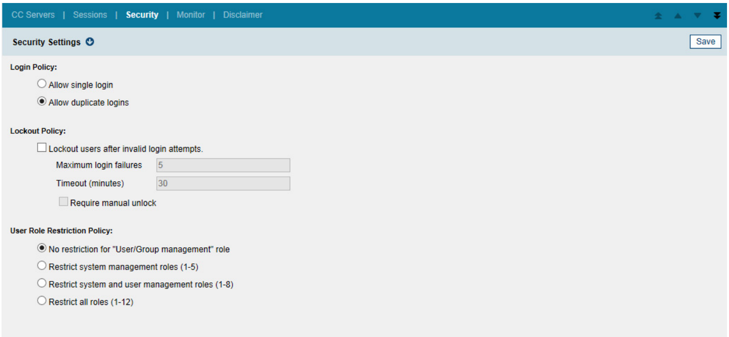
□	Username	Server IP	Client IP	Login Time
□	administrator	10.3.41.147	10.3.41.147	2018/02/02 17:26:03
□	administrator	Local	10.3.41.147	2018/02/02 17:26:21

Note: 1. To only see the sessions for a particular CC2000 server, use the navigation buttons at the top-right of the main panel to select it.

2. To end a session, you must do it from the CC Servers → Sessions Panel Menu (which is different from this Sessions – see page 214).

Security

The *Security* Panel Menu offers three setting categories: Login Policy; Lockout Policy; and User Role Restriction Policy:



Security Settings

Login Policy:

○ Allow single login

● Allow duplicate logins

Lockout Policy:

□ Lockout users after invalid login attempts.

Maximum login failures 5

Timeout (minutes) 30

□ Require manual unlock

User Role Restriction Policy:

● No restriction for "User/Group management" role

○ Restrict system management roles (1-5)

○ Restrict system and user management roles (1-8)

○ Restrict all roles (1-12)

Login Policy

- Select **Allow single login** if you don't want users to be able to log in more than once at the same time.
- Select **Allow duplicate logins** if you want users to be able to log in with the same account more than once at the same time. This is the default.

Lockout Policy

- To lock users out after a specified number of failed login attempts, click to put a check in the *Lockout users after invalid login attempts* checkbox enable the lockout function. The default is enabled.

Note: If you don't check this box, users can attempt to log in an unlimited number of times with no restrictions. For security purposes, we recommend that you enable the lockout policy.

- Key the number of login failures you wish to allow before the user gets locked out in the *Maximum login failures* field. The value specified here must be at least 1. The default is 5.
- Key the amount of time (in minutes) a locked out user must wait before being allowed to log in again in the *Timeout* field. The value specified here must be at least 1. The default is 30.
- Enabling *Require manual unlock*, means that users will not be able to log in after their account has been locked until they contact an administrator to have the administrator manually unlock the account. See *Unlocking User Accounts*, page 66, for details. The default is disabled (no check in the checkbox).

User Role Restriction Policy

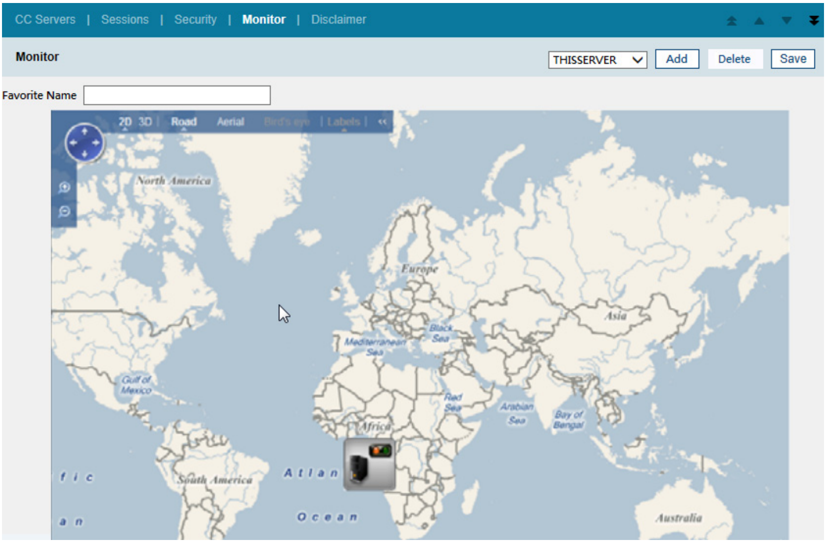
This setting category allows an administrator to create user accounts with either no role restrictions or with one of three pre-set role restriction policies. Options are as follows:

- No role restrictions
- Restrict system management roles (1–5)
- Restrict system and user management roles (1–8)
- Restrict all roles (1–12)

Note: For full details of roles 1–12, please see the table under *System Types*, page 72.

Monitor

The *Monitor* Panel Menu item offers another way of accessing one of the CC2000 servers on your installation:



The page opens to a live map view. It allows you to see at a glance all the CC2000 servers on the installation, and their online/offline status. The Primary is at the top; the Secondaries are in a row (or rows) below the Primary. The online status is indicated by whether the icon shows a green traffic light or not.

Click an icon to bring up the server's *Properties* page. This is the same page that comes up when you click the server's name in the Sidebar, or on the *CC Server* Interactive Display panel list (see the screenshot on page 161).

Note: When this page is open, the Timeout setting for the user (see *Adding User Accounts*, page 56), is ignored – the user will not be timed out.

You can create map views and save them as Favorites: click **Add**; key a name in the *Favorite Name* field; then click **Save**. To return to a view, select it from the drop down list. To delete a view, select it from the drop down list, then click **Delete**.

This Server

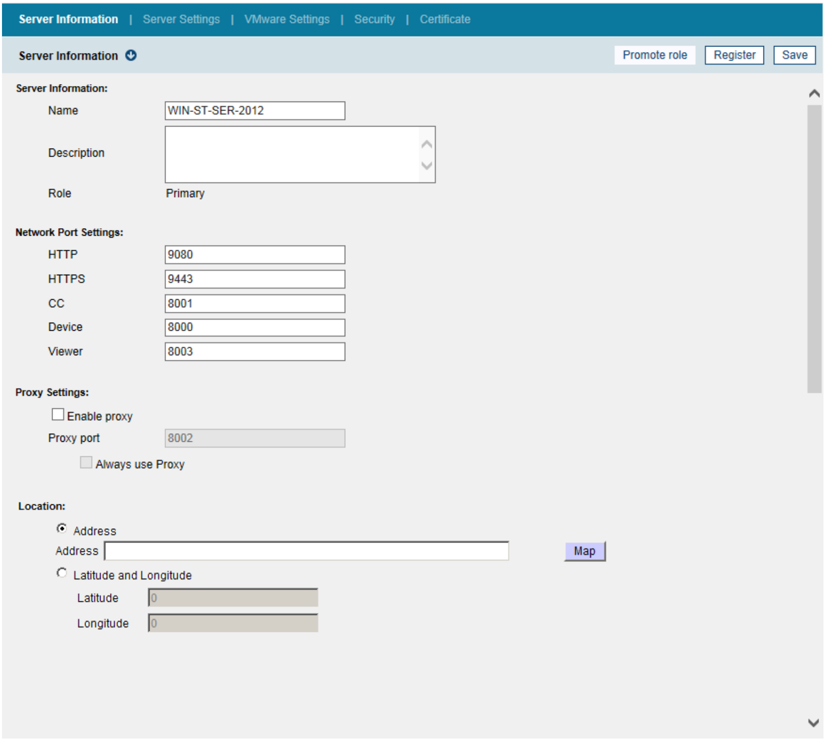
The *This Server* Page Menu refers to the CC2000 you are currently logged into – other CC2000 servers on the installation are ignored. The menu offers five Panel Menu choices: Server Information, Server Settings or Primary Settings, VMware Settings, Security, and Certificate.

Note: 1. Changes to other servers on the installation can only be made by logging into them directly.

2. Only Primary servers have a *Server Settings* Panel Menu entry; Secondary servers have a *Primary Settings* Panel Menu entry, instead (see page 181 for details).

Server Information

The default page is Server Information, and looks similar to the one below:


Server Information | Server Settings | VMware Settings | Security | Certificate
Server Information
Promote role
Register
Save
Map

Server Information:

Name: WIN-ST-SER-2012

Description:

Role: Primary

Network Port Settings:

HTTP: 9080

HTTPS: 9443

CC: 8001

Device: 8000

Viewer: 8003

Proxy Settings:

☐ Enable proxy

Proxy port: 8002

☐ Always use Proxy

Location:

● Address

Address:

○ Latitude and Longitude

Latitude: 0

Longitude: 0

This page allows you to configure the CC2000 server's settings. The meanings of the field headings are described in the table, below:

Field	Description
Name*	You can change the CC2000 server's name by editing this field.
Description	You can change the CC2000 server's description by editing this field. The description can be from 2–32 Bytes in any supported language.
Role	Indicates whether this server is a Primary or Secondary. **Note:** You can change a Secondary into a Primary with the Promote Role button at the top-right of the panel (see page 168).
HTTP*	The port that the CC2000 uses to communicate with internet browsers.
HTTPS*	The secure port that the CC2000 uses to communicate with a browser over the internet.
CC*	The port that the CC2000 uses to communicate with other CC2000 servers on the installation.
Device*	The port that the CC2000 uses to communicate with devices on the installation.
Viewer	The port that the CC2000 uses for the viewers to communicate with when Multiviewer is in effect. See *Launch Multiviewer*, page 37.
Enable Proxy	If you need to use the proxy function, check this box, then specify the proxy port in the indicated field. See *CC2000 Proxy Function*, page 252.
Location	Choose whether you want to specify the server's location by its address, or by its coordinates, then fill in the appropriate address or latitude and longitude information in the indicated fields. Click the *Map* button to bring up a navigable world map, then click on the appropriate spot on the map to set the location.

* See page 15 for details.

When all your configuration settings have been made, click **Save**.

Action Buttons

In addition to the *Save* button, there are two other action buttons at the top-right of the panel: *Promote Role*, and *Register*. Their functions are described in the sections below:

■ Promote Role (Secondary to Primary)

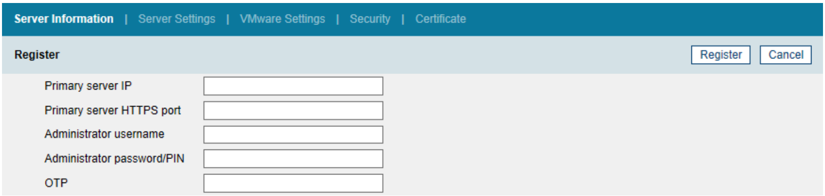
The *Promote Role* button at the top-right of the panel, is used to transform a Secondary CC2000 to a Primary. When you click this button, the change takes place automatically, with the former Primary now becoming a Secondary, and all other online Secondaries automatically recognizing the new Primary.

Note: 1. This button is only active on Secondary units.

2. You must switch to a different page and come back to this one in order to see the change.
3. We recommend that all CC2000 servers on the installation be online at the time of role promotion. If any Secondaries are offline at the time of role promotion, they must perform the *Primary Settings* procedure again. (See *Primary Settings*, page 181, for details.) If the old Primary is offline at the time of role promotion, it must Register with the new Primary when it comes back on line. See the next page for details.

■ Register

The *Register* button at the top-right of the panel, is used to integrate a CC2000 server as a Secondary into a larger CC2000 network. When you click this button, the following screen appears:


Server Information | Server Settings | VMware Settings | Security | Certificate
Register
Register
Cancel
Primary server IP
Primary server HTTPS port
Administrator username
Administrator password/PIN
OTP

To integrate the server into the larger network, enter the required information in the appropriate fields, then click **Register**.

After the registration completes, you are automatically logged out. When you log back in, your server now appears as a Secondary on the Primary's installation.

Note: 1. For the *Administrator username* and *Administrator password* fields, you must use a valid Super Administrator's or System Administrator's username and password.

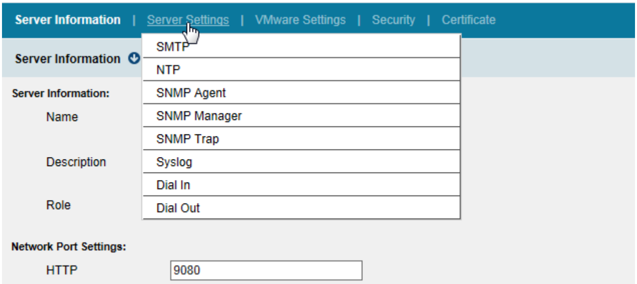
2. After registration, most of the original data on the formerly independent CC2000 (Primary or Secondary) is lost. As a Secondary server, it will now get almost all of its data from the Primary server it is registered with. Any devices that are connected to the newly registered Secondary have to be added again. See *Adding Devices*, page 94, for details regarding adding devices.

3. Users logged into other CC2000 servers on the installation may not see your CC2000 right away. If they are on the System Management tab, they won't see your CC2000 until they leave the System Management tab and come back to it again.

4. In some cases, you may have to clear your browser cache in order to see the change.

Server Settings

The Server Settings Panel Menu item only appears for Primary servers, and contains several secondary pages. To modify the information on these pages, you can either move through them sequentially, by clicking the arrow icons (⬇ and ⬆) at the left of the main panel in the gray bar, or you can go directly to a page by hovering over the menu and selecting the page from the popup menu that appears.


Server Information | Server Settings | VMware Settings | Security | Certificate
Server Information ⬇
SMTP
NTP
SNMP Agent
SNMP Manager
SNMP Trap
Syslog
Dial In
Dial Out

Server Information:

Name

Description

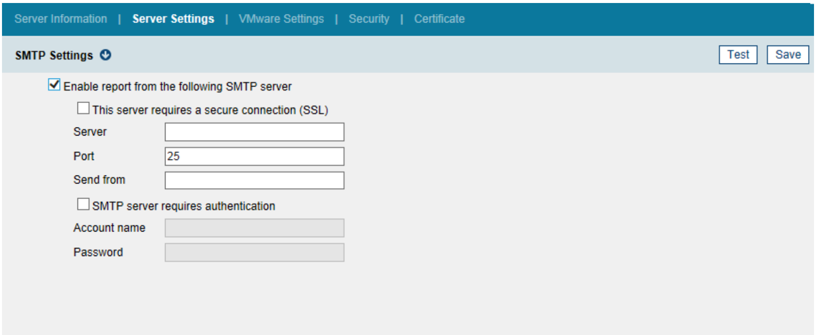
Role

Network Port Settings:

HTTP 9080

SMTP

The CC2000 can send email notification of event traps on the installation to specified users.


Server Information | Server Settings | VMware Settings | Security | Certificate
SMTP Settings ⬇
Test
Save

☑ Enable report from the following SMTP server

☐ This server requires a secure connection (SSL)

Server

Port 25

Send from

☐ SMTP server requires authentication

Account name

Password

Note: Event notification recipients are designated on the The *Notification Settings* page. See page 220 for details.

To enable SMTP server setting, do the following:

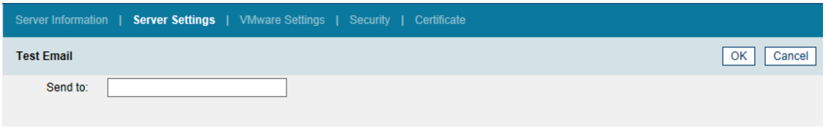
1. Check the *Enable report from the following SMTP server* checkbox.
2. Specify the IP address or domain name of the computer running your SMTP server in the *Server* field.
3. Specify the port number that the SMTP server listens on.

4. Specify the CC2000 administrator's email address in the *Send from* field.

Note: This field cannot be blank.

5. If the SMTP server requires authentication, check the *SMTP server requires authentication* checkbox, then specify the authentication account name and password in the appropriate fields.

6. Click **Test** to check that the SMTP server setting is configured properly. A screen similar to the one below appears:


Server Information | Server Settings | VMware Settings | Security | Certificate
Test Email
OK
Cancel
Send to:

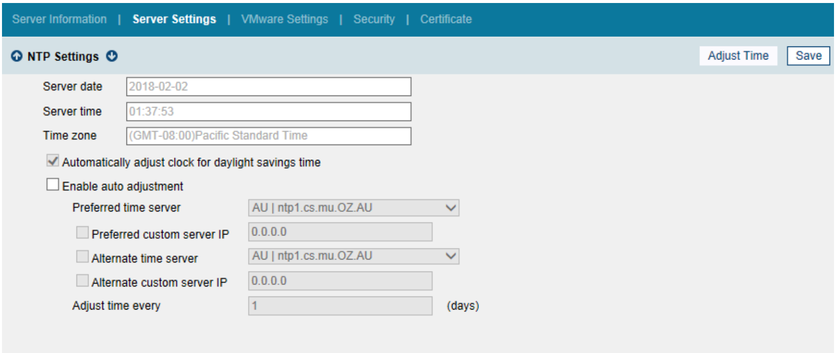
7. Key in an email address for the recipient of the test email then click **OK**. If the settings have been configured correctly, the recipient will receive the test email.

Note: The email address of the recipient cannot exceed the equivalent of 128 English alphanumeric characters.

8. Click **Save** to complete the procedure.

NTP

The NTP page lets you have the CC2000's time automatically synchronized to a network time server:


Server Information | Server Settings | VMware Settings | Security | Certificate
NTP Settings
Adjust Time
Save

Server date 2018-02-02
Server time 01:37:53
Time zone (GMT-08:00)Pacific Standard Time
☑ Automatically adjust clock for daylight savings time
□ Enable auto adjustment
Preferred time server AU | ntp1.cs.mu.OZ.AU
□ Preferred custom server IP 0.0.0.0
□ Alternate time server AU | ntp1.cs.mu.OZ.AU
□ Alternate custom server IP 0.0.0.0
Adjust time every 1 (days)

Note: 1. The top three fields are filled automatically by the CC2000, and can't be edited.

2. If you are in a timezone that doesn't have daylight savings time, the *Automatically adjust clock for daylight savings time*, checkbox is disabled.

To have the CC2000's time automatically synchronized to a network time server, do the following:

1. Check the Enable auto adjustment checkbox.
2. Drop down the time server list to select your preferred time server

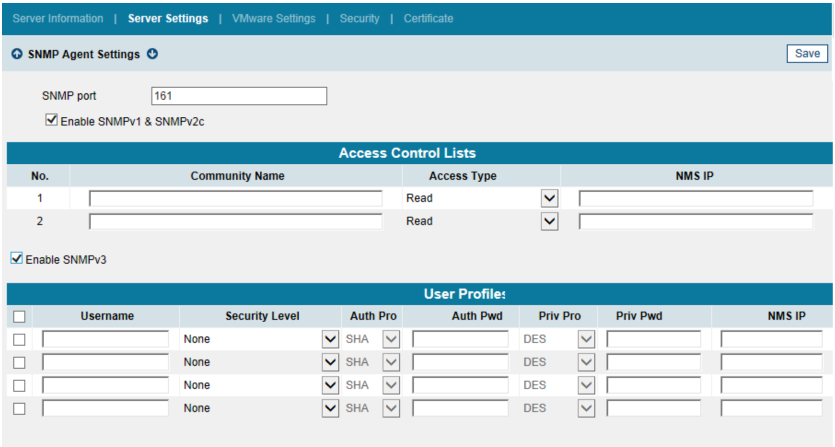
   – or –

   Check the Preferred custom server IP checkbox, and key in the IP address of the time server of your choice.
3. If you want to configure an alternate time server, check the *Alternate time server* checkbox, and repeat step 2 for the alternate time server entries.
4. Key in your choice for the number of days between synchronization procedures.
5. If you want to synchronize immediately, click **Adjust Time Now**.

When all your settings have been made, click **Save**.

SNMP Agent

The SNMP Agent page lets you set the CC2000's agents and control access for SNMP trap events as detailed below:



Server Information | Server Settings | VMware Settings | Security | Certificate

SNMP Agent Settings

SNMP port: 161

☑ Enable SNMPv1 & SNMPv2c

Access Control Lists

No.	Community Name	Access Type	NMS IP
1		Read	
2		Read	

☑ Enable SNMPv3

User Profiles

☐	Username	Security Level	Auth Pro	Auth Pwd	Priv Pro	Priv Pwd	NMS IP
☐		None	SHA		DES		
☐		None	SHA		DES		
☐		None	SHA		DES		
☐		None	SHA		DES		

To set the agents, do the following:

1. In the *SNMP Port* field, key in the port number(s) of the agent computer(s) that will collect trap event information. The valid port range is 1–65535. The default port is 161.

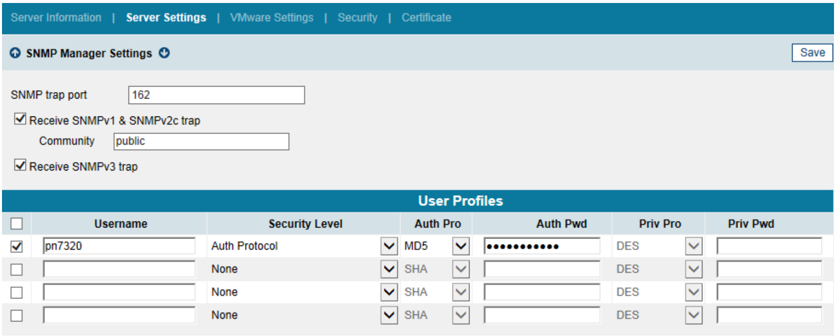
   Note: Make sure that the port number you specify here matches the port number used by the SNMP manager.

2. For SNMP Versions 1 and 2, check *Enable SNMPv1 and SNMPv2c.Trap*.
3. In the **Access Control Lists** table, key in the community name and NMS IP address, and select the Access Type from the drop-down menu (Read / Write / Disable).
4. For SNMP Version 3, click Enable *SNMPv3*.
5. In the **User Profiles** table, key in a *Username* and select a *Security Level* (Auth Protocol / Authentication & Privacy / None)
6. Select the auth/privacy protocols, and key in the auth/privacy password(s) and NMS IP address that correspond to each of the profiles.
7. Click **Save** to save your settings.

SNMP Manager

The SNMP Manager page lets you set the CC2000's management stations to send requests / receive notifications of SNMP trap events, as detailed below:

Note: Up to four management stations can be specified. See *SNMP Trap*, page 175, for further details.


Server Information | Server Settings | VMware Settings | Security | Certificate
Save

SNMP Manager Settings

SNMP trap port: 162

☑ Receive SNMPv1 & SNMPv2c trap

Community: public

☑ Receive SNMPv3 trap

User Profiles

□	Username	Security Level	Auth Pro	Auth Pwd	Priv Pro	Priv Pwd
☑	pn7320	Auth Protocol	MD5	●●●●●●●●●●●	DES	
□		None	SHA		DES	
□		None	SHA		DES	
□		None	SHA		DES	

To set the manager, do the following:

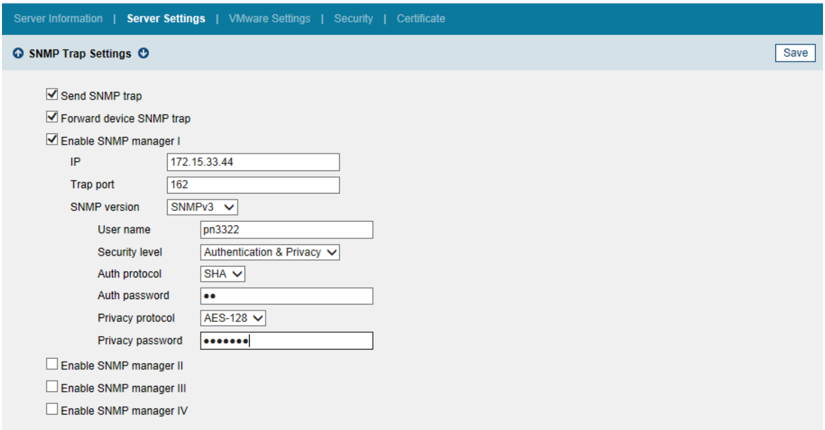
1. In the *SNMP Trap Port* field, key in the service port number(s) of the computer(s) that will receive notifications. The valid port range is 1–65535. The default port is 162.

   Note: Make sure that the port number you specify here matches the port number used by the SNMP agent computer.

2. For SNMP Versions 1 and 2, check *Enable SNMPv1 and SNMPv2c.Trap*.
3. Key in the community value(s) if required for the SNMP version.
4. For SNMP Version 3, click Enable *SNMPv3 Trap*.
5. In the **User Profiles** table, key in a *Username* and select a *Security Level* (Auth Protocol / Authentication & Privacy / None)
6. Select the auth/privacy protocols, and key in the auth/privacy password(s) and NMS IP address that correspond to each of the profiles.
7. Click **Save** to save your settings.

SNMP Trap

The SNMP Trap page lets you set your main SNMP trap settings, including information for up to four SNMP managers, as detailed below:


Server Information | Server Settings | VMware Settings | Security | Certificate
Save

SNMP Trap Settings

☑ Send SNMP trap
☑ Forward device SNMP trap
☑ Enable SNMP manager I
IP 172.15.33.44
Trap port 162
SNMP version SNMPv3
User name pn3322
Security level Authentication & Privacy
Auth protocol SHA
Auth password ••
Privacy protocol AES-128
Privacy password •••••••
□ Enable SNMP manager II
□ Enable SNMP manager III
□ Enable SNMP manager IV

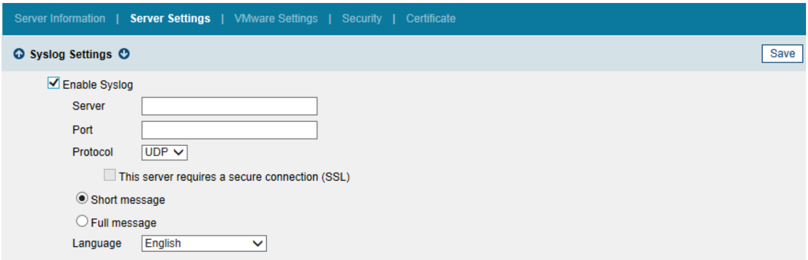
If you want to use SNMP trap notifications, do the following:

1. Check *Send SNMP Trap*.
2. Check *Forward Device SNMP trap* if you want the trap information forwarded to a device.
3. Check *Enable SNMP manager I* to configure the first manager settings
4. Key in the IP address(es) and the service port number(s) of the manager computer(s) to be notified of SNMP trap events. The valid port range is 1–65535. The default port number is 162.

Note: Make sure that the port number you specify here matches the port number used by the SNMP receiver computer.

5. Key in the community value(s) if required for the SNMP version.
6. Select the protocols and key in the auth/privacy password(s) that correspond to each of the stations.
7. Repeat steps 3–6 for up to three further SNMP managers.
8. Click **Save** to save your settings.

Syslog


Server Information | Server Settings | VMware Settings | Security | Certificate
Syslog Settings
Save

☑ Enable Syslog

Server

Port

Protocol UDP

□ This server requires a secure connection (SSL)

● Short message

○ Full message

Language English

To record all the events that take place on the CC2000 and write them to a Syslog server, do the following:

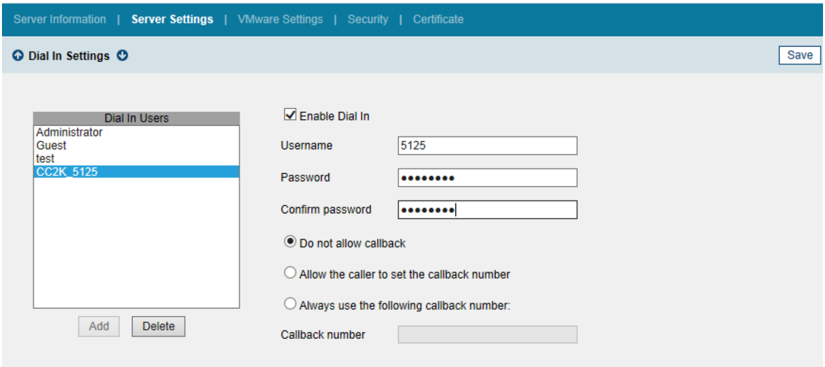
1. Check **Enable**.
2. Key in the IP address and the port number of the Syslog server. The valid port range is 1-65535.
3. Use the drop-down menu to select the **Protocol**.

   If **TCP** is selected, you can check the box to enable *This server requires a secure connection (SSL)*.
4. Select whether to log a short message or a full message.
5. Drop down the list to select the language you want the message sent in.

When all your settings have been made, click **Save**.

Dial In

In addition to Internet connections, the CC2000 can also be accessed via PPP (modem). The Dial In settings page is used to specify which users can make use of this feature, and the methods that they can use to connect. When you select Dial In, a page, similar to the one below, appears:


Server Information | Server Settings | VMware Settings | Security | Certificate
Dial In Settings
Save
Add
Delete

Dial In Users
- Administrator
- Guest
- test
- CC2K_5125

☑ Enable Dial In

Username	5125
Password	••••••••
Confirm password	••••••••

● Do not allow callback

○ Allow the caller to set the callback number

○ Always use the following callback number:

Callback number

To allow PPP dial in connections, do the following:

1. Click to put a checkmark in the *Enable Dial In* checkbox.
2. Supply a Username and Password that users dialing in must use in order to be authenticated over the dial in connection.

As an added security measure, if *Enable Dial Back* is enabled, the switch disconnects the connections that dial in to it, and dials back to either to a fixed number or a flexible number, as described in the table, below:

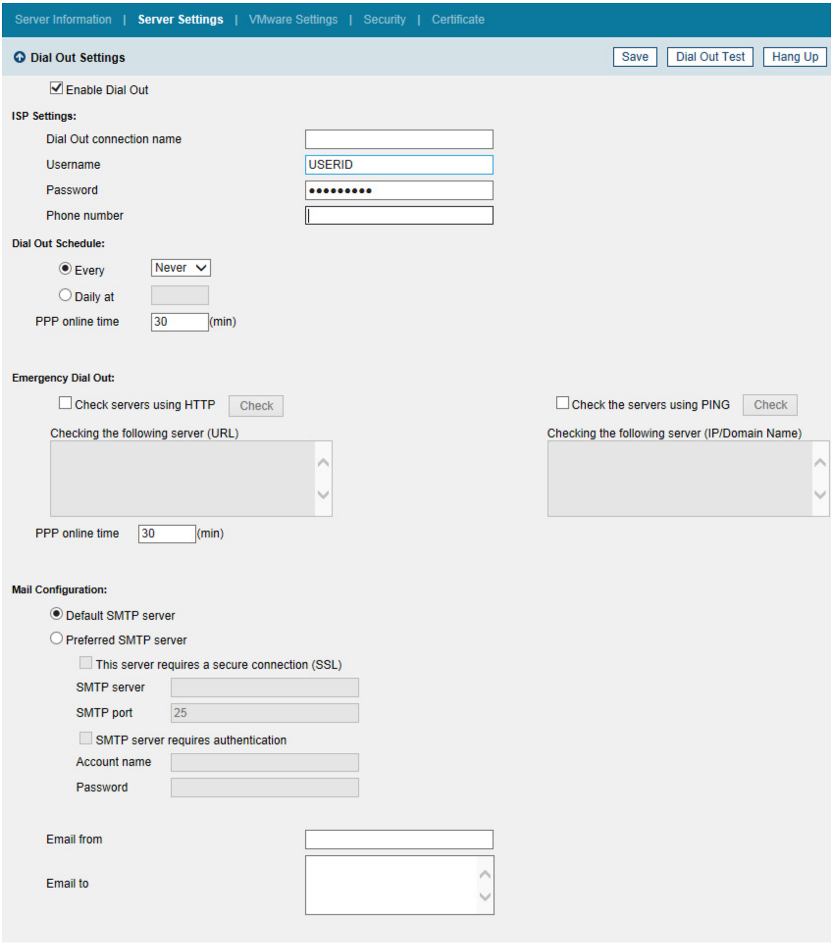
Item	Action
Enable Fixed Number DialBack	If this radio button is selected, the switch will dial back to the modem whose phone number is specified in the *Dial back number* field. Key the number that you want the CC2000 to dial back to in this field. **Note:** You need to specify a number here even if you intend to use flexible dial back.
Enable Flexible Dial Back (Use dial back phone number as the username)	For flexibility and convenience, if this radio button is selected the modem that the CC2000 dials back to doesn’t have to be fixed. It can dial back to any modem that is convenient for the user. To do so, when you dial in to the CC2000: ◆ When logging in, use the phone number of the modem that you want the switch to dial back to for your Username. ◆ Use the phone number specified in the *Dial back number* field (see above) for your Password.

When all your settings have been made, click **Save**.

Dial Out

For the dial out function, you must establish an account with an ISP (Internet Service Provider), and then use a modem to dial up to your ISP account. If you want to be able to dial out, activate the dial out function by putting a checkmark in the *Enable Dial Out* checkbox.

Note: Unless this function is enabled, you will only be able to dial in. None of the dial out functions (described below) will be available.



Server Information | Server Settings | VMware Settings | Security | Certificate
Dial Out Settings
Save
Dial Out Test
Hang Up

☑ Enable Dial Out

ISP Settings:

Dial Out connection name

Username: USERID

Password: ••••••••••

Phone number

Dial Out Schedule:

● Every: Never

○ Daily at

PPP online time: 30 (min)

Emergency Dial Out:

□ Check servers using HTTP — Check

Checking the following server (URL)

□ Check the servers using PING — Check

Checking the following server (IP/Domain Name)

PPP online time: 30 (min)

Mail Configuration:

● Default SMTP server

○ Preferred SMTP server

□ This server requires a secure connection (SSL)

SMTP server

SMTP port: 25

□ SMTP server requires authentication

Account name

Password

Email from

Email to

An explanation of the items on the Dial Back page is given in the table below:

Item	Action
ISP Settings	1. Provide a name for the dial out connection (optional). 2. Specify the telephone number, account name (username), and password that you use to connect to your ISP.
Dial Out Schedule	This entry sets up the times you want the CC2000 to dial out over the ISP connection. ◆ *Every* provides a listing of fixed times: Never, Every hour, and Every two hours. ◆ If you select *Every two hours* (for example), the CC2000 will start dialing out every two hours beginning at the next complete hour (if it is now 13:10, it will start dialing at 14:00). ◆ If you don't want the CC2000 to dial out on a fixed schedule, select **Never** from the list. ◆ *Daily at* will dial out once a day at a specified time. Use the hh:mm format (there is no space before or after the colon). For example: `09:18` The CC2000 will dial out every day at the time(s) you specify. ◆ *PPP online time* specifies how long you want the ISP connection to last before terminating the session and hanging up the modem. A setting of zero means it is always on line.
Emergency Dial Out	If the CC2000 gets disconnected from the network, or the network goes down, this function puts the switch online via the ISP dial up connection. ◆ If you set a time for *PPP online time*, the connection to the ISP will automatically terminate after the amount of time that you specify is up. A setting of zero means it will not automatically terminate – it will stay online until you manually terminate the connection (with the *Hang Up* button (at the top-right of the panel)). ◆ You can check that the connection is valid by selecting one of the *Check server* radio buttons; keying in the appropriate information; and clicking **Check**. The CC2000 will inform you of the results.

Item	Action
Mail Configuration	This section provides email notification of problems that occur on the devices connected to the CC2000's ports. ◆ Selecting *Default SMTP server* uses the server you set as the CC2000's SMTP server (see *SMTP*, page 170). ◆ If you would prefer to use a different SMTP server for Dial Out purposes, select the *Preferred SMTP server* radio button. ◆ If the server requires a secure connection, put a check in the *This server requires a secure connection (SSL)* checkbox. ◆ Key in the IP address or domain name of the SMTP server in the *SMTP Server* field. ◆ Key in the port number of the port that the server listens on in the *SMTP Port* field. ◆ If the server requires authentication, put a check in the *My server requires authentication* checkbox, then key in the appropriate account name and password in the fields, below. ◆ Key in the email address of the person responsible for the SMTP server (or some other equally responsible administrator), in the *Email From* field. ◆ Key in the email address (addresses) of where you want the report sent to in the *Email To* field. If you are sending the report to more than one email address, separate the addresses with a comma or a semicolon.

An explanation of the Action Buttons (at the top-right of the panel), is given in the table below:

Save	When you have finished making your settings on this page, click **Save**.
Dial Out Test	Click this button to have the CC2000 dial out so you can see if it successfully connects to the ISP.
Hang Up	Click this button to force the CC2000 modem to hang up.

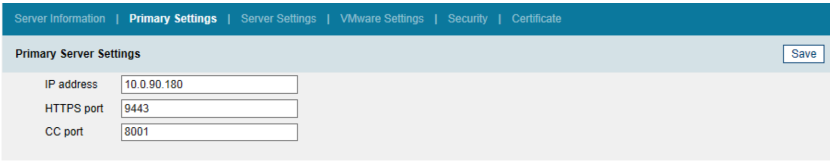
Primary Settings

This menu item is only found on Secondary CC2000 servers. It is used under the following conditions:

- If the Primary's IP address changes.
- If the Secondary is offline at the time the Primary's CC Port or HTTPS port changes.
- If the Secondary is offline at the time that a different CC2000 is promoted from Secondary to Primary.

When these situations occur, there is no need to go through the *Register* procedure again (see *Register*, page 169), in order to maintain the Primary/ Secondary connection. The administrator can use this page to update the information accordingly.

To maintain the connection, simply key in the new IP address and/or port settings, then click **Save**.


Server Information | Primary Settings | Server Settings | VMware Settings | Security | Certificate
Save

Primary Server Settings

IP address	10.0.90.180
HTTPS port	9443
CC port	8001

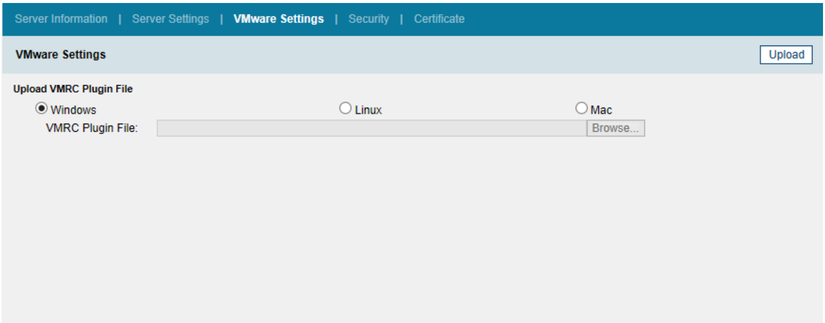
Note: 1. Since the IP address change is made at the OS level (not the CC2000 service level), the CC2000 system is unaware of the change. Therefore Primary can't change this information on the Secondaries automatically. It must be done manually on all Secondaries.

2. Any CC2000 Secondary that is offline can't be automatically notified at the time of change, therefore this procedure must be performed at the time the Secondary comes back on line.

3. This procedure allows any changes in the database that occurred when the Secondary was not in communication with the Primary to be merged into a common database. This is preferable for CC2000s that were originally part of the same system but temporarily lost communication with each other, since if the Secondary were to Register anew with the Primary, it would lose any database information it added while they were separated and take on the database information of the Primary.

VMware Settings

The VMware Remote Console (VMRC) plugin lets you access a VMware virtual machine from within the browser*. You will need to install this plugin if you have added a VMware virtual machine to your CC2000 management system. When you select the VMware Settings Panel Menu entry, a page, similar to the one below, appears:


Server Information | Server Settings | VMware Settings | Security | Certificate
VMware Settings
Upload
Browse...

Upload VMRC Plugin File

● Windows ○ Linux ○ Mac

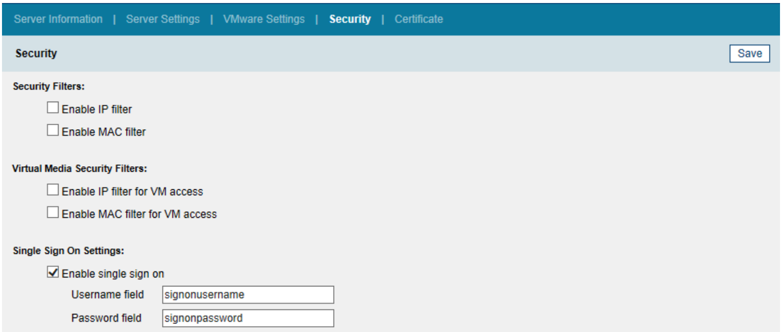
VMRC Plugin File:

To install the plugin, do the following:

1. Download the plugin from the VMware website.
2. Use the radio button to select the operating system.
3. Click **Browse** to select the file downloaded in step one.
4. Click the **Upload** button.

Security

This page provides a level of security by controlling access to the CC2000.


Server Information | Server Settings | VMware Settings | Security | Certificate
Save

Security

Security Filters:

□ Enable IP filter

□ Enable MAC filter

Virtual Media Security Filters:

□ Enable IP filter for VM access

□ Enable MAC filter for VM access

Single Sign On Settings:

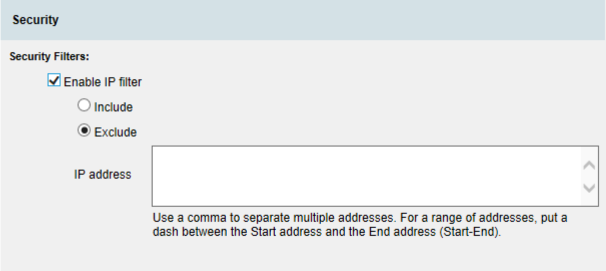
☑ Enable single sign on

Username field: signonusername

Password field: signonpassword

IP Filtering

IP filtering controls access to the CC2000 based on the IP addresses of the computers attempting to connect to it.



Security

Security Filters:

☑ Enable IP filter

○ Include

● Exclude

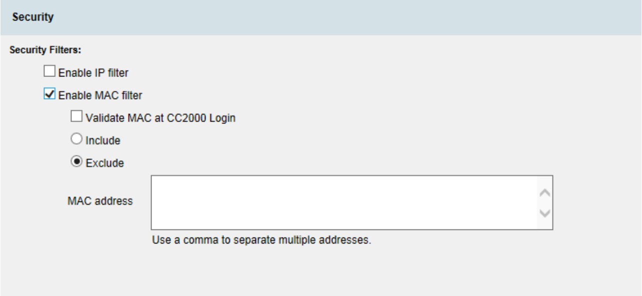
IP address

Use a comma to separate multiple addresses. For a range of addresses, put a dash between the Start address and the End address (Start-End).

- To enable IP filtering, check the *Enable IP Filter* checkbox.
    - If the *Include* button is selected, all the addresses specified in the Address List are allowed access; all other addresses are denied access.
    - If the *Exclude* button is selected, all the addresses specified in the Address List are denied access; all other addresses are allowed access.
- IP filters can consist of a single address, or a range of addresses. You can add as many IP addresses as you require. Key the addresses directly into the *IP address* text input box as follows:
    - For multiple single address entries, use a comma between the IP addresses. There is no space before or after the commas.
    - For a range of filters, key in the starting IP address, followed by a dash, then the ending IP address.
- To modify or delete a filter, make your changes directly in the *IP address* text input box.

MAC Filtering

MAC filtering controls access to the CC2000 based on the MAC addresses of the computers attempting to connect to it.



Security

Security Filters:

☐ Enable IP filter

☑ Enable MAC filter

☐ Validate MAC at CC2000 Login

○ Include

● Exclude

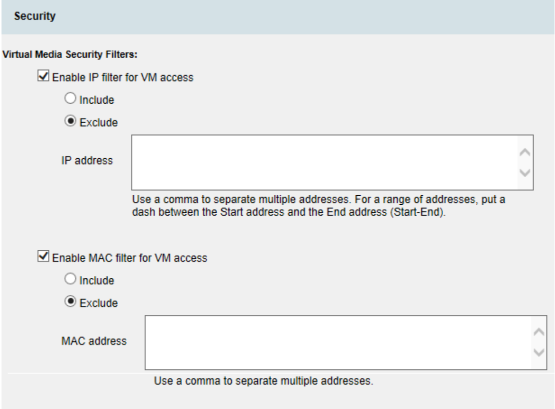
MAC address

Use a comma to separate multiple addresses.

- To enable MAC filtering, check the *Enable MAC Filter* checkbox.
  - If *Validate MAC at CC2000 login* is enabled, the CC2000 will verify the client PC's MAC address when the user attempts to log in. Otherwise, the MAC address will only be verified when attempting to open a viewer.
  - If the *Include* button is selected, all the addresses specified in the address list are allowed access; all other addresses are denied access.
  - If the *Exclude* button is selected, all the addresses specified in the address list are denied access; all other addresses are allowed access.
- MAC filters can consist of a single address, or a range of addresses. You can add as many MAC addresses as you require. Key the addresses directly into the IP address text input box, using a comma between the addresses. There is no space before or after the commas.

Virtual Media Security Filters

IP and MAC filtering can also be used to control Virtual Media access, based on the IP and MAC addresses of the computers attempting to use virtual media access.



Security

Virtual Media Security Filters:

☑ Enable IP filter for VM access

○ Include

● Exclude

IP address

Use a comma to separate multiple addresses. For a range of addresses, put a dash between the Start address and the End address (Start-End).

☑ Enable MAC filter for VM access

○ Include

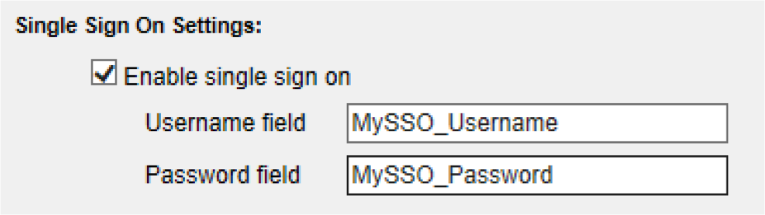
● Exclude

MAC address

Use a comma to separate multiple addresses.

- To enable virtual media security filters, check the *Enable IP filter for VM Access* and *Enable MAC filter for VM access* checkboxes and follow the instructions given in *IP Filtering*, page 183 and *MAC Filtering*, page 184.

Single Sign On



Single Sign On Settings:

☑ Enable single sign on

Username field: MySSO_Username

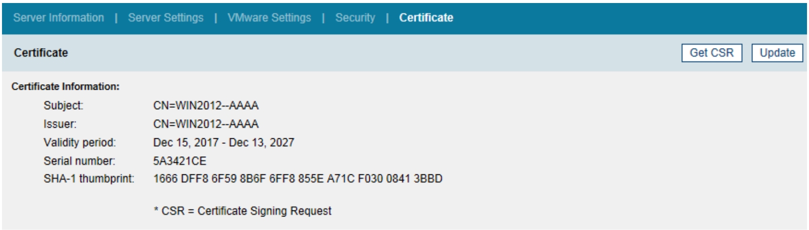
Password field: MySSO_Password

If *Single Sign On* is enabled, it will allow users from another web application to log in CC2000 automatically through a form-based authentication. To integrate, please refer to *SSO HTML Sample Codes* on page 303.

Certificate

When logging in over a secure (SSL) connection, a signed certificate is used to verify that the user is logging in to the site he intended. The *Certificate* page is used to create, modify, or obtain a certificate for this purpose.

During installation, each CC2000 creates its own, independent, self-signed certificate based on the installation information, similar to the one below:


Server Information | Server Settings | VMware Settings | Security | Certificate
Get CSR
Update

Certificate

Certificate Information:

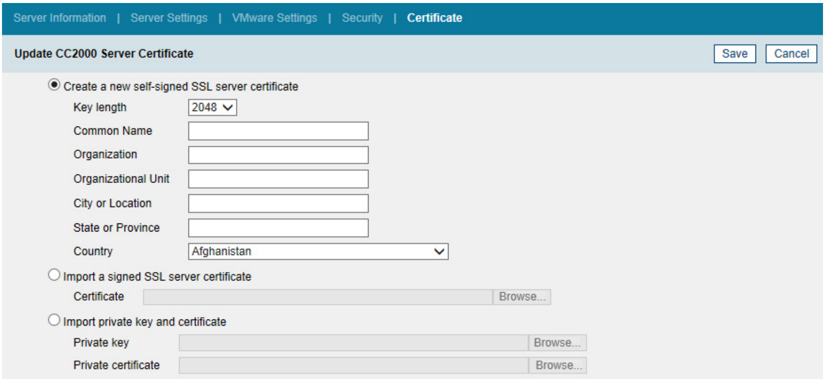
Subject:	CN=WIN2012--AAAA
Issuer:	CN=WIN2012--AAAA
Validity period:	Dec 15, 2017 - Dec 13, 2027
Serial number:	5A3421CE
SHA-1 thumbprint:	1666 DFF8 6F59 8B6F 6FF8 855E A71C F030 0841 3BBD

* CSR = Certificate Signing Request

Changing a Self-Signed Certificate

Changing a self-signed certificate allows you to provide additional information in the certificate that wasn't generated in the installation certificate. The way to change a self-signed SSL certificate is to create a new one. To create a new self-signed certificate, do the following:

1. At the top-right of the Certificate panel, click **Update**. The following page appears:


Server Information | Server Settings | VMware Settings | Security | Certificate
Save
Cancel
Browse...
Browse...
Browse...

Update CC2000 Server Certificate

● Create a new self-signed SSL server certificate

Key length	2048
Common Name	
Organization	
Organizational Unit	
City or Location	
State or Province	
Country	Afghanistan

○ Import a signed SSL server certificate

Certificate

○ Import private key and certificate

Private key

Private certificate

2. Select the *Create a new self signed SSL server certificate* radio button, then fill in the fields according to the information in the table below:

Field	Description
Key length	Use the drop-down menu to select the key length (number of bits) for the certificate. Options are 1024, 2048, and 4096.
Common Name	This is the Fully Qualified Domain Name (FQDN) for which you are requesting the SSL certificate. For example: www.yourdomainname.com
Organization	This is your Full Legal Company or Personal Name, as legally registered in your locality.
Organizational Unit	The branch of your company that is ordering the certificate. For example: accounting, marketing, etc.
City or Location	Key in the full name of the city or location. For example: Taipei
State or Province	Key in the full name of the state or province.
Country	This is the two letter country code for the country where the organization that the certificate is being registered to is located. **Note:** These don’t always correspond to common abbreviations. If you are not sure of the code, you can do an online search for **ssl+country codes**.

3. When you have finished filling in the fields, click **Save**.

   A message appears asking you to wait while the database gets updated with the new information. After a moment the web page closes.

   At this point you are brought back to the beginning of the login sequence where you must go through the procedure of accepting the security certificate and logging in.

Importing a Signed SSL Server Certificate

In order to avoid users having to go through the certificate acceptance prompt each time they log in, administrators may choose to use a third party certificate authority (CA) signed certificate.

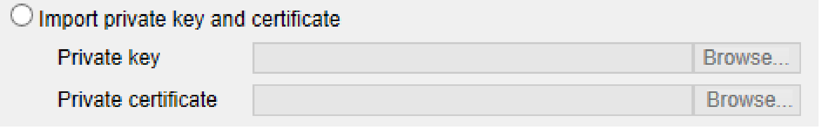
To use a third party signed certificate, do the following:

1. After generating the self-signed certificate, click **Get CSR** (Certificate Signing Request) at the top-right of the panel. (See the screenshot on page 186.)
2. Go to the CA website of your choice and apply for an SSL certificate using the information generated in step 1.
3. After the CA sends you the certificate, open the *Server Certificate* page, click **Update** at the top-right of the panel.
4. Select **Import a signed SSL server certificate**; then browse to where the certificate file is located and select it.
5. Click **Save** at the top-right of the panel.

Note: Each of the certificate types mentioned in this section provides an equal level of security. The advantage of the changed self-signed certificate is that it allows you to provide more information than the installation certificate. The advantage of a CA third party certificate is that users do not have to go through the certificate acceptance prompt each time they log in, and it provides the additional assurance that a recognized authority has certified that the certificate is valid.

Import Private Key and Certificate

When logging in over a secure (SSL) connection, a signed certificate is used to verify that the user is logging in to the intended site. For enhanced security, the *Private Certificate* section allows you to use your own private encryption key and signed certificate, rather than the default ATEN certificate.



○ Import private key and certificate

Private key

Private certificate

There are two methods for establishing your private certificate: generating a self-signed certificate; and importing a third-party certificate authority (CA) signed certificate.

- Generating a Self-Signed Certificate

  If you wish to create your own self-signed certificate, a free utility – openssl.exe – is available for download over the web. See *Self-Signed Private Certificates*, page 262 for details about using OpenSSL to generate your own private key and SSL certificate.

- Obtaining a CA Signed SSL Server Certificate

  For the greatest security, we recommend using a third party certificate authority (CA) signed certificate. To obtain a third party signed certificate, go to a CA (Certificate Authority) website to apply for an SSL certificate. After the CA sends you the certificate and private encryption key, save them to a convenient location on your computer.

- Importing the Private Certificate

  To import the private certificate, do the following:

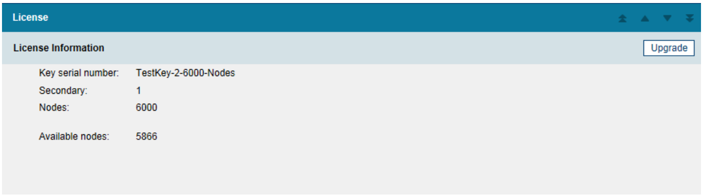
  1. Click **Browse** to the right of *Private Key*; browse to where your private encryption key file is located; and select it.
  2. Click **Browse** to the right of *Certificate*; browse to where your certificate file is located; and select it.
  3. Click **Upload** to complete the procedure.

Note: Both the private encryption key and the signed certificate must be imported at the same time.

License

The CC2000 license controls the number of nodes permitted on the CC2000 server installation. The default license that comes with your purchase is a demo license for one Primary (no Secondaries), that allows 16 nodes. To add anything more (Secondary servers and nodes), you must upgrade the license.

When you select *License* from the System Management menu, a page similar to the one below appears:



Key serial number: TestKey-2-6000-Nodes
Secondary: 1
Nodes: 6000

Available nodes: 5866

The meanings of the page items are described in the table below:

Item	Description
Key serial number	The serial number of the license key. **Note:** This is different from the software serial number that you used when installing the CC2000 server. The license serial number can be found on the key.
Secondaries	The total number of Secondary units on the installation (up to 31 units – depending on the license purchase).
Nodes	The total number of nodes permitted on the installation according to the license purchase. **Note:** The number of nodes that can be licensed is unlimited – it depends on the license purchase.
Available Nodes	The number of unused nodes permitted by your license that are still available for deployment

Upgrading the License

To upgrade the license:

1. Contact your dealer to obtain a license key for the number of Secondaries and nodes you want to be able to access.
2. Insert the license key into a USB port on your Primary server.
3. Click **Upgrade** at the top right of the main panel.

Note: 1. Once the upgrade has completed, it is no longer necessary to keep the key plugged into the USB port. Remove the key and place it somewhere safe, since you well need it for future upgrades.

2. If you lose the USB license key, contact your dealer to obtain another one. If you supply the key's serial number the new key will contain all of the information that was stored on the lost key.

3. If the CC2000 is installed on a Windows Hyper-V virtual machine, the license may fail to upgrade when using the USB license key. This is because Hyper-V cannot pass USB non-disk devices through to virtual machines. In this case, you can use a 3rd-party software such as USB Redirector to allow the virtual machine to access the USB license key for the upgrade.

License Sharing

The number of licenses for authorized devices on a CC2000 installation is set on the Primary server through the license key, and are shared by all the CC2000 servers. Information about the number of licenses is sent to each Secondary at the time that it registers with the Primary (see *Register*, page 169).

Although there is no limit to the number of devices that can be added to the CC2000 management system, only as many nodes as there are licenses for can actually be created for management (see *Preliminary Procedures*, page 88).

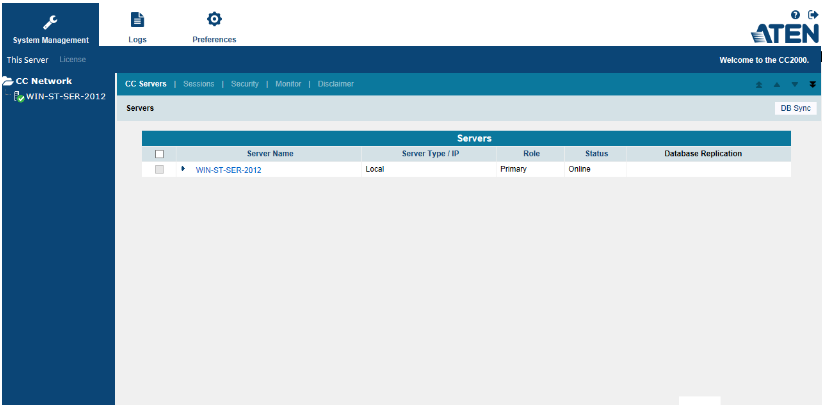
When devices are added to the CC2000 management system the default configuration is for them to be locked. Although their configuration information is stored by the CC2000, they cannot be managed.

Locked ports can be unlocked either by selecting a physical port and unlocking it by clicking the **Unlock** button (see *Locking / Unlocking Ports*, page 123), or by making the port part of an aggregate device (see *Adding an Aggregate Device*, page 102).

If all the licenses are in use, only if a currently unlocked port is locked, or if an aggregate device is deleted – thereby freeing up the license it was using – can a locked port (or new aggregate device) use that license to become unlocked and be capable of being managed by the CC2000 management system.

License Conflict

If there are two Primaries on the same network segment that have been upgraded with the same license key, a license conflict will occur. The CC2000 Browser GUI of the CC2000 server that was the second one to be installed, will open to a page that looks similar to the one below:



Servers

□	Server Name	Server Type / IP	Role	Status	Database Replication
□	WIN-ST-SER-2012	Local	Primary	Online	

To confirm that a conflict has occurred, click the **Logs** tab. A sentence like the following will appear in the log file: *A license violation has been detected at Primary server. Remote CC server (IP: [the conflicting servers' IP]).*

If this occurs there are a number of ways to resolve the conflict:

1. On one of the two Primaries: either shut it down, or stop service, or disconnect it from the network, or uninstall the CC2000.
2. Register the conflicting CC2000 (the second one) with the normal one (the first one). The Registered CC2000 becomes a Secondary. (This assumes that there is a Secondary license available.)
3. If you would really like to have two independent CC2000 installations, contact your dealer to purchase a separate key for one of the CC2000 servers.

If this page is being viewed from a Secondary server, you can use the **DB Sync** button at the top-right corner of the page to manually initiate a database replication from the Primary CC2000 server.

Tasks

The Tasks menu allows authorized administrators to perform a number of system maintenance tasks. The tasks that can be performed are determined by the user's type, and the authorization options that were selected when the user's account was created. These include:

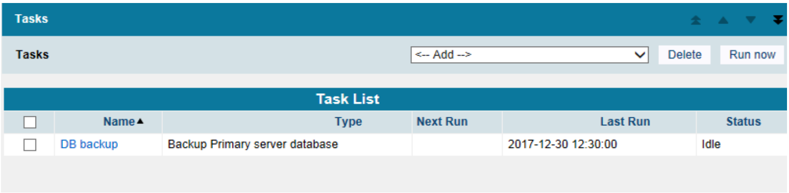
- Backing up the Primary server database

Note: 1. This task is only available on a Primary CC2000

2. Restoring the database requires a separate utility and procedure. See *Restore*, page 265, for details.

- Exporting event logs
- Power controlling devices
- Upgrading the firmware of selected appliances
- Backing up device configuration and account information
- Exporting the device log
- Exporting the session history

When you open the Tasks page on a Primary CC2000, a screen similar to the one below appears:



Task List

☐	Name ▲	Type	Next Run	Last Run	Status
☐	DB backup	Backup Primary server database		2017-12-30 12:30:00	Idle

Note: This figure depicts a page for a Primary server. The page for a Secondary server is similar, except that it has a pre-configured default entry, *Replicate Database*, that replicates its database on the Primary it is connected to (see *Replicate Database*, page 209).

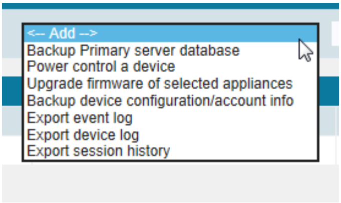
The *Task List* table lists all the tasks that have been configured. The meanings of the headings are explained in the table, below:

Heading	Explanation
Name	The name you gave to the task when you configured it.
Type	The type of task that it is.
Next Run	If the task is scheduled to be run at a certain time, the time that it will run appears here.
Last Run	Indicates the last time that the task ran.
Status	Indicates whether the task is running or is idle.

Adding a Task

To add a task, do the following:

1. Click the arrow at the right of the *Add* field to drop down the list of task choices:

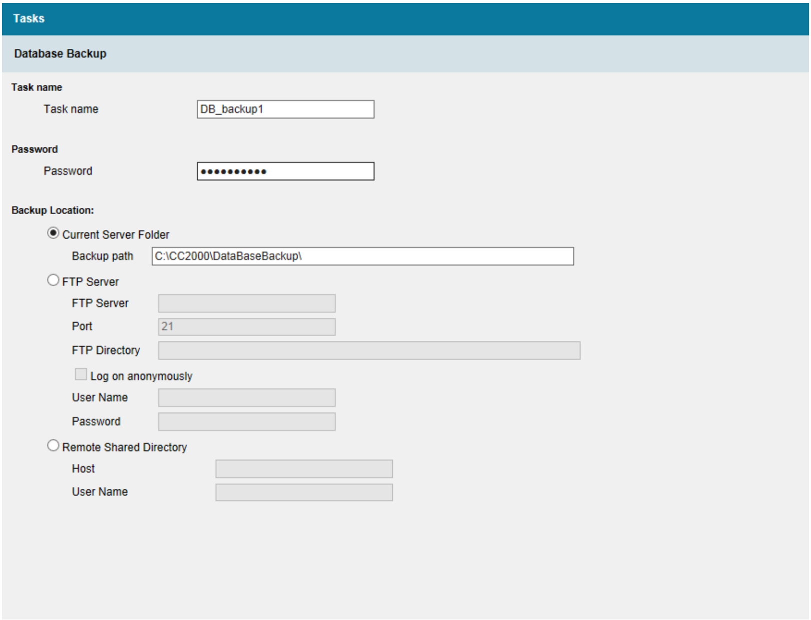

<-- Add -->
Backup Primary server database
Power control a device
Upgrade firmware of selected appliances
Backup device configuration/account info
Export event log
Export device log
Export session history

2. Click on the task you want to add.

Depending on the task you choose, a page comes up with various choices for you to make. While each of the tasks is different, for the most part the procedures involved in setting them up are similar. The following examples take you through the various task procedures you will encounter.

Backup the Primary Server Database

When you choose the *Backup the Primary server database* task, the following page appears:



Tasks

Database Backup

Task name

Task name	DB_backup1

Password

Password	•••••••••••

Backup Location:

● Current Server Folder

Backup path	C:\CC2000\DataBaseBackup\

○ FTP Server

FTP Server	
Port	21
FTP Directory	

□ Log on anonymously

User Name	
Password	

○ Remote Shared Directory

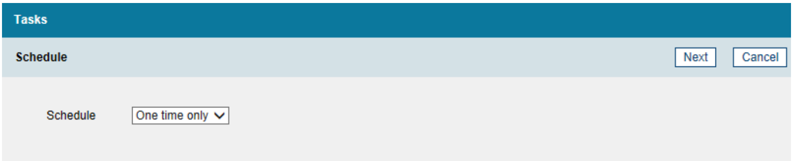
Host	
User Name	

1. Key in a name for the task, and a password.

Note: 1. This task is only available on the Primary server.
2. The password is required. If you set one, make a note of it and store it in a safe place. You will need it when restoring the database. (If you don't set a password you can restore the database without one.) See *Restore*, page 265, for information on restoring the database.
3. The password cannot exceed the equivalent of 8 English alphanumeric characters.
4. The extension of the backup file is cbk (`*.cbk`).

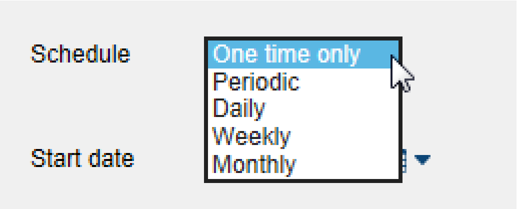
2. Select the location where you want to store the backup file, and fill in the fields accordingly. The default setting is for the backup file to be stored in a local directory based on the directory that the CC2000 was installed in. For example, `C:\CC2000\DataBaseBackup`.

3. When you have filled in the information called for, click **Next**. The *Schedule* page appears:

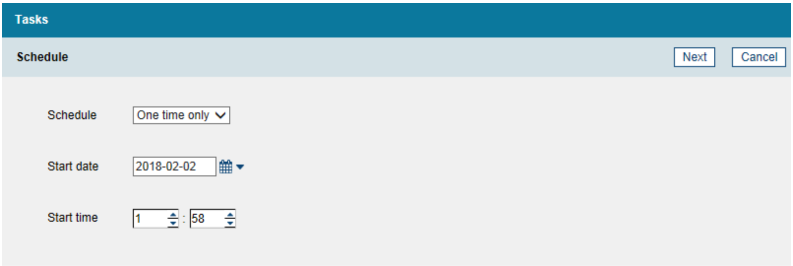


Schedule: One time only

4. Drop down the list to see the available choices.



Depending on what you select, further scheduling choices may appear. For example, if you choose *One time only*, a page that allows you to set the schedule appears:



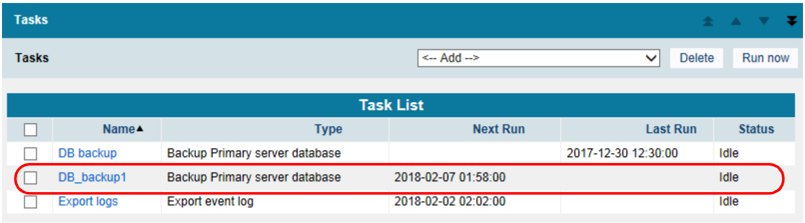
Schedule: One time only

Start date: 2018-02-02

Start time: 1 : 58

Note: If you set a time in the schedule for the backup to take place (Monthly, for example), but you want it to start with this month, make sure you set the start date or time to something later than the date or time shown on the page. Since the time setting on the page shows the time that you accessed the page, it will have passed by the time you save your changes. Which means that the CC2000 will not execute the task until next month.

5. When you have finished making your schedule choices, click **Next**. The task is now added to the Task List on the main page.



Tasks

Tasks <-- Add --> Delete Run now

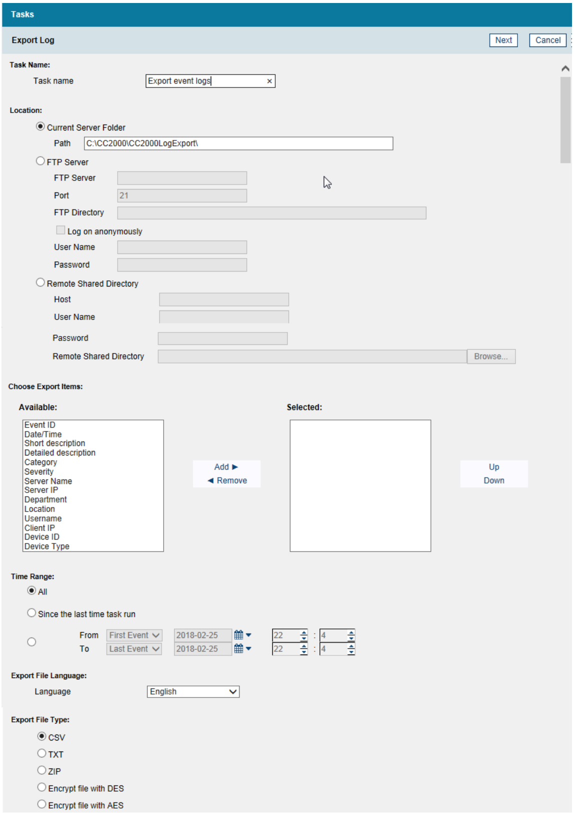
Task List

□	Name▲	Type	Next Run	Last Run	Status
□	DB backup	Backup Primary server database		2017-12-30 12:30:00	Idle
□	DB_backup1	Backup Primary server database	2018-02-07 01:58:00		Idle
□	Export logs	Export event log	2018-02-02 02:02:00		Idle

Note: You can run a task (or tasks) at any time by putting a check in the box in front of its name and clicking **Run Now** at the top-right of the panel.

Export Event Log

When you choose the *Export event log* task, the following page appears:



Tasks

Export Log Next Cancel

Task Name:

Task name: Export event logs

Location:

● Current Server Folder

Path: C:\CC2000\CC2000LogExport\

○ FTP Server

FTP Server:

Port: 21

FTP Directory:

□ Log on anonymously

User Name:

Password:

○ Remote Shared Directory

Host:

User Name:

Password:

Remote Shared Directory: Browse...

Choose Export Items:

Available:

Event ID
Date/Time
Short description
Detailed description
Category
Severity
Server Name
Server IP
Department
Location
Username
Client IP
Device ID
Device Type

Add ▶
◀ Remove

Selected:

Up
Down

Time Range:

● All

○ Since the last time task run

○ From First Event 2018-02-25 22 : 4
To Last Event 2018-02-25 22 : 4

Export File Language:

Language: English

Export File Type:

● CSV

○ TXT

○ ZIP

○ Encrypt file with DES

○ Encrypt file with AES

1. Key in a name for the task in the *Task name* field.

Note: The *Export Event Log* operation is performed on each server independently. To search a server's records you must look at its particular file. You can identify the file by means of the *Task name* you gave it.

2. Select the location where you want to store the exported file, and fill in the fields accordingly. The default setting is for the file to be exported to a directory on the current CC2000 server: `C:\CC2000\CC2000LogExport`.
3. Select an item that you want to include in the exported file in the *Available* column, then click **Add** to move it into the *Selected* column. Repeat for any other log file items you want to include.

Note: To select multiple items, use Shift+Click or Ctrl+Click.

4. To change the order of the *Selected* items, click on the item you want to move, then click **Up** or **Down** to change it to the position you want.
5. For *Choose Export Period*, selecting **All** exports all the records in the database. To export records for a particular time period, select the radio button below it and set the time parameters with the *From* and *To* settings.
6. For *Export File Language*, choose **Default** to have the file exported in the language that your browser is set to. If you prefer a different language, drop down the list and select one of the languages offered.
7. For *Export File Type*, click the radio button in front of your choice. If you choose one of the encryption options (AES or DES), key a password into the *Password* field that comes up.

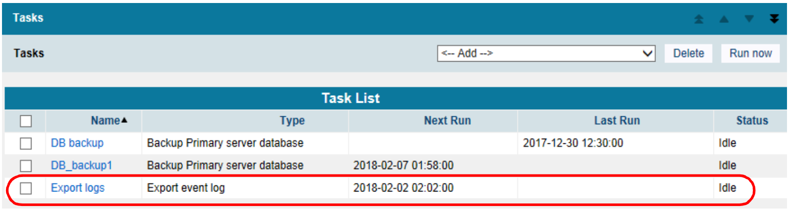
Note: Make a note of the password – you will need it to import the file (see *Import Logs*, page 224, for details).

8. When you have finished with this page, click **Next** (at the top-right of the panel), to move on.
9. Make your schedule choices in the pages that come up.

Note: The schedule choices are similar to the ones described for the *Backup Primary server database* task. Refer back to page 197 for details, if necessary.

10. When you have completed your schedule choices, click **Next**.

    The procedure completes and you return to the *Tasks* main page. The Export Event Log task, configured according to the choices you made, is now added to the Sidebar and the Task List:



Tasks

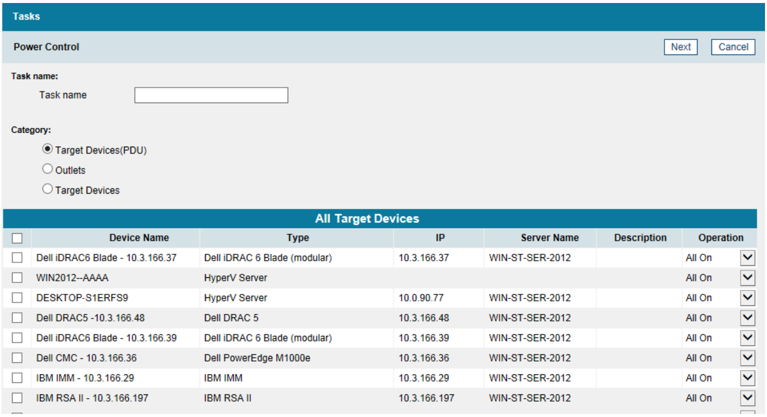
Tasks &lt;-- Add --&gt; Delete Run now

Task List

□	Name▲	Type	Next Run	Last Run	Status
□	DB backup	Backup Primary server database		2017-12-30 12:30:00	Idle
□	DB_backup1	Backup Primary server database	2018-02-07 01:58:00		Idle
□	Export logs	Export event log	2018-02-02 02:02:00		Idle

Power Control a Device

This task allows you to set a time schedule that automates turning power ports on and off for the selected device as a whole, or on a port-by-port basis. When you choose this task, the Power Control page appears, with the *Target Device* category selected:



Tasks

Power Control Next Cancel

Task name:

Task name

Category:

● Target Devices(PDU)

○ Outlets

○ Target Devices

All Target Devices

□	Device Name	Type	IP	Server Name	Description	Operation
□	Dell iDRAC6 Blade - 10.3.166.37	Dell iDRAC 6 Blade (modular)	10.3.166.37	WIN-ST-SER-2012		All On
□	WIN2012--AAAA	HyperV Server				All On
□	DESKTOP-S1ERFS9	HyperV Server	10.0.90.77	WIN-ST-SER-2012		All On
□	Dell DRAC5 -10.3.166.48	Dell DRAC 5	10.3.166.48	WIN-ST-SER-2012		All On
□	Dell iDRAC6 Blade - 10.3.166.39	Dell iDRAC 6 Blade (modular)	10.3.166.39	WIN-ST-SER-2012		All On
□	Dell CMC - 10.3.166.36	Dell PowerEdge M1000e	10.3.166.36	WIN-ST-SER-2012		All On
□	IBM IMM - 10.3.166.29	IBM IMM	10.3.166.29	WIN-ST-SER-2012		All On
□	IBM RSA II - 10.3.166.197	IBM RSA II	10.3.166.197	WIN-ST-SER-2012		All On

If you prefer to perform the task on a port-by-port basis, select the *Outlets* category, instead.

1. Provide a name for the task.

2. Put a check in front of the target devices or ports you want to control, or put a check at the top of the column to select all of them.

3. Select whether to turn the ports On or Off in the *Operation* column.

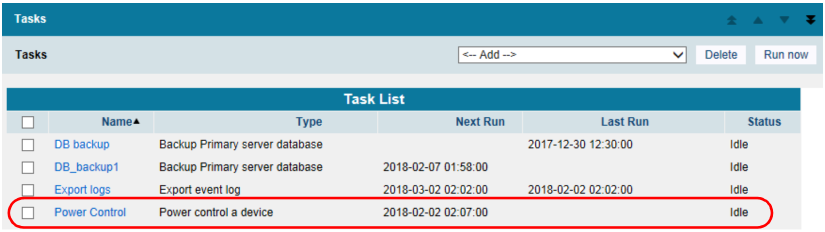
4. When you have finished with this page, click **Next** (at the top-right of the panel), to move on.

5. Make your schedule choices in the *Schedule* page that comes up.

Note: The schedule choices are similar to the ones described for the *Backup Primary server database* task. Refer back to page 197 for details, if necessary.

6. When you have completed your schedule choices, click **Next**.

   The procedure completes and you return to the *Tasks* main page. The *Power Control a Device* task, configured according to the choices you made, is now added to the Sidebar and the Task List:



Tasks

Tasks <-- Add --> Delete Run now

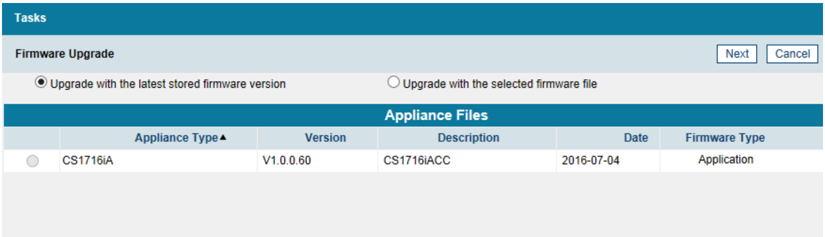
Task List

□	Name▲	Type	Next Run	Last Run	Status
□	DB backup	Backup Primary server database		2017-12-30 12:30:00	Idle
□	DB_backup1	Backup Primary server database	2018-02-07 01:58:00		Idle
□	Export logs	Export event log	2018-03-02 02:02:00	2018-02-02 02:02:00	Idle
□	Power Control	Power control a device	2018-02-02 02:07:00		Idle

Upgrade Selected Appliance Firmware

This task allows you to schedule the firmware upgrading of devices on your installation so that they can take place at the most convenient time.

When you choose *Upgrade Selected Appliance Firmware*, the following page appears:



Tasks

Firmware Upgrade Next Cancel

● Upgrade with the latest stored firmware version ○ Upgrade with the selected firmware file

Appliance Files

	Appliance Type▲	Version	Description	Date	Firmware Type
○	CS1716iA	V1.0.0.60	CS1716iACC	2016-07-04	Application

To schedule the firmware upgrade of selected appliances, do the following:

1. Click a radio button to choose whether to use the latest upgrade file stored with the CC2000 server, or to upgrade with a selected file that you have uploaded.

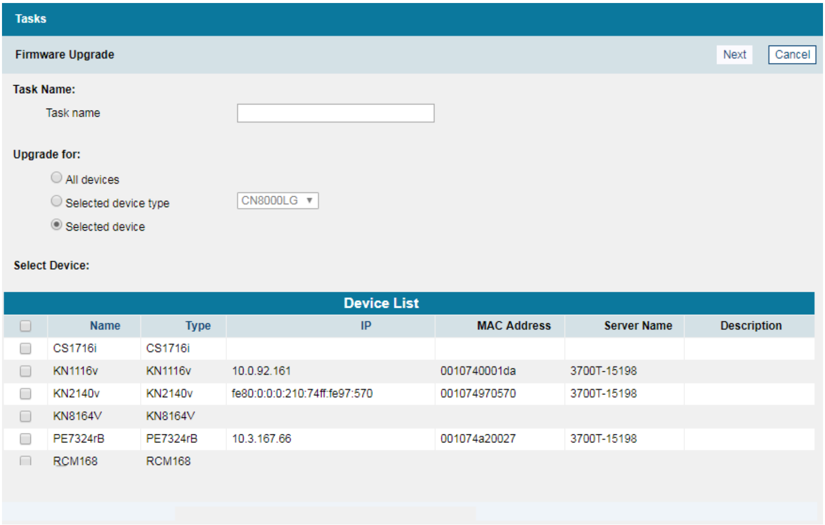
Note: 1. The files stored with the CC2000 server, are the ones that came as part of its firmware. These are usually the latest versions that are compatible with the CC2000. We recommend using them unless you have a particular reason for choosing a specific other one.

2. If you choose *Upgrade with a selected firmware file*, before upgrading, you must first upload the upgrade file. See *Firmware Files*, page 210, for details

2. If you choose *Upgrade with the latest stored version* (recommended), all the devices are automatically selected for the upgrade. If you choose *Upgrade with a selected firmware file*, click the button in front of the device type you want to upgrade.

3. Click **Next** (at the top-right of the panel).

   The *Firmware Upgrade* page appears:



Tasks

Firmware Upgrade

Task Name:

Task name

Upgrade for:

○ All devices

○ Selected device type CN8000LG ▾

● Selected device

Select Device:

Device List

□	Name	Type	IP	MAC Address	Server Name	Description
□	CS1716i	CS1716i				
□	KN1116v	KN1116v	10.0.92.161	0010740001da	3700T-15198	
□	KN2140v	KN2140v	fe80:0:0:0:210:74ff:fe97:570	001074970570	3700T-15198	
□	KN8164V	KN8164V				
□	PE7324rB	PE7324rB	10.3.167.66	001074a20027	3700T-15198	
□	RCM168	RCM168				

4. Key an appropriate name to describe the task in the *Task name* field.

5. Click a radio button to select which appliances will receive the upgrade.
6. If you choose *Selected device type*, drop down the list and select the device type. Only those devices that are of the selected device type receive an upgrade.
7. If you choose *Selected device*, put a check in the checkbox in front of the devices you want to upgrade (or check the box at the top of the column to select them all).

Note: 1. For KVM switches with Adapter Cables, click the arrowhead in front of the switch's name to select the Adapter Cable firmware you wish to upgrade.

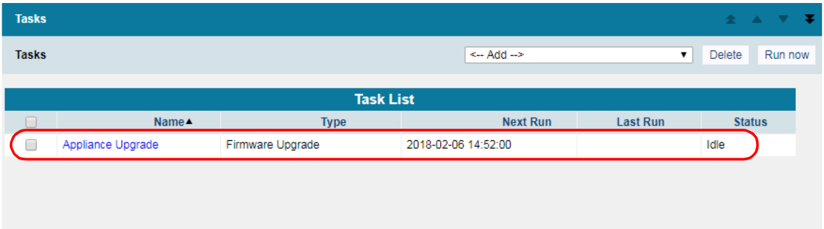
2. The Device list is sortable by Name, Type, and IP.

8. Click **Next**.
9. Make your schedule choices in the *Schedule* page that comes up.

Note: The schedule choices are similar to the ones described for the *Backup Primary server database* task. Refer back to **Step 2** on page 197 for details, if necessary.

10. When you have completed your schedule choices, click **Next**.

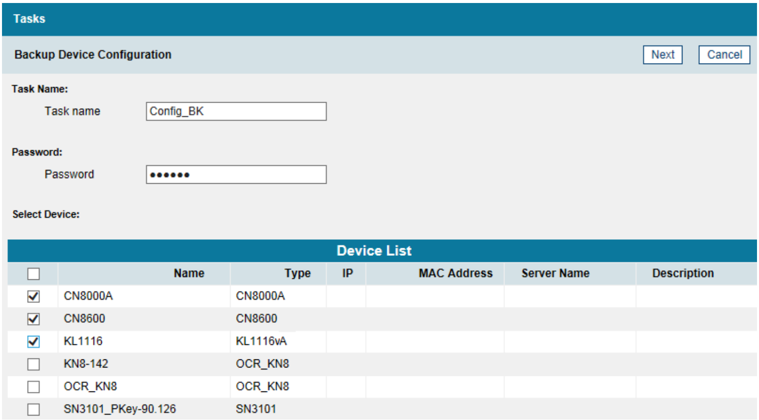
The procedure completes and you return to the *Tasks* main page. The task is now added to the Sidebar and the Task List:



□	Name▲	Type	Next Run	Last Run	Status
□	Appliance Upgrade	Firmware Upgrade	2018-02-06 14:52:00		Idle

Backup Device Configuration/Account Information

When you choose the *Backup device configuration/account information* task, the following page appears:



Backup Device Configuration

Task Name:

Task name: Config_BK

Password:

Password: ••••••

Select Device:

Device List

□	Name	Type	IP	MAC Address	Server Name	Description
☑	CN8000A	CN8000A				
☑	CN8600	CN8600				
☑	KL1116	KL1116vA				
□	KN8-142	OCR_KN8				
□	OCR_KN8	OCR_KN8				
□	SN3101_PKey-90.126	SN3101				

1. Provide a name for the task and a password.

Note: Make a note of the password and store it in a safe place. You will need it when restoring the configuration/account information. See *Restore device configuration*, page 126 for restoration details.

2. In the *Device List*, put a check in the box in front of the name of the device you want to back up, then click **Next**.
3. Make your schedule choices in the *Schedule* page that comes up.

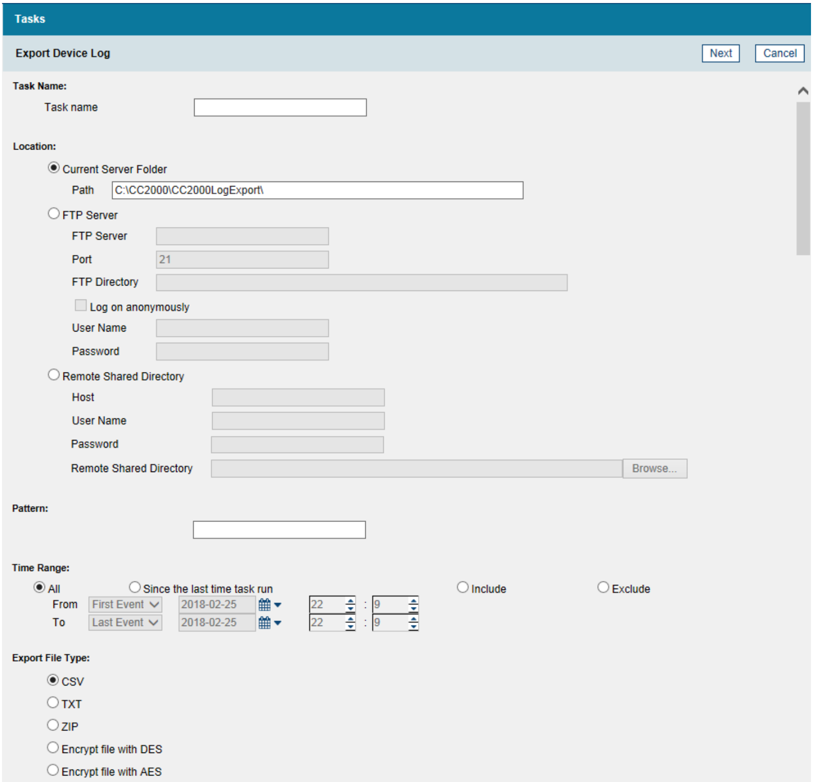
Note: The schedule choices are similar to the ones described for the *Backup Primary server database* task. Refer back to page 197 for details, if necessary.

4. When you have completed your schedule choices, click **Next**.

   The procedure completes and you return to the *Tasks* main page. The *Backup device configuration/account information* task, configured according to the choices you made, is now added to the Sidebar and the Task List:

Export Device Log

The CC2000 acts as a log server for all ATEN/Altusen NET™ devices, recording the system events that take place on the devices in a database. This task allows you to write the contents of the device database to a file. When you choose the *Export device log* task, the following page appears:



Tasks

Export Device Log

Task Name:

Task name

Location:

● Current Server Folder

Path C:\CC2000\CC2000LogExport\

○ FTP Server

FTP Server

Port 21

FTP Directory

□ Log on anonymously

User Name

Password

○ Remote Shared Directory

Host

User Name

Password

Remote Shared Directory

Pattern:

Time Range:

● All ○ Since the last time task run ○ Include ○ Exclude

From First Event 2018-02-25 22 : 9

To Last Event 2018-02-25 22 : 9

Export File Type:

● CSV

○ TXT

○ ZIP

○ Encrypt file with DES

○ Encrypt file with AES

1. Provide an appropriate name for the task. For example, if you want to export the device log for all devices you might name the task *All-device-log*; if you want to export the device log for CN8000 devices on a weekly basis, you might name the task *cn8000-weekly-device-log*.

Note: The *Export Device Log* operation is performed on each server independently and stored on each server independently. To search the records you must go to each server to look at its particular file.

2. Select the location where you want to store the exported file, and fill in the fields accordingly. The default setting is for the file to be exported to a directory on the current CC2000 server.

Note: The path to the directory on your server that will hold the backup file is pre-configured based on the directory that the CC2000 was installed in. For example, C:\CC2000\CC2000LogBackup

3. You can use the *Pattern* field as a filter to limit the scope of the log file. For example, to export a file that only contains event information for CN8000 devices, and all your CN8000 devices had *CN8K* as part of their names, you would key **CN8K** into the Pattern field.
4. For the *Time Range*:
   - Selecting **All** exports all the records in the database.
   - To export records for a particular time period, select the **Include** radio button and set the time parameters with the *From* and *To* settings; To export all records that *do not* include a particular time period, select the **Exclude** radio button and set the time parameters that you do not want to include with the *From* and *To* settings.
5. For *Export File Type*, click the radio button in front of your choice. If you choose one of the encryption options (AES or DES), key a password into the *Password* field that comes up.

Note: Make a note of the password – you will need it to import the file (see *Import Logs*, page 224, for details).

6. When you have finished with this page, click **Next** (at the top-right of the panel), to move on.
7. Make your schedule choices in the pages that come up.

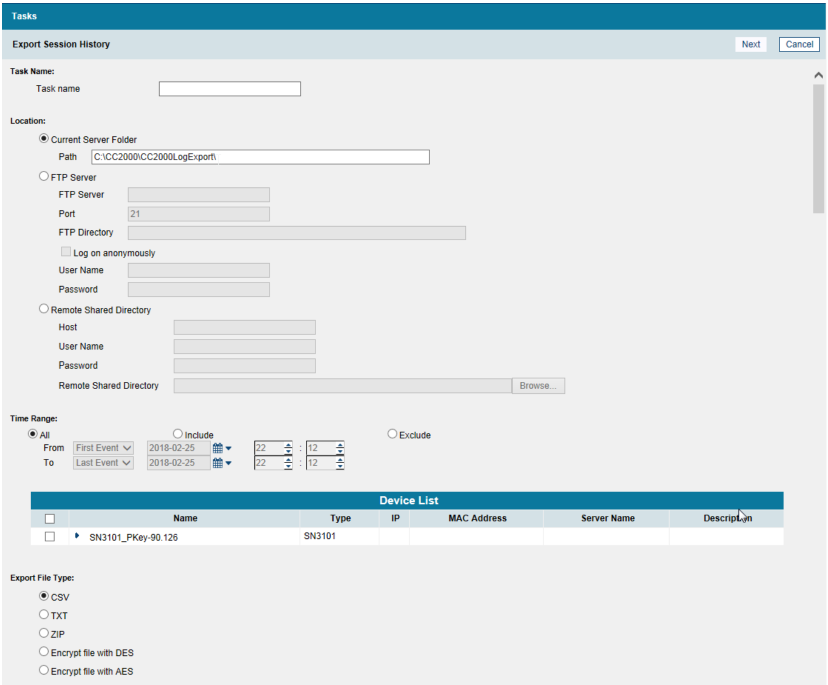
Note: The schedule choices are similar to the ones described for the *Backup Primary server database* task. Refer back to page 197 for details, if necessary.

8. When you have completed your schedule choices, click **Next**.

   The procedure completes and you return to the *Tasks* main page. The Export Event Log task, configured according to the choices you made, is now added to the Sidebar and the Task List.

Export Session History

The CC2000 keeps a record of all user sessions that take place (see page 217). This function lets you save the session history of each device and port to file. When you choose the *Export session history* task, the following page appears:



Task Name:

Task name

Location:

● Current Server Folder

Path: C:\CC2000\CC2000LogExport\

○ FTP Server

FTP Server

Port: 21

FTP Directory

□ Log on anonymously

User Name

Password

○ Remote Shared Directory

Host

User Name

Password

Remote Shared Directory [Browse...]

Time Range:

● All ○ Include ○ Exclude

From: First Event 2018-02-25 22 : 12

To: Last Event 2018-02-25 22 : 12

Device List

□	Name	Type	IP	MAC Address	Server Name	Description
□	▸ SN3101_PKey-90.126	SN3101				

Export File Type:

● CSV

○ TXT

○ ZIP

○ Encrypt file with DES

○ Encrypt file with AES

1. Except for the device list, this page is the same as the one for Export Device Log. Fill in the rest of the page according to the information given under *Export Device Log*, starting on page 205.

2. For the device list, put a check in the checkbox in front of the desired devices (or check the box at the top of the column to select them all).

   If you prefer to only export the session history for selected ports, instead of clicking the device's checkbox, click the arrowhead in front of the device's name to expand the port list and click to select the ports.

3. When you have finished with this page, click **Next** (at the top-right of the panel), to move on.

4. Make your schedule choices in the pages that come up.

Note: The schedule choices are similar to the ones described for the *Backup Primary server database* task. Refer back to page 197 for details, if necessary.

5. When you have completed your schedule choices, click **Next**.

   The procedure completes and you return to the *Tasks* main page. The Export Event Log task, configured according to the choices you made, is now added to the Sidebar and the Task List.

Editing a Task

There are two editing tasks that you can perform: changing a task's schedule, and changing the parameters of what you want the task to perform.

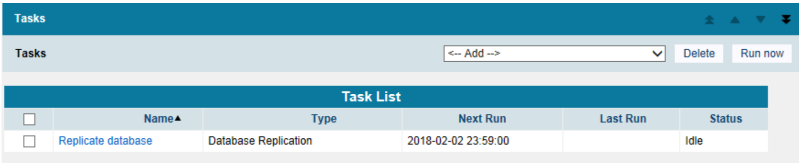
- To change a task's schedule, do the following:
  1. Click on its name – either on the Sidebar or in the Task List.
  2. The *Schedule* page comes up. Make the schedule changes you want, then click **Save**.
- To change the parameters of what you want the task to perform, do the following:
  1. Click on its name – either on the Sidebar or in the Task List.
  2. The *Schedule* page comes up. Click **Task Properties** on the Panel Menu.
  3. When the Task Properties page appears, make the changes you want, then click **Save**.

Deleting a Task

If you no longer want to perform a task, put a check in the box in front of its name and click **Delete** at the top-right of the panel.

Replicate Database

The *Tasks* page for a Secondary server is similar to that of a Primary server (see page 194), except that it has a pre-configured default entry, *Replicate Database*, that replicates its database on the Primary it is connected to:



Task List

□	Name▲	Type	Next Run	Last Run	Status
□	Replicate database	Database Replication	2018-02-02 23:59:00		Idle

When you select *Replicate Database*, the Schedule page comes up. The schedule choices are similar to the ones described for the *Backup Primary server database* task. Refer back to page 197 for details, if necessary.

Note: 1. Each CC2000 server maintains its own individual database of the accounts, logs, devices, and access rights that are configured on it. By replicating, it sends all that information to be incorporated into the Primary's database and made available to the rest of the CC2000 management system.

2. When the Secondary registers with a Primary, its database is automatically replicated.

3. The default is for the database to be automatically replicated once a day at 00:00. You can use this page to change the replication schedule, but be aware that setting the replication schedule to too small of a time interval can adversely influence system performance. If you set the schedule to too large of an interval, there can be a long time period when the databases don't match.

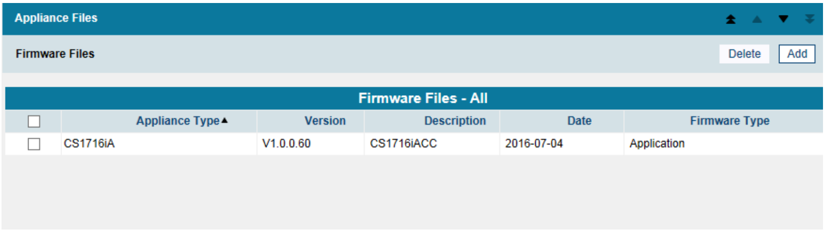
When you have made the schedule choices you want, click **Save**.

Appliance Files

The *Appliance Files* menu is used for two purposes: centralized firmware management, and restoring previously backed up configuration files.

Firmware Files

The Appliance Files menu opens to the *Firmware Files* page, which looks similar to the screen shown below:



Firmware Files - All

□	Appliance Type▲	Version	Description	Date	Firmware Type
□	CS1716iA	V1.0.0.60	CS1716iACC	2016-07-04	Application

This page lists all the firmware upgrade files stored on the CC2000 – showing you at a glance the specific information about each of them.

By making the latest firmware upgrade files available for distribution from this single location, you can easily perform upgrades from within the CC2000, and ensure that all the devices on your installation are operating at the same, most up-to-date, firmware level.

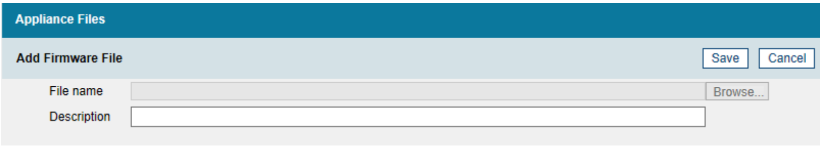
Note: 1. Firmware upgrades are performed under the *Tasks* submenu. See page 194 for details.

2. New firmware upgrade packages are posted on our website as they become available. Check the website regularly to find the latest packages and information relating to them.

Adding Firmware Files

To add a firmware file to the list, do the following:

1. At the top-right of the panel, click **Add** to bring up the *Add Firmware File* page:



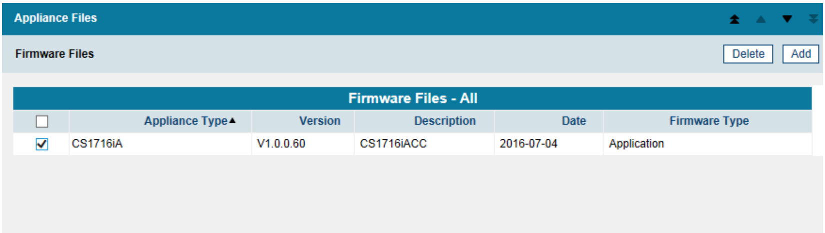
2. Browse to the location where the upgrade files that you have downloaded from our website are stored, and select the appropriate file.
3. Provide a description for the file.
4. click **Save** (at the top-right of the main panel) to complete the procedure and add the firmware file to the list.

Note: If the firmware file isn’t a CC2000 compliant one (even though it is compliant for the device in a stand-alone configuration), the CC2000 will not let you load it.

Deleting Firmware Files

To remove a firmware file from the list, do the following:

1. Select **Firmware** in the Sidebar.
2. In the Interactive Display panel, click to put a check in front of the file you wish to remove from the list.



Firmware Files - All

□	Appliance Type▲	Version	Description	Date	Firmware Type
☑	CS1716iA	V1.0.0.60	CS1716iACC	2016-07-04	Application

Note: You can remove more than one file by checking as many items as you require. You can remove all the files by checking the box at the top of the column.

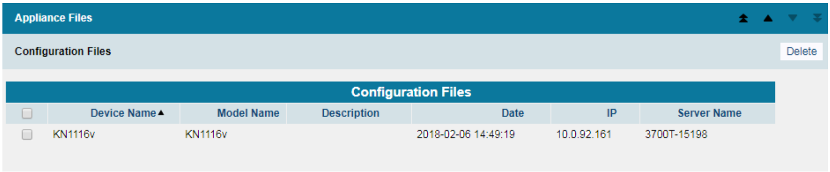
---

3. After you have made your selection, click **Delete** at the top-right of the panel.
4. In the confirmation popup that appears, click **OK**.

Configuration Files

Deleting Configuration Files

Clicking on *Configuration* in the Sidebar brings up the *Configuration Files* page, which looks similar to the screen shown below:



Configuration Files

□	Device Name▲	Model Name	Description	Date	IP	Server Name
□	KN1116v	KN1116v		2018-02-06 14:49:19	10.0.92.161	3700T-15198

This page lists the backup configurations for the server made with the *Backup device configuration/account information* task (see page 204 for details), and allows you to delete the files you no longer wish to keep.

To delete a device's configuration, do the following:

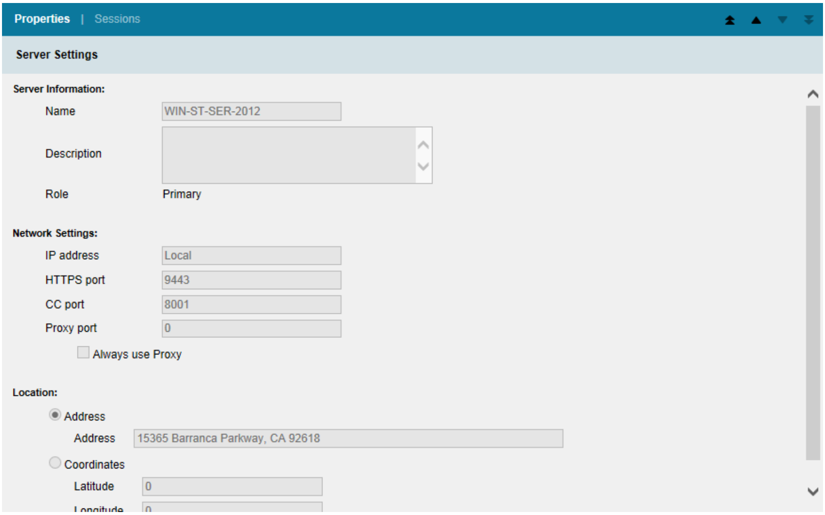
1. Put a check in front of the configuration you want to delete.
2. Click **Delete** (at the top-right of the panel).

Sidebar Server Tree

When *CC Network* is selected on the menu bar, clicking on a server name – either in the Sidebar or in the Interactive Display Panel – brings up a page with two Panel Menu entries: *Properties*, and *Sessions*.

Properties

The Properties page is loaded as the default:



Properties | Sessions

Server Settings

Server Information:

Name: WIN-ST-SER-2012

Description:

Role: Primary

Network Settings:

IP address: Local

HTTPS port: 9443

CC port: 8001

Proxy port: 0

□ Always use Proxy

Location:

● Address

Address: 15365 Barranca Parkway, CA 92618

○ Coordinates

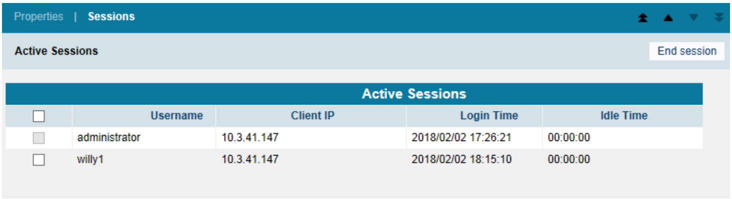
Latitude: 0

Longitude: 0

This page displays information reflecting the server's configuration settings. It is view only. Any changes to these settings must be made through the *Server Information* Panel Menu of the *This Server* menu (see page 166).

Sessions

Clicking Sessions on the Panel Menu that appears when a particular CC2000 server is selected in the Sidebar or the main panel list, brings up a screen that lets the administrator see at a glance all the users currently logged into this particular CC2000, and provides information concerning the “who, where and when” of each of their sessions.



Active Sessions

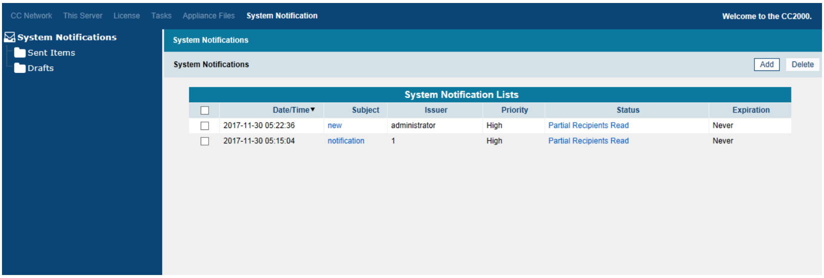
□	Username	Client IP	Login Time	Idle Time
□	administrator	10.3.41.147	2018/02/02 17:26:21	00:00:00
□	willy1	10.3.41.147	2018/02/02 18:15:10	00:00:00

This page also gives the administrator the option of forcing a user logout by selecting the user and clicking **End Session**.

Note: The End Session function is only available when the selected server is the one that you are currently logged in on.

Notification

The *Notification* page allows you to send messages to users who log in to the CC2000. Notification of new messages will appear in the orange bar next to the Welcome Message. The Notifications page has a main page and sidebar tree, as shown here:



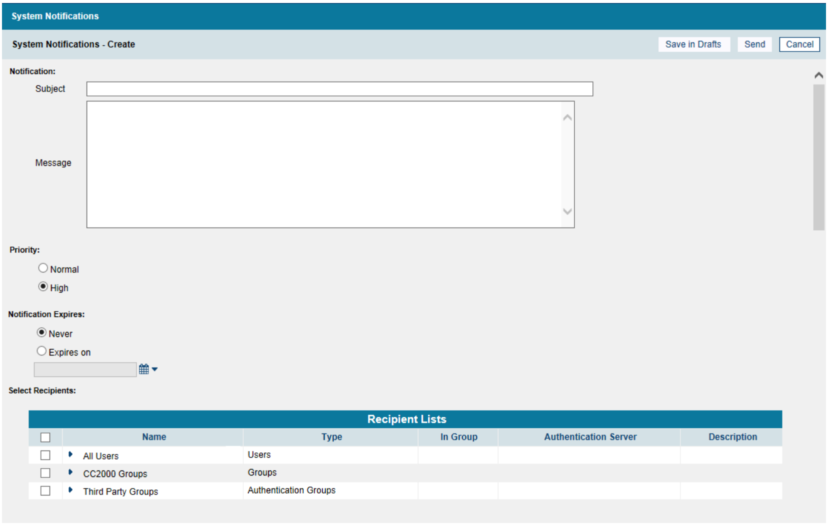
System Notification Lists

□	Date/Time▾	Subject	Issuer	Priority	Status	Expiration
□	2017-11-30 05:22:36	new	administrator	High	Partial Recipients Read	Never
□	2017-11-30 05:15:04	notification	1	High	Partial Recipients Read	Never

The *System Notification Lists* shows all messages that have been sent out and saved as drafts. From this page you can **Add** a message; select and **Delete** messages; click the **Subject** of a message to *save* or *send* it as a new message; or click **Status** to check the *Read Status*.

To create a new Notification message:

1. Click **Add**. The following screen appears:



Notification:

Subject

Message

Priority:

○ Normal

● High

Notification Expires:

● Never

○ Expires on

Select Recipients:

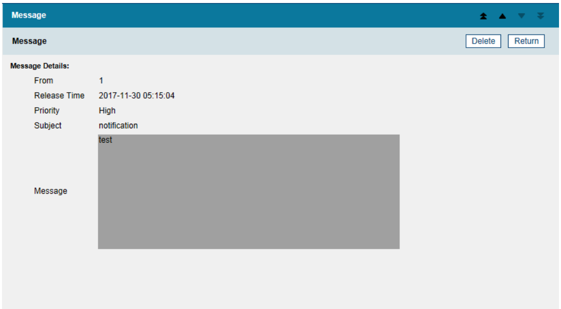
Recipient Lists

□	Name	Type	In Group	Authentication Server	Description
□	▸ All Users	Users			
□	▸ CC2000 Groups	Groups			
□	▸ Third Party Groups	Authentication Groups			

2. Fill in the *Subject* and *Message* fields.

3. Assign a *Priority*:

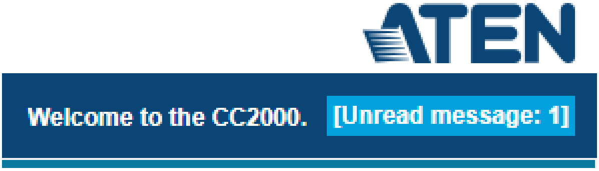
   High priority messages appear as the first page when a user logs in, along with a notification in the orange bar next to the *Welcome Message*, as shown here:



Message Details:

From	1
Release Time	2017-11-30 05:15:04
Priority	High
Subject	notification
Message	test

   Normal priority messages will appear with a notification in the orange bar next to the *Welcome Message*, when the user logs in, as shown here:



Welcome to the CC2000. [Unread message: 1]

4. Select *Never* or *Notification Expires,* and set the date for the system message to expire.

5. *Select Recipients* you would like to send the message to. You can expand recipients in the *Name* column to select individual users.

6. Click **Save in Drafts** or **Send**.

   Messages are respectively copied into the *Drafts* or *Sent Items* folder, in the sidebar.

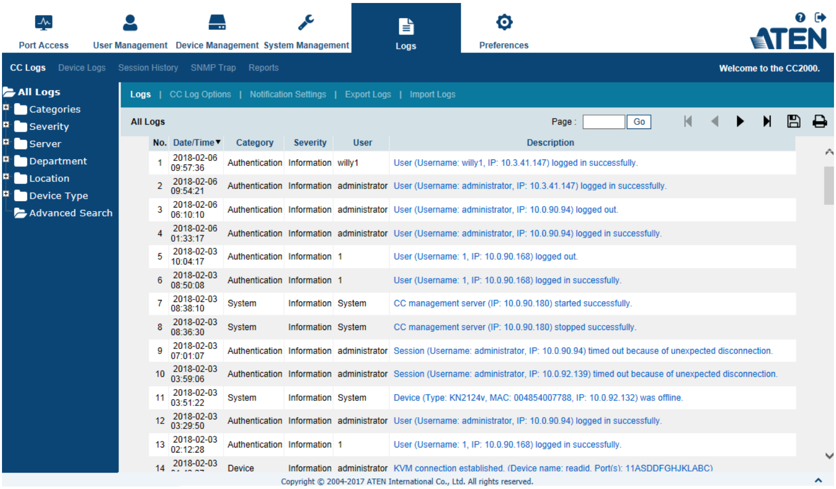
Chapter 8
Logs

Overview

The CC2000 keeps an extensive record of all the transactions that take place on its installation. The *Logs* page provides a powerful array of filters and functions that allow you to view and export the log file data, as well as be informed by email of specified events as they occur.

CC Logs

When you click the Logs tab, the CC2000 opens to the default *CC Logs* page which looks similar to the page, below:



No.	Date/Time▼	Category	Severity	User	Description
1	2018-02-06 09:57:36	Authentication	Information	willy1	User (Username: willy1, IP: 10.3.41.147) logged in successfully.
2	2018-02-06 09:54:21	Authentication	Information	administrator	User (Username: administrator, IP: 10.3.41.147) logged in successfully.
3	2018-02-06 06:10:10	Authentication	Information	administrator	User (Username: administrator, IP: 10.0.90.94) logged out.
4	2018-02-06 01:33:17	Authentication	Information	administrator	User (Username: administrator, IP: 10.0.90.94) logged in successfully.
5	2018-02-03 10:04:17	Authentication	Information	1	User (Username: 1, IP: 10.0.90.168) logged out.
6	2018-02-03 08:50:08	Authentication	Information	1	User (Username: 1, IP: 10.0.90.168) logged in successfully.
7	2018-02-03 08:38:10	System	Information	System	CC management server (IP: 10.0.90.180) started successfully.
8	2018-02-03 08:36:30	System	Information	System	CC management server (IP: 10.0.90.180) stopped successfully.
9	2018-02-03 07:01:07	Authentication	Information	administrator	Session (Username: administrator, IP: 10.0.90.94) timed out because of unexpected disconnection.
10	2018-02-03 03:59:06	Authentication	Information	administrator	Session (Username: administrator, IP: 10.0.92.139) timed out because of unexpected disconnection.
11	2018-02-03 03:51:22	System	Information	System	Device (Type: KN2124v, MAC: 004854007788, IP: 10.0.92.132) was offline.
12	2018-02-03 03:29:50	Authentication	Information	administrator	User (Username: administrator, IP: 10.0.90.94) logged in successfully.
13	2018-02-03 02:12:28	Authentication	Information	1	User (Username: 1, IP: 10.0.90.168) logged in successfully.
14	2018-02-03	Device	Information	administrator	KVM connection established. (Device name: readid. Port(s): 11ASDDFGHJKLABC)

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- The default layout shows information concerning all of the events that have taken place on all the logs on the entire CC2000 installation, displayed in reverse chronological order.
- You can change the sorting order of the display by clicking the column headings; You can reverse the order of a selected heading by clicking it a second time.
- The Sidebar provides a filtering function – click an item to only display the events that pertain to it. The last item, *Advanced Search*, is described in detail on page 225.

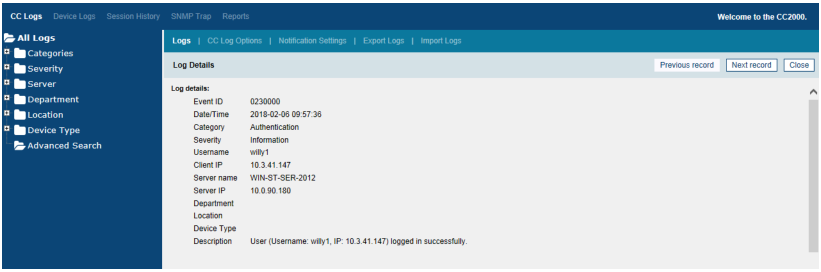
Note: 1. In general, a blank page, indicates that there were no log events recorded for that category.

2. If the *Device Traps* page (Categories → Device Traps) is blank, however, it may indicate that Event Trap Notification has not been enabled. See *Note 2* on page 144 for information on enabling trap notification.

- Enter a page number in the *Page* field at the top of the main panel and click *Go* to be taken directly to the selected page.
- The top row of buttons at the upper-right of the main panel navigate through the Sidebar (see *The Navigation Buttons*, page 28).
- The first four buttons on the lower row navigate through the pages of the listed events. The left takes you to the first page; the right takes you to the last page; the middle buttons move you backward or forward one page.

Note: These buttons are only active when there is a relevant action they can perform. For example, when there is more than one page of information and you are on the first page, the “move forward” and “last page” buttons are active, but the “move backward” and “first page” buttons are not.

- Clicking on an item’s *Description* brings up a page with detailed information about the item:



Log details:

Event ID	0230000
Date/Time	2018-02-06 09:57:36
Category	Authentication
Severity	Information
Username	willy1
Client IP	10.3.41.147
Server name	WIN-ST-SER-2012
Server IP	10.0.90.180
Department	
Location	
Device Type	
Description	User (Username: willy1, IP: 10.3.41.147) logged in successfully.

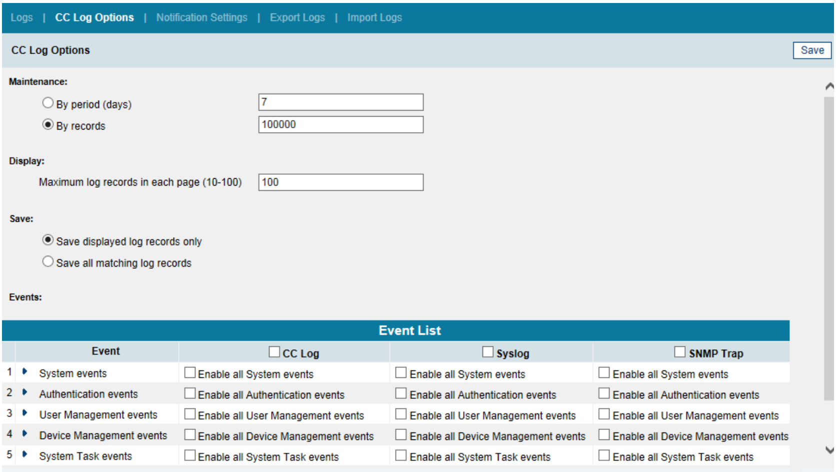
A link in the Device Type Description line also provides more detailed device ID information in a further pop-up window.

Use the buttons at the top-right of the panel to move to the previous or next item in the details view, or close the page and go back to the *Log* page.

- To save the log list to a file, click the button with the diskette icon. (Only the list that is displayed – all, or a filtered choice – is saved).
- To print out the log list, click the button with the printer icon. (Only the list that is displayed – all, or a filtered choice – is printed).

CC Log Options

The *CC Log Options* page gives you control over log file composition and maintenance. When you select **Options**, a page similar to the one below appears:


Logs | CC Log Options | Notification Settings | Export Logs | Import Logs
Save

CC Log Options

Maintenance:

○ By period (days) 7

● By records 100000

Display:

Maximum log records in each page (10-100) 100

Save:

● Save displayed log records only

○ Save all matching log records

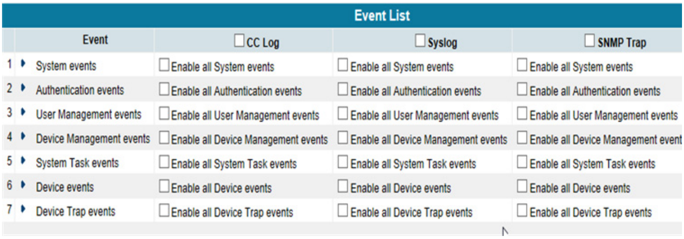
Events:

Event List

	Event	□ CC Log	□ Syslog	□ SNMP Trap
1	System events	□ Enable all System events	□ Enable all System events	□ Enable all System events
2	Authentication events	□ Enable all Authentication events	□ Enable all Authentication events	□ Enable all Authentication events
3	User Management events	□ Enable all User Management events	□ Enable all User Management events	□ Enable all User Management events
4	Device Management events	□ Enable all Device Management events	□ Enable all Device Management events	□ Enable all Device Management events
5	System Task events	□ Enable all System Task events	□ Enable all System Task events	□ Enable all System Task events

The meanings of the configuration items are described in the table, below:

Item	Description
Maintenance	Click a radio button to select whether to maintain the log database on a days or records basis, then select the number of days or records to maintain the database for. When the number is reached, events are discarded on a “first in first out” basis. The valid range is from 7–90 days, and 1000–100,000 records.
Display	Sets the maximum number of events to display on the web page. The valid range is from 10–100.
Save	Click a radio button to select whether to save only the events that are displayed, or to save all the events that correspond to the selections made in the Events List (see *Events*, below) when the log file is saved.

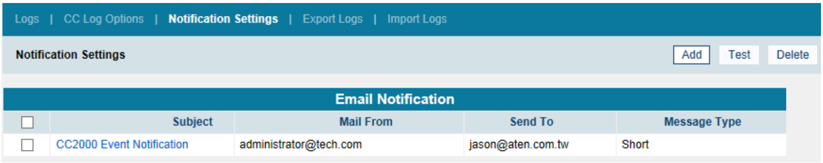
Item	Description
Events	◆ Lets you select which events you want to track, and whether to record them in the CC Log, the Syslog, the SNMP trap, or all. Clicking to put a checkmark in a checkbox enables your choice. ◆ There are 7 event categories; each category contains a list of separate events. To record all of the events for a category, put a checkmark in the checkbox in front of the **Enable all ... events** entry. ◆ To only record selected events for a category (rather than all of them), click the arrowhead in front of the category name to open the list of events; then check or uncheck each event. 

Event List

	Event	□ CC Log	□ Syslog	□ SNMP Trap
1	▸ System events	□ Enable all System events	□ Enable all System events	□ Enable all System events
2	▸ Authentication events	□ Enable all Authentication events	□ Enable all Authentication events	□ Enable all Authentication events
3	▸ User Management events	□ Enable all User Management events	□ Enable all User Management events	□ Enable all User Management events
4	▸ Device Management events	□ Enable all Device Management events	□ Enable all Device Management events	□ Enable all Device Management event
5	▸ System Task events	□ Enable all System Task events	□ Enable all System Task events	□ Enable all System Task events
6	▸ Device events	□ Enable all Device events	□ Enable all Device events	□ Enable all Device events
7	▸ Device Trap events	□ Enable all Device Trap events	□ Enable all Device Trap events	□ Enable all Device Trap events

Notification Settings

The *Notification Settings* page is used to inform a specified user of specified events that occur on the CC2000 installation. When you select **Notification Settings**, a page similar to the one below appears:



Logs | CC Log Options | Notification Settings | Export Logs | Import Logs
Notification Settings
Add
Test
Delete

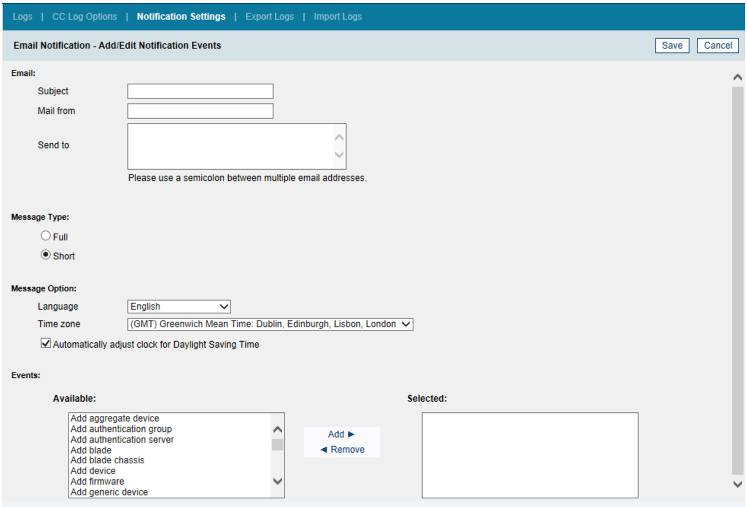
Email Notification

□	Subject	Mail From	Send To	Message Type
□	CC2000 Event Notification	administrator@tech.com	jason@aten.com.tw	Short

Adding and Configuring Notification Users

To add users and specify the events they will receive notification of, do the following:

1. Click Add at the top-right of the panel. The *Email Notification - Add/Edit Notification Events* page appears:


Logs | CC Log Options | Notification Settings | Export Logs | Import Logs
Save
Cancel
Add ►
◄ Remove

Email Notification - Add/Edit Notification Events

Email:

Subject

Mail from

Send to

Please use a semicolon between multiple email addresses.

Message Type:

○ Full

● Short

Message Option:

Language: English

Time zone: (GMT) Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London

☑ Automatically adjust clock for Daylight Saving Time

Events:

Available:

Add aggregate device
Add authentication group
Add authentication server
Add blade
Add blade chassis
Add device
Add firmware
Add generic device

Selected:

2. Key an appropriate title for the notification message in the *Subject* field

3. Key in the email address of one of the administrators in the *Mail from* field.

4. Key in the email address of the person who will receive the email notification in the *Send to* field. If you want the notification to go to more than one person, use a semicolon to separate the email addresses. There should not be a space before or after the semicolon.

5. Select whether the message type will be *Full* or *Short*.

6. Select an event that you want to receive email notification of in the *Available* column, then click **Add** to move it into the *Selected* column. Repeat for any other events you want to receive email notification of.

7. When you have finished filling out this page, click **Save** to save the configuration and return to the *Notification Settings* page.

Note: In order for users to receive email notification of events, SMTP settings information must be configured on the CC2000's *SMTP Settings* page (see page 170 for details).

Modifying Notification Configurations

To modify a notification configuration, click its *Subject* name in the *Email Notification* table; make your desired changes on the *Email Notification - Add/ Edit Notification Events* page; and click **Save** at the top-right of the panel.

Deleting Notification Configurations

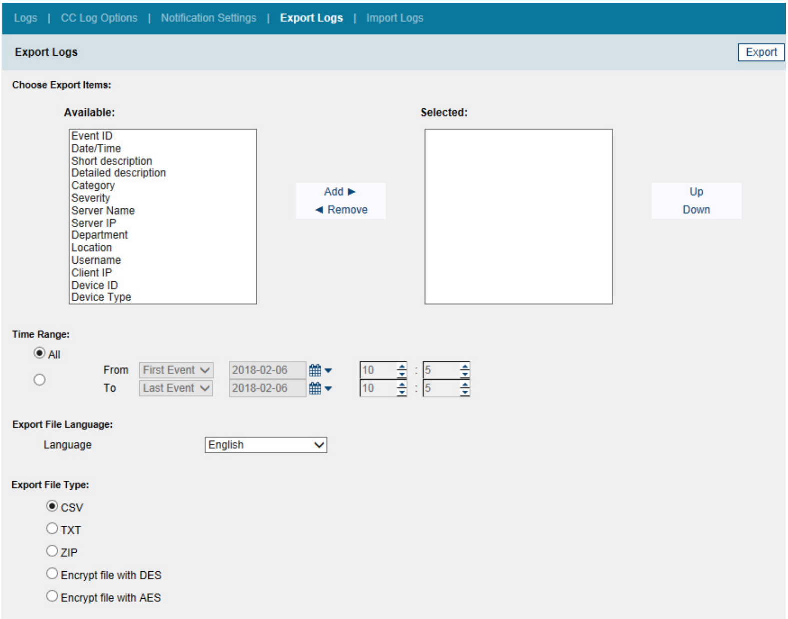
To delete a notification configuration, click to put a check in the checkbox in front of its *Subject* name in the *Email Notification* table; then click **Delete** at the top-right of the panel.

Testing Event Notifications

To check that an event notification is working properly, click to put a check in the checkbox in front of the notification's *Subject* name in the *Email Notification* table, then click **Test**. If the system is working properly, the event notification recipient will receive an email with the event notification.

Export Logs

The *Export Logs* page is used to save specified logged events to a file. When you select *Export Logs* on the Submenu bar, a page similar to the one below appears:


Logs | CC Log Options | Notification Settings | Export Logs | Import Logs
Export
Add ▶
◀ Remove
Up
Down

Export Logs

Choose Export Items:

Available:

Event ID
Date/Time
Short description
Detailed description
Category
Severity
Server Name
Server IP
Department
Location
Username
Client IP
Device ID
Device Type

Selected:

Time Range:

● All

○ From First Event 2018-02-06 10 : 5
To Last Event 2018-02-06 10 : 5

Export File Language:

Language English

Export File Type:

● CSV
○ TXT
○ ZIP
○ Encrypt file with DES
○ Encrypt file with AES

To save specified logged events to a file, do the following:

1. Select a log file item that you want to include in the exported file in the *Available* column, then click **Add** to move it into the *Selected* column. Repeat for any other log file items you want to include.
2. To change the order of the *Selected* items, click on the item you want to move, then click **Up** or **Down** to change it to the position you want.
3. For *Time Range*, selecting **All** exports all the records that exist in the database for the selected items. To export records for a particular time period, select the radio button below it and set the time parameters with the *From* and *To* settings.
4. For *Export File Language*, choose **Default** to have the file exported in the language that your browser is set to. If you prefer a different language, drop down the list and select one of the languages offered.
5. For *Export File Type*, click the radio button in front of your choice. If you choose one of the encryption options, key a password into the *Password* field that comes up.

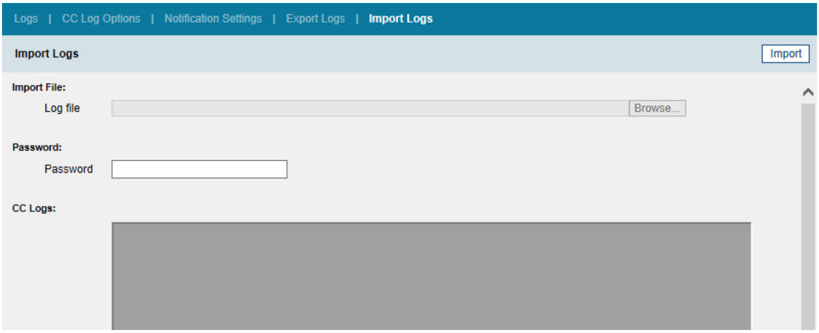
Note: Make a note of the password – you will need it to import the file (see Import File in the next section).

6. When you have finished making your choices, click **Export** (at the top-right of the panel).
7. In the dialog box that comes up, select the “save file” option. The log file is saved in the location you specify.

Note: You can rename the files to anything you like, as long as you don’t change the extension.

Import Logs

The *Import Logs* page is used to open previously saved log files for viewing. When you select *Import Logs* on the Submenu bar, a page similar to the one below appears:



Logs | CC Log Options | Notification Settings | Export Logs | Import Logs
Import Logs
Import
Import File:
Log file
Browse...
Password:
Password
CC Logs:

To import a previously saved log file, do the following:

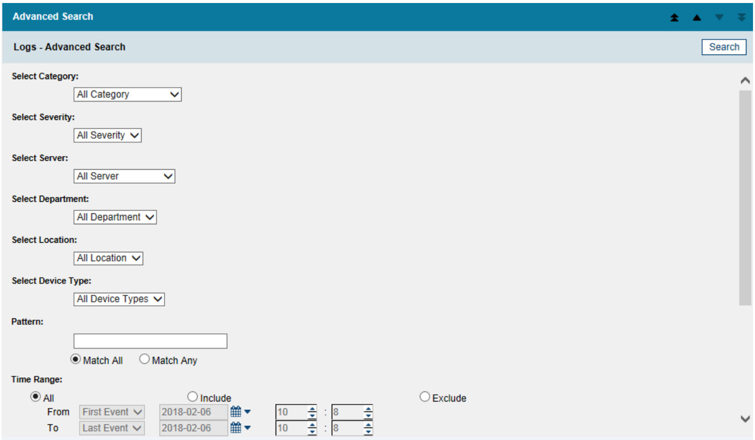
1. Either key in the full path to the file in the *Log file* field, or click **Browse** to navigate to it.
2. If the file has been encrypted, key the password that was used when it was created into the *Password* field.
3. Click **Import** (at the top-right of the panel).

When the file is imported, its contents appear in the *CC Log List* panel.

Advanced Search

Advanced Search lets you very finely tune your search by narrowing down the parameters for each of the search choices. To perform an advanced search, do the following:

1. In the Sidebar, click **Advanced Search**. A screen, similar to the one below appears:



Advanced Search

Logs - Advanced Search

Search

Select Category: All Category

Select Severity: All Severity

Select Server: All Server

Select Department: All Department

Select Location: All Location

Select Device Type: All Device Types

Pattern:

● Match All ○ Match Any

Time Range:

● All ○ Include ○ Exclude

From First Event 2018-02-06 10 : 8

To Last Event 2018-02-06 10 : 8

2. Drop down each of the lists you want to select specific search parameters.
3. If you want to search for a particular word or string, key it in the *Pattern* field, then select whether all or any of the terms are required for a match.
4. For *Time Range*, selecting **All** searches all the records that exist in the database. To search for a particular time period, click *Include* or *Exclude*, and set the time parameters with the *From* and *To* settings.

Note: 1. If *Include* is selected, all the events that fall within the specified time range are searched.

2. If *Exclude* is selected, only the events that fall outside of the specified time range are searched.

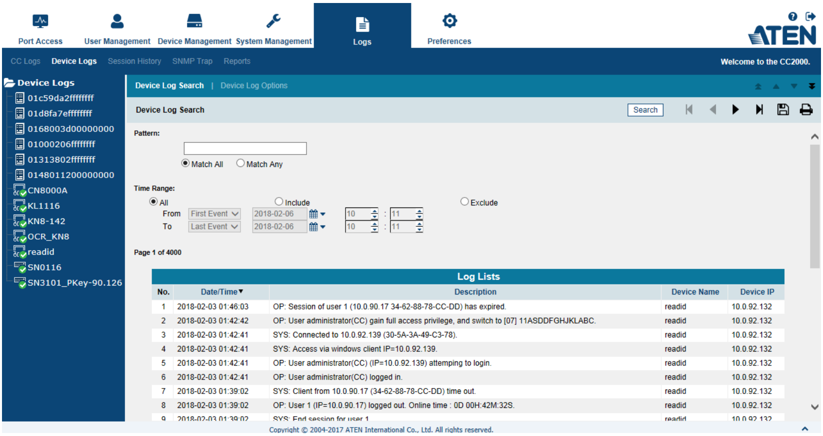
5. When you have finished making your choices, click **Search** (at the top-right of the panel).

The search results are displayed in the Log List in the main panel.

- To save the search results to a file, click the button with the diskette icon.
- To print out the search results, click the button with the printer icon.
- The sort order of the list can be changed by clicking the column headings.

Device Logs

The CC2000 acts as a log server for all ATEN/Altusen NET™ devices, recording the system events that take place on those devices in a database. When you click *Device Logs* on the Submenu bar, the *Device Logs Search* page, which allows you to search for events containing specific words or strings, appears:



Pattern:

● Match All ○ Match Any

Time Range:

● All ○ Include ○ Exclude

From First Event 2018-02-06 10 : 11

To Last Event 2018-02-06 10 : 11

Page 1 of 4000

Log Lists

No.	Date/Time▼	Description	Device Name	Device IP
1	2018-02-03 01:46:03	OP: Session of user 1 (10.0.90.17 34-62-88-78-CC-DD) has expired.	readid	10.0.92.132
2	2018-02-03 01:42:42	OP: User administrator(CC) gain full access privilege, and switch to [07] 11ASDDFGHJKLABC.	readid	10.0.92.132
3	2018-02-03 01:42:41	SYS: Connected to 10.0.92.139 (30-5A-3A-49-C3-78).	readid	10.0.92.132
4	2018-02-03 01:42:41	SYS: Access via windows client IP=10.0.92.139.	readid	10.0.92.132
5	2018-02-03 01:42:41	OP: User administrator(CC) (IP=10.0.92.139) attemping to login.	readid	10.0.92.132
6	2018-02-03 01:42:41	OP: User administrator(CC) logged in.	readid	10.0.92.132
7	2018-02-03 01:39:02	SYS: Client from 10.0.90.17 (34-62-88-78-CC-DD) time out.	readid	10.0.92.132
8	2018-02-03 01:39:02	OP: User 1 (IP=10.0.90.17) logged out. Online time : 0D 00H:42M:32S.	readid	10.0.92.132
9	2018-02-03 01:39:02	SYS: End session for user 1	readid	10.0.92.132

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- The default layout shows log information for all of the devices on the entire CC2000 installation displayed in reverse chronological order.
  - Clicking the *Date/Time* column heading changes the sorting order between standard and reverse chronological order.
  - Clicking the *Description* column heading changes the sorting order between standard and reverse alphabetical order.
- The Sidebar provides a filtering function – click a device to only display the events that pertain to it.
- The navigation buttons (arrowheads) at the top-right of the main panel move you through the pages of the log list. The leftmost takes you to the first page; the rightmost takes you to the last page; the middle buttons move you backward or forward one page.

Note: These buttons are only active when there is a relevant action they can perform. For example, when there is more than one page of information and you are on the first page, the "move forward one page" and "move to the last page" buttons are active, but the "move backward one page" and "move to the first page" buttons are not.

- To save the log list to a file, click the button with the diskette icon. (Only the list that is displayed – all, or a filtered choice – is saved).
- To print out the log list, click the button with the printer icon. (Only the list that is displayed – all, or a filtered choice – is printed).

Device Log Search

To search the logs, do the following:

1. If you want to search for a particular word or string, key it in the *Pattern* field.
2. Use *Match All* for a search that must contain all words in the *Pattern* field; or *Match Any* for a search which can contain any or all words in the *Pattern* field.
3. For *Time Range*, selecting **All** searches all the records that exist in the database for the selected pattern. To search records for a particular time period, select either the *Include* or *Exclude* radio button, and set the time parameters with the *From* and *To* settings.

Note: 1. If the *Include* button is selected, all the events that fall within the specified time range are searched.

2. If the *Exclude* button is selected, only the events that fall outside of the specified time range are searched.

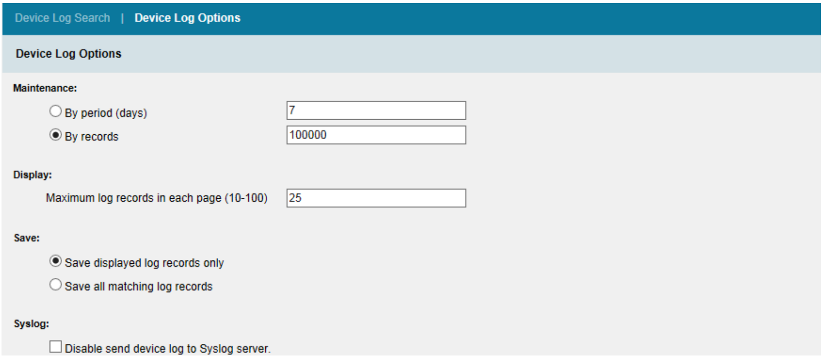
4. When you have finished making your choices, click **Search** (at the top-right of the panel).

The search results are displayed in the Log List in the main panel.

- To save the search results to a file, click the button with the diskette icon.
- To print out the search results, click the button with the printer icon.
- The sort order of the list can be changed by clicking the column headings.

Device Log Options

The *Device Log Options* page provides management options regarding the CC2000's device log database. When you select *Device Log Options*, a page similar to the one below appears:



Device Log Options

Maintenance:

○ By period (days) 7

● By records 100000

Display:

Maximum log records in each page (10-100) 25

Save:

● Save displayed log records only

○ Save all matching log records

Syslog:

□ Disable send device log to Syslog server.

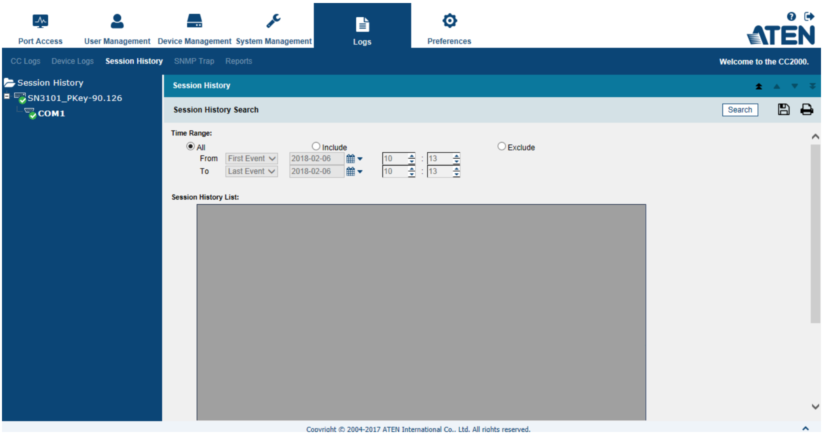
- **Maintenance** allows you to select whether to maintain the device log database on a days or records basis. Click a radio button to make your selection, then key in the number of days or records to maintain the database for. When the number is reached, events are discarded on a "first in first out" basis.
- **Display** allows you to set the maximum number of record events to display on the web page.
- **Save** allows you to save the device logs to a file:

  1. First click a radio button to choose whether to save only the currently selected device log records, or all of the device log records, then click **Save** (at the top-right of the panel).
  2. In the dialog box that comes up, select the "save file" option. The log file is saved in CSV format, which can be read by a spreadsheet program.

- **Syslog** allows you to disable sending device logs to the Syslog server. If this option is not checked, the CC2000 will send CC & device logs to Syslog server. If checked, then only CC logs are sent.

Session History

The CC2000 keeps a record of all user sessions that take place. When you click *Session History* on the Submenu bar, the *Session History Search* page appears:



Time Range:

● All ○ Include ○ Exclude

From: First Event, 2018-02-06, 10 : 13

To: Last Event, 2018-02-06, 10 : 13

Session History List:

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Session History Search

To search the session history records, do the following:

1. For *Time Range*, selecting **All** searches all the records that exist in the database. To search records for a particular time period, select either the *Include* or *Exclude* radio button, and set the time parameters with the *From* and *To* settings.

   Note: 1. If the *Include* button is selected, all the events that fall within the specified time range are searched.

   2. If the *Exclude* button is selected, only the events that fall outside of the specified time range are searched.

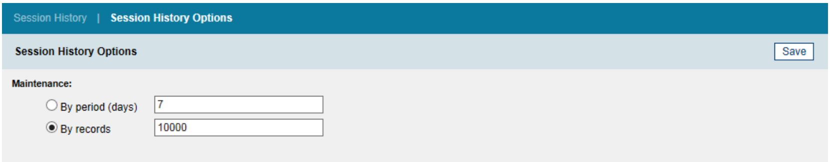
2. When you have finished making your time range choices, click **Search** (at the top-right of the panel).

The search results are displayed in the Session History List in the main panel.

- To save the search results to a file, click the button with the diskette icon.
- To print out the search results, click the button with the printer icon.
- The sort order of the list can be changed by clicking the column headings.

Session History Options

The *Session History Options* page provides management options regarding the CC2000's session history database. When you select **Session History Options**, a page similar to the one below appears:



Session History Options

Maintenance:

○ By period (days) 7

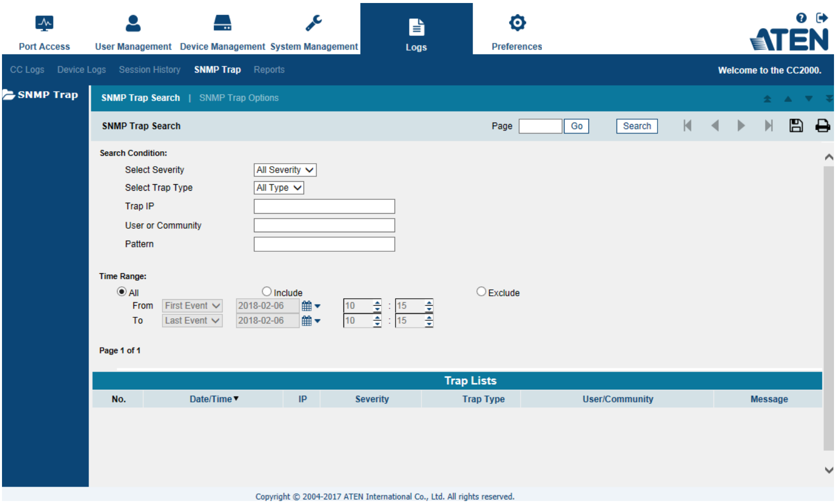
● By records 10000

Maintenance allows you to select whether to maintain the session history database on a days or records basis.

- Click a radio button to make your selection, then key in the number of days or records to maintain the database for. When the number is reached, events are discarded on a "first in first out" basis.
- To save your settings click **Save** (at the top-right of the panel).

SNMP Trap

The *SNMP Trap* tab allows you to search for SNMP trap events and set further options for the search and display function.



Search Condition:

Select Severity: All Severity

Select Trap Type: All Type

Trap IP

User or Community

Pattern

Time Range:

● All ○ Include ○ Exclude

From: First Event 2018-02-06 10 : 15

To: Last Event 2018-02-06 10 : 15

Page 1 of 1

Note: To set which kind of SNMP Trap events are recorded in the log, make your selections in the Event List, under the *CC Log Options* tab. See *CC Log Options*, page 219, for details.

SNMP Trap Search

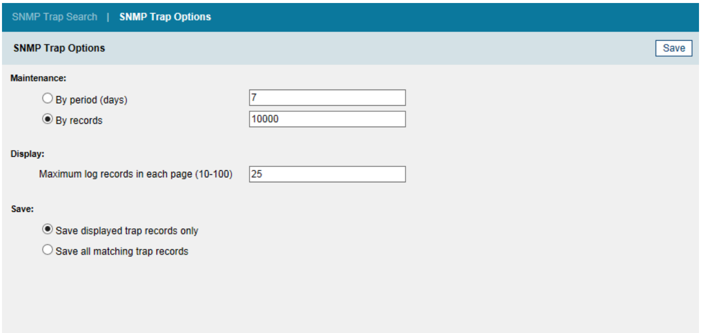
At the top of the tab, you can search for a specific page in the Trap Lists, or navigate through the Trap Lists using the controls. For a more specific search, set your search parameters using following sections as a guide:

Search Condition

- *Select Severity* – select the event severity from the drop-down menu. Options are: Unknown; Information; Warning; and Critical.
- Select TrapType – select the trap type from the drop-down menu. Options are: V1; V2c; and V3.
- *Trap IP* – Enter the specific IP address that you want to search for trap events.
- *User or Community* – Enter the specific User or Community that you want to search for trap events
- *Pattern* – Enter the specific pattern that you want to search for trap events

SNMP Trap Options

Further SNMP Trap options can be configured under this tab.



Maintenance:

○ By period (days) 7

● By records 10000

Display:

Maximum log records in each page (10-100) 25

Save:

● Save displayed trap records only

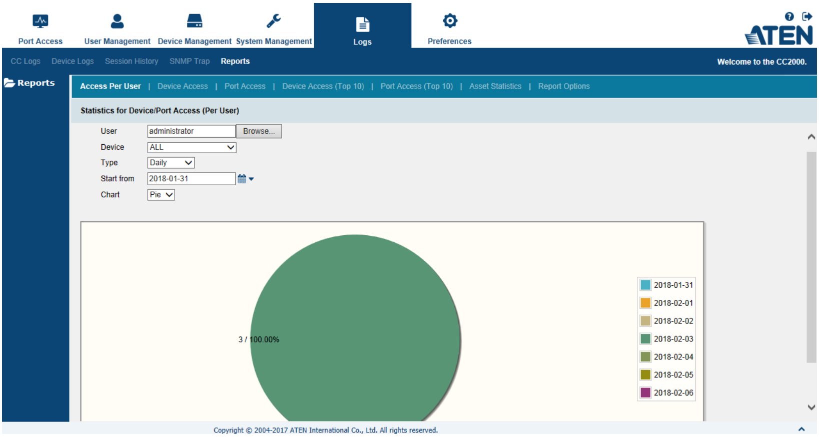
○ Save all matching trap records

- *Maintenance* – choose from Period (in days) or by number of Records.
- *Display* – enter a total for the number of log records to be displayed on each page (the range is 10–100)
- *Save* – you can chose whether to save only displayed trap records or to save all matching trap records.

Make your selections and click **Save** to save your choices.

Reports

The *Reports* tab allows you to view *access statistics* about users and devices on the CC2000 installation and set options for how reports are displayed.

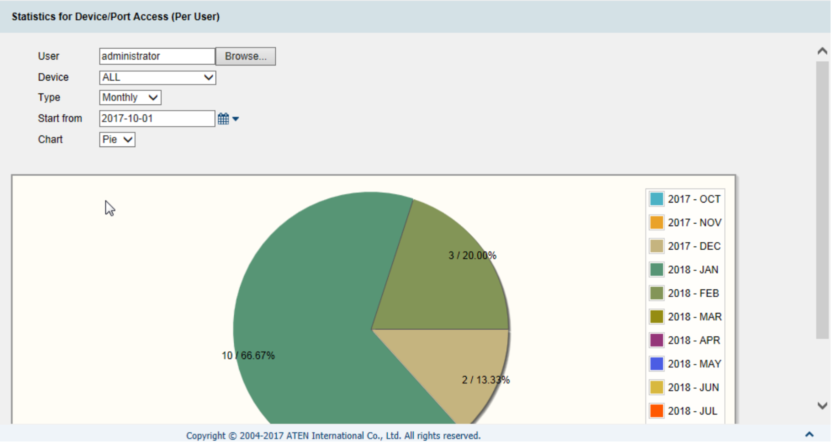


Statistics for Device/Port Access (Per User)

User administrator
Device ALL
Type Daily
Start from 2018-01-31
Chart Pie

Access Per User

This page provides *Statistics for Device/Port Access Per User*. Use the options from the table on the next page to build a pie or bar chart and display either or both according to the parameters you choose.



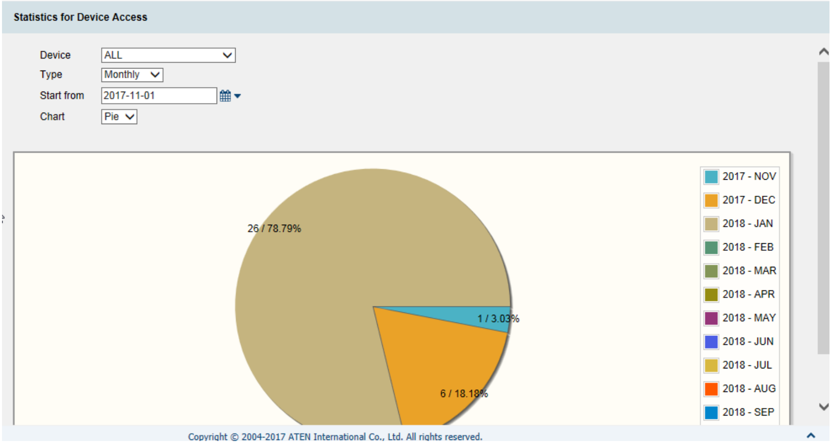
Statistics for Device/Port Access (Per User)

User administrator
Device ALL
Type Monthly
Start from 2017-10-01
Chart Pie

Item	Description
User	Click **Browse** to bring up a list of users to select from. Use the radio button to select a user and click **OK** to display their access statistics.
Device	Select **All** or an individual port/device to display statics for. This will display a graph with the number of times a user has accessed the device(s), according to the *Type* you select. The numbers displayed within each chart color show the number of times the device was accessed (on that day/week/month/quarter/year) and it’s percentage of the whole.
Type	Select the amount of time that the chart is divided into. The chart will display how many times the *Device* was accessed within a given time span, divided by the selected period: ◆ **Daily**: Displays how many times the device was accessed each day, for a span of 7 days, beginning on the *Start From* date. ◆ **Weekly**: Displays how many times the device was accessed each week, for a span of 4 weeks, beginning on the *Start From* date. The format 2013-W42 represents week 42 of the year 2013. ◆ **Monthly**: Displays how many times the device was accessed each month, for a span of 12 months, beginning on the *Start From* date. ◆ **Quarterly**: Displays how many times the device was accessed each quarter, for 4 quarters of a year, beginning on the *Start From* date. ◆ **Yearly**: Displays how many times the device was accessed each year, for a span of 5 years, beginning on the *Start From* date. **Note:** If the device was not accessed no data will be displayed.
Start From	Click the calendar to select a start date for the span of time that will be represented in the chart.
Chart	Select the type of chart you would like to use to display the information: ◆ **Pie**: Shows a round chart divided into the time period selected. ◆ **Bar**: Shows individual bar graphs divided into the time periods selected. ◆ **All**: Displays both a Pie and Bar chart.
Color/Key	To the right of the pie chart is a color coded key that shows the date of each time period represented by a color.

Device Access

This page provides *Statistics for Device Access*. Use the options from the table below to build a pie or bar chart and display either or both according to the parameters you choose.



Statistics for Device Access

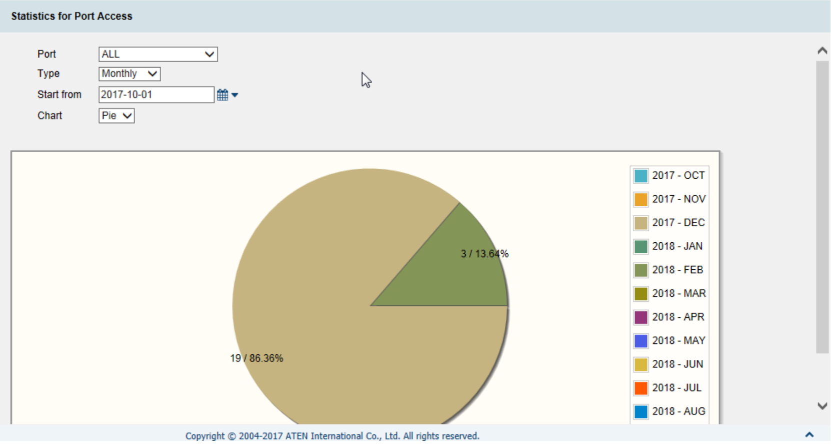
Device: ALL
Type: Monthly
Start from: 2017-11-01
Chart: Pie

Item	Description
Device	Select **All** or an individual device that you want to display statics for. This will display a graph with the number of times the device(s) has been accessed, according to the *Type* you select. The numbers displayed with each chart color show the number of times the device was accessed (on that day/week/month/quarter/year) and it's percentage of the whole.
Type	Select the amount of time that the chart will be divided into. The chart will display how many times the *Device* was accessed within a given time span, divided by the selected period: ◆ **Daily**: Displays how many times the device was accessed each day, for a span of 7 days, beginning on the *Start From* date. ◆ **Weekly**: Displays how many times the device was accessed each week, for a span of 4 weeks, beginning on the *Start From* date. The format 2013-W42 represents week 42 of the year 2013. ◆ **Monthly**: Displays how many times the device was accessed each month, for a span of 12 months, beginning on the *Start From* date. ◆ **Quarterly**: Displays how many times the device was accessed each quarter, for 4 quarters of a year, beginning on the *Start From* date. ◆ **Yearly**: Displays how many times the device was accessed each year, for a span of 5 years, beginning on the *Start From* date. **Note:** If the device was not accessed no data will be displayed.
Start From	Click the calendar to select a start date for the span of time that will be represented in the chart.

Item	Description
Chart	Select the type of chart you would like to use to display the information: ◆ **Pie**: Shows a round chart divided into the time period selected. ◆ **Bar**: Shows individual bar graphs divided into the time periods selected. ◆ **All**: Displays both a Pie and Bar chart.
Color/Key	To the right of the pie chart is a color coded key that shows the date of each time period represented by a color.

Port Access

This page provides *Statistics for Port Access*. Use the options from the table below to build a pie or bar chart and display either or both according to the parameters you choose.



Statistics for Port Access

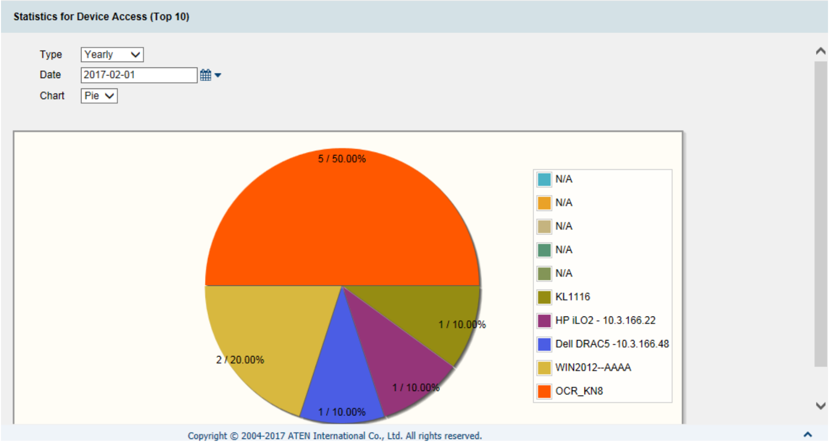
Port: ALL
Type: Monthly
Start from: 2017-10-01
Chart: Pie

Item	Description
Port	Select **All** or an individual port that you want to display statics for. This will display a graph with the number of times the port(s) was accessed, according to the *Type* you select. The numbers displayed with each chart color show the number of times the port was accessed (on that day/week/month/quarter/year) and it’s percentage of the whole.

Item	Description
Type	Select the amount of time that the chart will be divided into. The chart will display how many times the *Port* was accessed within a given time span, divided by the selected period: ◆ **Daily**: Displays how many times the port was accessed each day, for a span of 7 days, beginning on the *Start From* date. ◆ **Weekly**: Displays how many times the port was accessed each week, for a span of 4 weeks, beginning on the *Start From* date. The format 2013-W42 represents week 42 of the year 2013. ◆ **Monthly**: Displays how many times the port was accessed each month, for a span of 12 months, beginning on the *Start From* date. ◆ **Quarterly**: Displays how many times the port was accessed each quarter, for 4 quarters of a year, beginning on the *Start From* date. ◆ **Yearly**: Displays how many times the port was accessed each year, for a span of 5 years, beginning on the *Start From* date. **Note:** If the port was not accessed no data will be displayed.
Start From	Click the calendar to select a start date for the span of time that will be represented in the chart.
Chart	Select the type of chart you would like to use to display the information: ◆ **Pie**: Shows a round chart divided into the time period selected. ◆ **Bar**: Shows individual bar graphs divided into the time periods selected. ◆ **All**: Displays both a Pie and Bar chart.
Color/Key	To the right of the pie chart is a color coded key that shows the date of each time period represented by a color.

Device Access (Top 10)

The *Statistics for Device Access - Top 10* page displays the top 10 devices by total access and how many times they were accessed. Use the options from the table below to build a pie or bar chart and display either or both according to the parameters you choose.



Statistics for Device Access (Top 10)

Type: Yearly
Date: 2017-02-01
Chart: Pie

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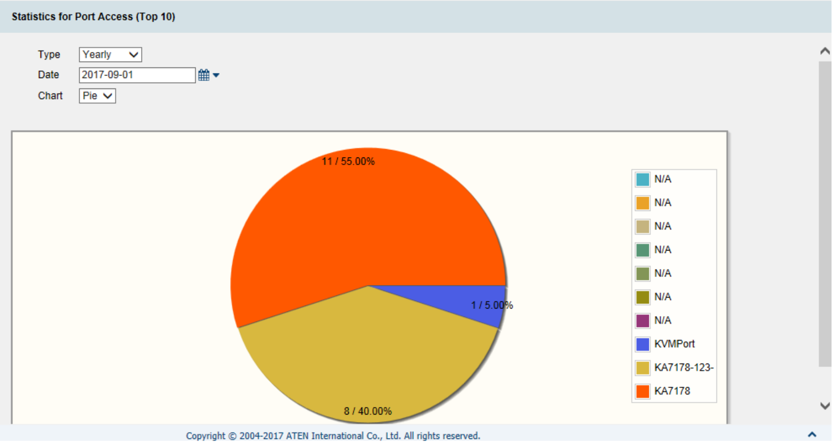
Item	Description
Type	Select the amount of time that the chart will represent. The chart will display the top 10 devices by total access and how many times they were accessed during the period selected: ◆ **Daily**: Displays the top 10 devices and how many times they were accessed on the day specified. ◆ **Weekly**: Displays the top 10 devices and how many times they were accessed during the week specified. ◆ **Monthly**: Displays the top 10 devices and how many times they were accessed during the month specified. ◆ **Quarterly**: Displays the top 10 devices and how many times they were accessed during the quarter specified. ◆ **Yearly**: Displays the top 10 devices and how many times they were accessed during the year specified.
Date	Click the calendar to select a date for the (Day/Week/Month/Quarter/ Year) that the chart will represent.

Item	Description
Chart	Select the type of chart you would like to use to display the information: ◆ **Pie**: Shows a round chart divided into the top 10 devices by total access. ◆ **Bar**: Shows individual bar graphs divided into the top 10 devices by total access. ◆ **All**: Displays both a Pie and Bar chart.
Color/Key	To the right of the pie chart is a color coded key that shows each of the top 10 devices by total access, represented by a color.

Port Access (Top 10)

The *Statistics for Port Access - Top 10* page displays the top 10 ports by total access and how many times they were accessed. Use the options from the table below to build a pie or bar chart and display either or both according to the parameters you choose.



Statistics for Port Access (Top 10)

Type: Yearly

Date: 2017-09-01

Chart: Pie

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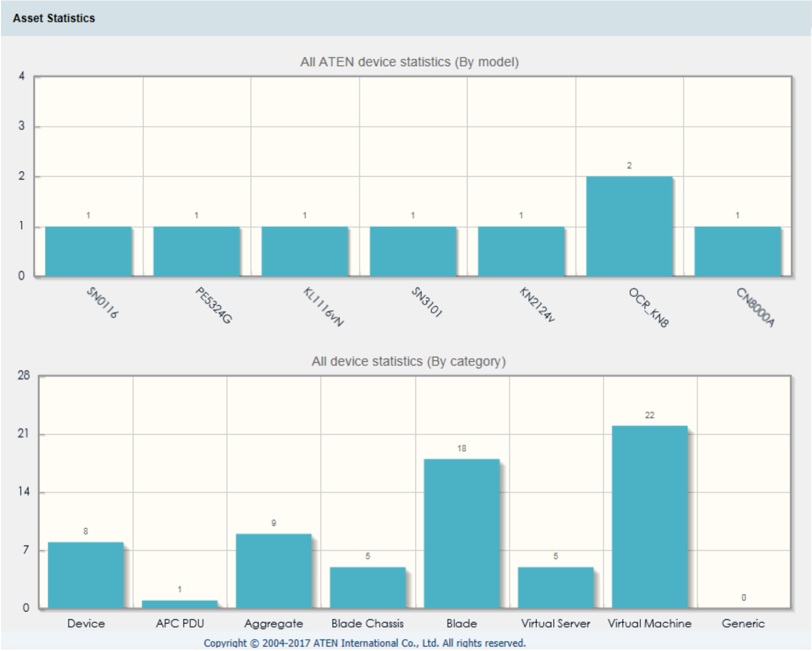
Item	Description
Type	Select the amount of time that the chart will represent. The chart will display the top 10 ports by total access and how many times they were accessed during the period selected: ◆ **Daily**: Displays the top 10 ports and how many times they were accessed on the day specified. ◆ **Weekly**: Displays the top 10 ports and how many times they were accessed during the week specified. ◆ **Monthly**: Displays the top 10 ports and how many times they were accessed during the month specified. ◆ **Quarterly**: Displays the top 10 ports and how many times they were accessed during the quarter specified. ◆ **Yearly**: Displays the top 10 ports and how many times they were accessed during the year specified.
Date	Click the calendar to select a date for the (Day/Week/Month/Quarter/Year) that the chart will represent.
Chart	Select the type of chart you would like to use to display the information: ◆ **Pie**: Shows a round chart divided into the top 10 ports by total access. ◆ **Bar**: Shows individual bar graphs divided into the top 10 ports by total access. ◆ **All**: Displays both a Pie and Bar chart.

Item	Description
Color/Key	To the right of the pie chart is a color coded key that shows each of the top 10 ports by total access, represented by a color.

Asset Statistics

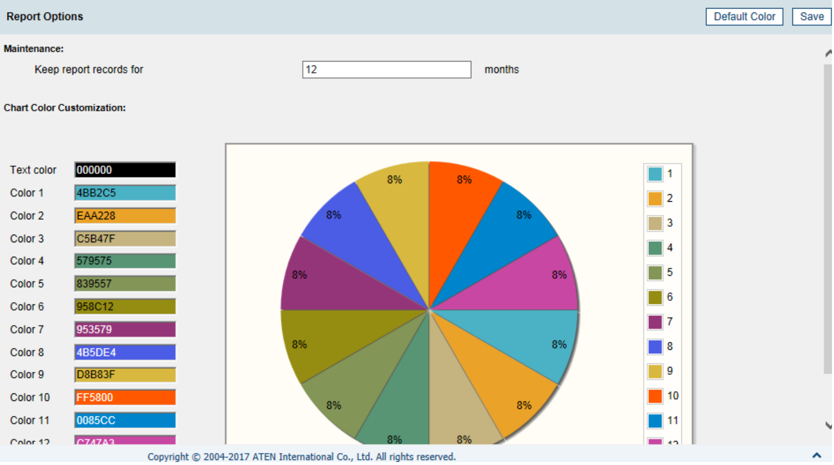
The *Asset Statistics* page displays all the assets that have been added to the CC2000 installation, shown in two charts: *ATEN Device Statistics (By model)*, and *All Device Statistics (By category)*.



ATEN Device Statistics shows the number of ATEN devices by model, that are currently associated with the CC2000 installation. **All Device Statistics** shows all devices associated with the CC2000 installation by category: *Devices* (ATEN devices), *APC PDU*, *Aggregate*, *Blade Chassis*, *Blade*, *Virtual Server*, *Virtual Machine*, and *Generic*.

Report Options

This page provides options for customizing the report colors and for saving report records.



Report Options [Default Color] [Save]

Maintenance:

Keep report records for 12 months

Chart Color Customization:

Text color	000000
Color 1	4BB2C5
Color 2	EAA228
Color 3	C5B47F
Color 4	579575
Color 5	839557
Color 6	958C12
Color 7	953579
Color 8	4B5DE4
Color 9	D8B83F
Color 10	FF5800
Color 11	0085CC
Color 12	C747A3

Item	Description
Maintenance	Enter the number of months you would like the system to keep report records for before deleting.
Chart Color Customization	◆ Text color: Click the box to bring up a small window and choose the color you would like to use for text displayed within the reports. ◆ Color 1~12: Click the boxes to bring up a small window to choose the color you would like to use for each key in the charts. **Note:** After selecting a color the test chart to the right will change accordingly so you can see how your graph will look.
Default Color	Click to return all colors back to the default settings.
Save	Click to apply changes made to the chart colors.

Appendix A
Technical Information

Safety Instructions

General

- Read all of these instructions. Save them for future reference.
- Follow all warnings and instructions marked on the device.
- Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.
- Do not use the device near water.
- Do not place the device near, or over, radiators or heat registers.
- The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- Never spill liquid of any kind on the device.
- Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- The device is designed for IT power distribution systems with 230V phase-to-phase voltage.
- To prevent damage to your installation it is important that all devices are properly grounded.
- The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.
- Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.

- If an extension cord is used with this device make sure that the total of the ampere ratings of all products used on this cord does not exceed the extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).
- Position system cables and power cables carefully; Be sure that nothing rests on any cables.
- Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
    - The power cord or plug has become damaged or frayed.
    - Liquid has been spilled into the device.
    - The device has been exposed to rain or water.
    - The device has been dropped, or the cabinet has been damaged.
    - The device exhibits a distinct change in performance, indicating a need for service.
    - The device does not operate normally when the operating instructions are followed.
- Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.
- Do not connect the RJ-11 connector marked “UPGRADE” to a public telecommunication network.

Rack Mounting

- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- Always load the rack from the bottom up, and load the heaviest item in the rack first.
- Make sure that the rack is level and stable before extending a device from the rack.
- Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.
- After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Ensure that proper airflow is provided to devices in the rack.
- Do not step on or stand on any device when servicing other devices in a rack.

Technical Support

International

- For online technical support – including troubleshooting, documentation, and software updates: **http://eservice.aten.com**
- For telephone support, see *Telephone Support*, page iii.

North America

Email Support		support@aten-usa.com
Online Technical Support	Troubleshooting Documentation Software Updates	http://www.aten-usa.com/support
Telephone Support		1-888-999-ATEN ext 4988 1-949-428-1111

When you contact us, please have the following information ready beforehand:

- Product model number, serial number, and date of purchase.
- Your computer configuration, including operating system, revision level, expansion cards, and software.
- Any error messages displayed at the time the error occurred.
- The sequence of operations that led up to the error.
- Any other information you feel may be of help.

USB Authentication Key Specifications

Function		Key
Environment	Operating Temp.	0–40^{o} C
	Storage Temp.	-20–60^{o} C
	Humidity	0–80% RH
Physical Properties	Composition	Metal and Plastic
	Weight	14 g
	Dimensions	8.36 x 2.77 x 1.37cm

CC2000 Capable ATEN/Altusen IP Products

The following is a list of ATEN/Altusen IP products that are capable of being managed in a CC2000 Management Software installation.[1]

- CN8000; CN8600
- CS1708i; CS1716i
- KH1508i; KH1516i; KH1508Ai; KH1516Ai
- KL9108; KL9116
- KL1508Ai; KL1516Ai
- KN1000
- KN1108v / KN1116v
- KN2108; KN2116
- KN2116A; KN2132; KN4116; KN4132[2]
- KN2116v; KN2124v; KN2132v; KN2140v; KN4116v; KN4124v; KN4132v; KN4140v[2]
- KN4164V, KN8132V, KN8164V
- KN9008; KN9016
- KN9108; KN9116
- PN0108[3]; PN9108
- PN5212; PN5320; PN7212; PN7320
- SN0108A; SN0116A; SN0132; SN0148
- SN0108; SN0116; SN9108; SN9116; SN3101
- SN0108CO; SN0116CO; SN0132CO; SN0148CO; SN9108CO; SN9116CO

Energy Intelligence Rack PDUs

- EC1000
- EC2004
- PE5108; PE5208
- PE5220s
- PE5340s
- PE6108
- PE6208; PE6216

- PE6324
- PE7108; PE7208
- PE7214
- PE7328
- PE8108
- PE8208; PE8216
- PE8324
- PE9222
- PE9330
- PE7216r (ARM-based)
- PE7324r (ARM-based)
- PE8216r (ARM-based)
- PE8324r (ARM-based)
- PE9216r (ARM-based)
- PE9324r (ARM-based)

Note: 1. These are the supported devices at the time the manual was written. Visit our web page to see if any additional devices have been added since this manual was published.

2. These switches can be used as parents to cascade the switches mentioned in the next section.

3. The CC2000 doesn’t support the PN0108 directly – it only supports PN0108s that are daisy chained to PN9108s.

Supported KVM Switches

The following is a list of fully supported KVM switches that can be used in a cascaded installation.

- KH88
- KH98
- KH1508 / KH1516
- KH1508A / KH1516A
- CS9134
- CS9138

Note: The installation cannot be cascaded beyond the second level.

Device ANMS Settings

To enable CC Management of a device from the device's ANMS settings page, do the following:

1. Log into the device.
2. Refer to the device's User Manual to locate its ANMS settings page.
3. In the ANMS page, click the checkbox to *enable* CC Management, then key in the IP address and device port number (see *Device port*, page 15), of the CC2000 server that will manage the device.

VPNs

Basically, a VPN (virtual private network) is a private network that uses a public network (usually the Internet) to connect several sites together. It typically includes several WANs. Many companies create their own VPN to provide a secure network connection between two sites. One drawback to VPNs, however, is that while the network is secure, throughput can be slow.

If a VPN is used to connect several sites in a CC2000 management system, the only CC2000 server that is absolutely necessary to manage that system is a single Primary server – rather than the network of Primary and Secondary CC2000 servers necessary with the standard Internet deployment. We recommend that at least one CC2000 Secondary server is deployed, however, in order to provide redundant services to the connected devices.

Another advantage of deploying additional CC2000 Secondaries is that they can provide more efficient operation and management by speeding up network traffic.

Firewalls

When several CC2000 servers are located behind separate firewalls, the following service ports must be specified on the servers, and the corresponding ports must be opened on the firewall.

1. CC Port

Note: Each CC2000 server can have a different setting (8001 on Server 1; 8005 on Server 2, for example). But the port opened on the firewall must correspond to the CC Port setting (8001 on Server 1's firewall; 8005 on Server 2's firewall).

2. The CC2000 Primary server's HTTPS port
3. The CC2000 Proxy port (see *CC2000 Proxy Function* in the next section).
4. The CC2000 Secondary server's HTTPS port (Optional)

Note: 1. CC2000 Client Workstations can open web browser sessions to CC2000 Secondary servers inside the same firewall. Communication and access with the other CC2000 servers on the installation (outside of the firewall) takes place through the CC Port and Proxy port – therefore the HTTPS port isn't necessary. There is a drawback to doing this, however, in that you won't be able to perform device configuration on the devices outside the firewall.

2. You can open this port if you would like CC2000 Client Workstations outside the firewall to be able to directly open a web browser session to the Secondary server inside the firewall.

CC2000 Proxy Function

Activating CC2000 proxy function (proxy server) allows data transmission via a CC2000 server when client PCs are unable to directly communicate with KVM (managed by the CC2000 server) using the viewers.
If “Always use proxy” is checked, data is always transmitted via the CC2000 server.
As data is transmitted via the CC2000 server, its bandwidth may vary depending on the number of active viewer – KVM sessions.
For CC2000 Client Workstations (client PC) that are *outside* a firewall to access KVM and Serial devices managed by a CC2000 server *inside* the firewall, the CC2000 Proxy function must be enabled on the CC2000 server and two specific ports must be configured (opened) on the firewall:

- TCP Port (default 443) for safe Internet connection (https://) between the CC2000 and the client PC.
- TCP Port (default 8002) for image and Telnet data transmission of viewers.

Note: If you do not wish to use the Proxy function, you must open all the service ports (HTTPS, Program, Virtual Media, Telnet, SSH, etc.) on the firewall required by the devices.

Name, Description and Range Parameters

The following table lists the parameters and defaults for names, descriptions and ranges found in the CC2000 management system:

Note: Unless otherwise specified, field entries can be input in any supported language.

Category		Length / Range	Default
Users	Login name	Up to the equivalent of 16 English alphanumeric characters. The minimum number is based on the account policy settings (see *CC2000 Authentication*, page 76). The following characters may not be used: **/ \ [ ] : ; | = , + * ? < > @ " '**	
	Screen name	Up to 32 Bytes. The following characters may not be used: **" '**	
	Password	The equivalent of 0–16 English alphanumeric characters. The minimum number is based on the account policy settings (see *CC2000 Authentication*, page 76). 0 means no password authentication.	
	Description	Up to 256 Bytes.	
	Session Timeout	1–99 min.	3 min
	Unexpected disconnection timeout	2–10 min.	2 min.
	Email	Up to 256 Bytes. **From:** 0–64 **To:** 0–128 **Subject:** 1–128	
Groups	Name	2–32 Bytes. The following characters may not be used: **" '**	
	Description	Up to 256 Bytes.	

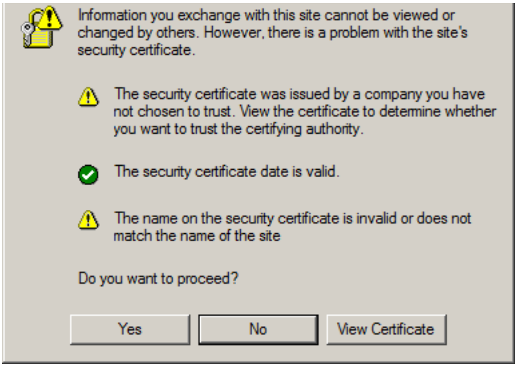
Category		Length / Range	Default
User Types	Name	2–32 Bytes. The following characters may not be used: **" '**	
	Description	Up to 256 Bytes.	
Authentication Server	Server name	2–32 Bytes. The following characters may not be used: **" '**	
	Description	Up to 256 Bytes.	
	Browser Method	Unlimited for Username and Password. **Note:** CC2000 performance is adversely affected if there are too many characters.	
CC2000 Authentication	Username Minimum	Up to the equivalent of 16 English alphanumeric characters. The minimum number is based on the account policy settings (see *CC2000 Authentication*, page 76). The following characters may not be used: **/ \ [ ] : ; | = , + * ? < > @ " '**	6
	Password Minimum	The equivalent of 0–16 English alphanumeric characters. The minimum number is based on the account policy settings (see *CC2000 Authentication*, page 76). 0 means no password authentication.	6
	Password Expires	No limit on the number of days.	
Devices	Name	0–32 Bytes.	
	Description	Up to 256 Bytes.	
	Contact name	No limit on the number of Bytes.	
	Telephone	No limit on the number of Bytes.	
	Email notification	No limit on the number of Bytes.	
Aggregate Devices	Name	1–32 Bytes.	
	Description	Up to 256 Bytes.	
Folders	Name	1–32 Bytes.	
	Description	Up to 256 Bytes.	
Departments / Locations	Name	1–32 Bytes.	
	Description	Up to 256 Bytes.	

Category		Length / Range	Default
Tasks	All Tasknames	No limit on the number of Bytes.	
	Primary Database Backup Password	0–8 Bytes. 0 means no password authentication.	
	Export Device Log Pattern	No limit on the number of Bytes.	
CC Log Options	By Period	7–90 days	
	By Record	1000–100,000	
	Records per page	10–100	
Log Notification Settings	Subject	1–128 Bytes.	
	Mail from	Up to 64 Bytes.	
	Send to	Up to 128 Bytes.	
Preferences: Web Options	Display screen name	0–32 Bytes.	

Trusted Certificates

Overview

When you try to log in to the device from your browser, a Security Alert message appears to inform you that the device's certificate is not trusted, and asks if you want to proceed.



Information you exchange with this site cannot be viewed or changed by others. However, there is a problem with the site's security certificate.

⚠ The security certificate was issued by a company you have not chosen to trust. View the certificate to determine whether you want to trust the certifying authority.

✓ The security certificate date is valid.

⚠ The name on the security certificate is invalid or does not match the name of the site

Do you want to proceed?

The certificate can be trusted, but the alert is triggered because the certificate's name is not found on the Microsoft list of Trusted Authorities. You can ignore the warning and click **Yes** to go on.

Note: To avoid users having to go through the certificate acceptance prompt each time they log in, you can use a third party certificate authority (CA) to obtain a signed certificate. See *Importing a Signed SSL Server Certificate*, page 188, for details.

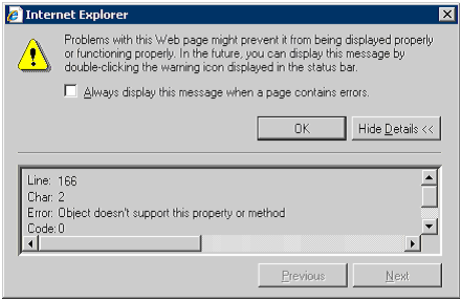
Troubleshooting

Problem	Resolution
When I try to install the CC2000 software, I get the following error message: "CC1000 is already installed. Please uninstall it first."	The CC1000 and CC2000 cannot exist on the same server. You must first uninstall CC1000 before installing CC2000. See *Uninstalling the CC1000*, page 11, for details.
After installing the CC2000, a few minutes later the following error message appears: *Error 1067*	The error message is generated by the Operating System, it indicates that the CC2000 service is unable to run. To resolve the problem try the following: 1. Reboot the computer. 2. See if your computer meets the minimum requirements to run the CC2000 (see *Server Requirements*, page 6). 3. If there was a previous version of the CC2000, and you are installing this version as a new installation rather than as an upgrade, this may indicate that you did not remove all files from the older version (see *Uninstalling the CC2000*, page 21). Uninstall the CC2000 following the procedures mentioned, and reinstall.
I key in the IP address for the CC2000 Website, but I can't bring up the CC2000 login page.	1. The CC2000 only allows HTTPS requests. HTTP requests from a browser are automatically redirect to HTTPS requests. The default port for HTTP is 80; the default port for HTTPS is 443. If either of these ports has been set to something else by the administrator, the port number must be entered as part of the URL string. For example, if the CC2000's IP address is 10.10.10.10, and the SSL port has been set to 8443, then the URL string that you enter in the browser should be: `https://10.10.10.10:8443` 2. Other services running on the CC2000 server are using the default ports. Use the CC2000 Utility (see page 263) to change the port settings. 3. Make sure that the CC2000 service is running. If you are running Windows, see *Post-installation Check*, page 17; if you are running Linux, see *Post-installation Check*, page 20.

Problem	Resolution
The language of the login dialog box wording is not the language I have set in my CC2000 Preferences.	The language precedence of the login page is to first look at the language that your browser is set for, and next to look at what your OS language is. After you have logged in, the CC2000 will display in the language you have set it for in Preferences. See *Web Options*, page 32 for details.
I cannot log in to the CC2000.	Make sure your Username and Password are correct.
When I try to log in, I get the following message: “Login failed. You are attempting to log in from a computer that already has a browser session open.”	Netscape and Firefox (as well as other Mozilla-based browsers), share the same session ID for multiple connections to the same server. The CC2000 will deny a login request once there already is a session open with the same session ID. Either: 1) end the currently open session and log in again; 2) log in from a different computer; or 3) log in with a non-Mozilla based browser. **Note:** This condition occurs in some versions of IE running on Windows98, as well.
When I log in, the browser generates a *CA Root certificate is not trusted*, or a *Certificate Error* response.	The certificate’s name is not found on Microsoft’s list of Trusted Authorities. The certificate can be trusted, however. See *Trusted Certificates*, page 256, for details.
After I log in to the CC2000, There is no Port Access tab or Port Access page.	You have not been authorized to access any ports. Check with your CC2000 administrator to get authorization to access the ports you are responsible for.
After I log in to the CC2000, I cannot bring up the page for the device I want to access.	Check with your CC2000 administrator to find out whether you are authorized to access that device.
When I log in to the CC2000, the only page that comes up is the System Management tab with only two menu entries: *This Server* and *License*.	A license conflict has occurred. See *License Conflict*, page 193, for details on resolving the problem.
I am not receiving email notifications of event trap situations	1. Check that the email server settings have been specified correctly in the CC2000 Manager. 2. Check that the email address specified in the related device’s settings has been set correctly. 3. Check that the event trap settings for the related device has been specified correctly.
When I try to access my Generic device from the Tree View nothing happens.	Generic devices are accessed directly via the device’s IP address. If the IP address has changed (because of a DHCP change, for example), then clicking the old IP address will not connect to the device at the new address. Ascertain the device’s new IP address and change its settings accordingly.

Problem	Resolution
The device I want to add cannot be found.	1. Make sure the CC2000 Manager is running and all services have started successfully. 2. Make sure that CC Management has been enabled and specified correctly in the device's ANMS settings.
When adding a Cat5e KVM switch, can I add all the ports at the same time?	Yes – provided all the ports have KVM Adapters attached and their devices are on line. See the note on page 98, for details.
The icon for my port indicates the port is online, but the icon for the device it belongs to indicates it is offline. I am unable to access the device or port.	This indicates that the device's firmware does not support this version of the CC2000. Update the device's firmware to the latest version.
Devices connected to my CC2000 Secondary servers do not show up in the Primary server's Available Devices list.	1. Check to see if the device has already been added. If it has, it will not show up in the list. 2. Click the Show Available Devices button on each of the Secondaries. 3. After trying #2, if the devices don't show up, check the device's ANMS settings to be sure that CC Management has been enabled and that the IP and port address of the CC2000 you want the device to be recognized by has been correctly specified. 4. After trying #2, if the devices do show up, there was probably a network problem. Perform the Replicate Database to the Primary function. See *Replicate Database*, page 209, for details.
My ATEN/Altusen device isn't being recognized by the CC2000.	1. The device in question may not be supported by the CC2000 management system. See *CC2000 Capable ATEN/Altusen IP Products*, page 247, for a list of supported devices. 2. The device's firmware must be upgraded to the latest version in order to be capable of CC2000 management.
After making a setting change and clicking Save, a **HTTP Status 500 -** error page comes up.	You made a mistake when you entered the setting. This is an Apache Tomcat error message that appears whenever it receives a setting that makes no sense to it. To recover, select any other tab and then come back to make your change – be sure to enter a valid setting.
I set the CC2000 for "No timeout" operation, but it timed out anyway.	The change doesn't take effect until the next time you log in.

Q1: When I open a viewer, the web page does not display or work correctly, and I receive an error message that is similar one of the following:



Internet Explorer

Problems with this Web page might prevent it from being displayed properly or functioning properly. In the future, you can display this message by double-clicking the warning icon displayed in the status bar.

□ Always display this message when a page contains errors.

Line: 166
Char: 2
Error: Object doesn't support this property or method
Code: 0

1. Reset the Internet Explorer security settings to enable Active Scripting, ActiveX controls, and Java applets

   By default, Internet Explorer 6 and some versions of Internet Explorer 5.x use the High security level for the Restricted sites zone and Microsoft Windows Server 2003 uses the High security level for both the Restricted sites zone and the Internet zone. You may want to enable Active Scripting, ActiveX controls, and Java applets. To enable Active Scripting, ActiveX controls, and Java applets, follow these steps:

   a) Start Internet Explorer.

   b) On the Tools menu, click Internet Options.

   c) In the Internet Options dialog box, click Security.

   d) Click Default Level.

   e) Click OK.

2. Verify that Active Scripting, ActiveX, and Java are not blocked

   If some computers work but other, verify that Internet Explorer or another program on your computer such as an anti-virus program or a firewall are not configured to block scripts, ActiveX controls, or Java applets.

3. Verify that your anti-virus program is not set to scan the Temporary Internet Files or Downloaded Program Files folders

4. Delete all the temporary Internet-related files

   To remove all the temporary Internet-related files from your computer, follow these steps:

   a) Start Internet Explorer.

   b) On the Tools menu, click Internet Options.

   c) Click the General tab.

   d) Under Temporary Internet files, click Settings.

   e) Click Delete Files.

   f) Click OK.

   g) Click Delete Cookies.

   h) Click OK.

   i) Under History, click Clear History, and then click Yes.

   j) Click OK.

5. Make sure that you have the latest version of Microsoft DirectX installed

   For information about how to install the latest version of Microsoft DirectX, visit the following Microsoft Web site:

   http://www.microsoft.com/windows/directx/default.aspx?url=/windows/directx/downloads/default.htm

6. Make sure that you have the latest version of the Java JRE installed.

   For information about how to install the latest version of the JRE visit the Java Web site: www.java.com

Note: The CC Viewer does not support OpenJDK.

Self-Signed Private Certificates

If you wish to create your own self-signed encryption key and certificate, a free utility – openssl.exe – is available for download over the web at **www.openssl.org**. To create your private key and certificate do the following:

1. Go to the directory where you downloaded and extracted openssl.exe to.
2. Run openssl.exe with the following parameters:

```
openssl req -new -newkey rsa:1024 -days 3653 -nodes -x509 -
keyout CA.key -out CA.cer -config openssl.cnf
```

Note: 1. The command should be entered all on one line (i.e., do not press [Enter] until all the parameters have been keyed in).

2. If there are spaces in the input, surround the entry in quotes (e.g.,"ATEN International").

To avoid having to input information during key generation the following additional parameters can be used: **/C /ST /L /O /OU /CN /emailAddress**.

Examples

```
openssl req -new -newkey rsa:1024 -days 3653 -nodes -x509 -
keyout CA.key -out CA.cer -config openssl.cnf -subj /
C=yourcountry/ST=yourstateorprovince/L=yourlocationorcity/
O=yourorganiztion/OU=yourorganizationalunit/
CN=yourcommonname/emailAddress=name@yourcompany.com
```

```
openssl req -new -newkey rsa:1024 -days 3653 -nodes -x509 -
keyout CA.key -out CA.cer -config openssl.cnf -subj /C=CA/ST=BC/
L=Richmond/O="ATEN International"/OU=ATEN /CN=ATEN/
emailAddress=eservice@aten.com.tw
```

Importing the Files

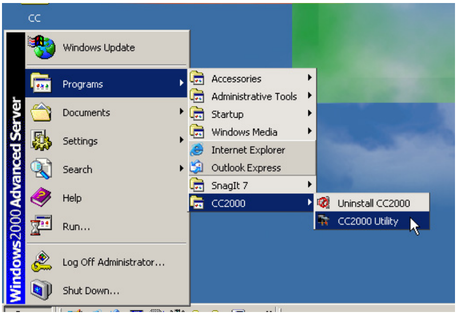
After the openssl.exe program completes, two files – CA.key (the private key) and CA.cer (the self-signed SSL certificate) – are created in the directory that you ran the program from. These are the files that you upload in the *Update CC2000 Server Certificate* panel (see *Import Private Key and Certificate*, page 189).

Appendix B
The CC2000 Utility

Overview

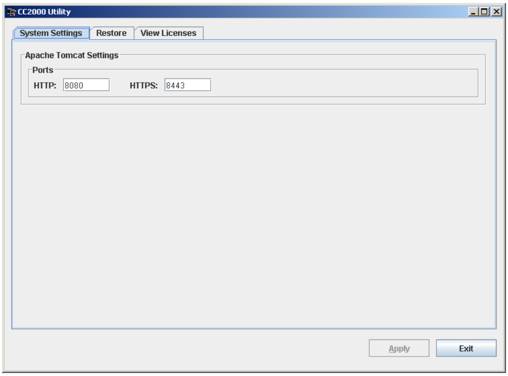
The CC2000 Utility gets installed as part of the CC2000 installation procedure. It allows you to configure a number of the CC2000's parameters from the desktop of the computer that the CC2000 runs on, without having to invoke the browser GUI.

In Windows, to run the program, open the *Start* menu; navigate to the CC2000 entry (Programs → CC2000), and select CC2000 Utility:



In Linux, as root, go to the **/home/CC2000/Runable** directory, and run the CC2000_Utility file.

When you run the program, a screen, similar to the one below, appears:



Apache Tomcat Settings

Ports

HTTP: 8080

HTTPS: 8443

The Utility offers three tabs: *System Settings*; *Restore*; and *View Licenses*. Each of the tabs is described in the sections that follow.

System Settings

Apache Tomcat is the program that serves the CC2000's web pages. The CC2000's installation programs asks you to specify the ports that Apache Tomcat listens on for web requests.

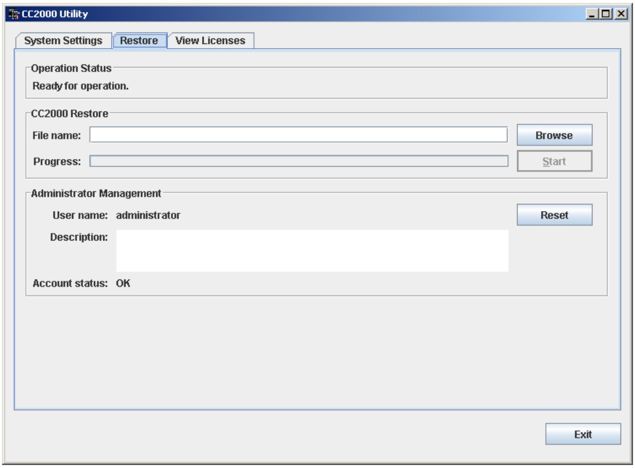
- The *HTTP* port is the regular port that Apache Tomcat listens on. The default is 80. If you use a different port, users must specify the port number in the URL of their browsers.
- The *HTTPS* port is the secure port that Apache Tomcat listens on. The default is 443. If you use a different port, users must specify the port number in the URL of their browsers.

If a port conflict occurs with the ports that you have set and prevents the web page from opening, you can use this utility to change the port settings.

After making your settings, click **Apply** to save the changes.

Restore

Clicking the Restore tab brings up a dialog box that looks similar to the one below:



Operation Status
Ready for operation.

CC2000 Restore
File name:
Progress:

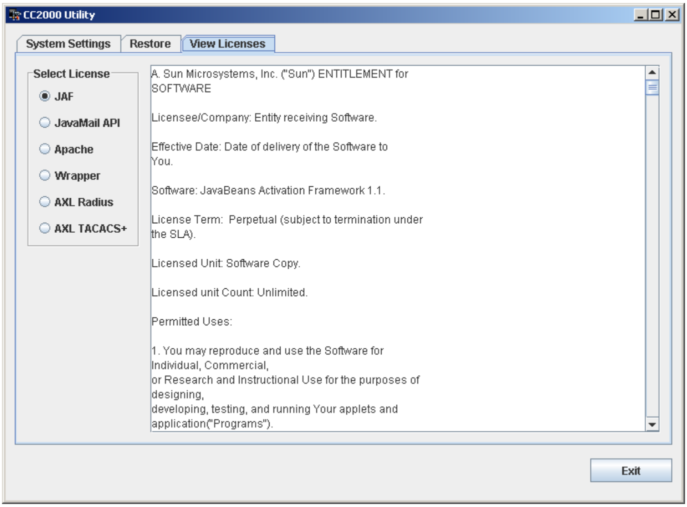
Administrator Management
User name: administrator
Description:
Account status: OK

The dialog box is divided into three panels, as described in the table below:

Panel	Description
Operation Status	You can use this to check that the CC2000 service is up and running normally.
CC2000 Restore	Used to restore the CC2000's Primary server database to a previously saved version (see *Backup the Primary Server Database*, page 196). Click **Browse** to navigate to the location of the file. After you select the file and return to the dialog box, click **Start** to begin the operation. The progress of the operation is indicated in the *Progress* field.
Administrator Management	Clicking **Reset** returns the default System Administrator's account to the default (administrator / password). If this account has been Locked (see *Lockout Policy*, page 163) it is automatically Unlocked.

View License

The View Licenses tab lets you view the licenses that are related to the CC2000 package. To view a license, click its radio button.



Select License

● JAF
○ JavaMail API
○ Apache
○ Wrapper
○ AXL Radius
○ AXL TACACS+

A. Sun Microsystems, Inc. ("Sun") ENTITLEMENT for SOFTWARE

Licensee/Company: Entity receiving Software.

Effective Date: Date of delivery of the Software to You.

Software: JavaBeans Activation Framework 1.1.

License Term: Perpetual (subject to termination under the SLA).

Licensed Unit: Software Copy.

Licensed unit Count: Unlimited.

Permitted Uses:

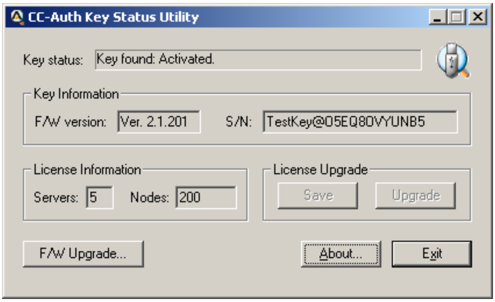
1. You may reproduce and use the Software for Individual, Commercial, or Research and Instructional Use for the purposes of designing, developing, testing, and running Your applets and application("Programs").

Appendix C
Authentication Key Utility

Overview

The Authentication Key Utility (*CCAuthKeyStatus.exe*), is a Windows-based utility for accessing and updating the information and data contained in the CC2000 Authentication Key. *CCAuthKeyStatus.exe*, can be found on the CD that comes with the CC2000 package.

When you run the program, a screen, similar to the one below, appears:



Key status: Key found: Activated.

Key Information

F/W version: Ver. 2.1.201   S/N: TestKey@05EQ80VYUNB5

License Information

Servers: 5   Nodes: 200

Key Status Information

The layout of the dialog box is described in the table, below:

Section	Purpose
Key Status	Indicates whether the key has been recognized and accepted as valid or not.
Key Information	Displays the key's current firmware version and serial number.
License Information	Displays the number of servers (Primary and Secondaries), and the number of nodes the key is licensed for.
License Upgrade	These buttons are used when performing an Offline license upgrade.
F/W Upgrade	This button is used to upgrade the authentication key's firmware.

Key Utilities

The License Upgrade and F/W Upgrade sections offer utilities that allow you to upgrade the key's firmware (F/W Upgrade), and to upgrade the number of servers and nodes authorized by the license (License Upgrade).

Key Firmware Upgrade

The CC2000 Authentication Key's firmware is upgradable. As new revisions of the firmware become released, upgrade file are posted on our web site. Check the web site regularly to find the latest files and information relating to them.

Starting the Upgrade

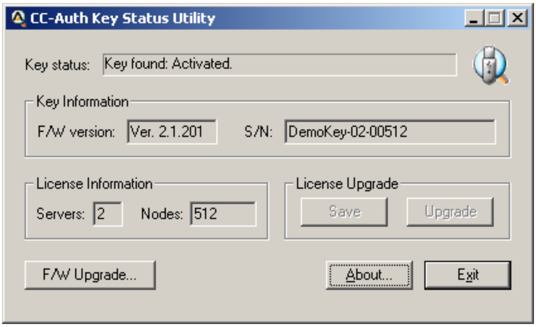
To upgrade your firmware do the following:

1. Go to our website and download the new firmware file to a convenient location on your computer.
2. With the authentication key plugged in, run the *Key Status Utility* (CCAuthKeyStatus.exe).

Note: 1. *CCAuthKeyStatus.exe* only runs under Windows.

2. Firmware version 2.1.204 or higher is required for CC2000 authentication keys to support the license upgrade function.
3. *KeyStatus.exe*, can be found on the CD that comes with the CC2000 package. This file should be copied to a convenient location on your computer.

4. In the screen that appears, click **F/W Upgrade...**



Key status: Key found: Activated.

F/W version: Ver. 2.1.201 S/N: DemoKey-02-00512

Servers: 2 Nodes: 512

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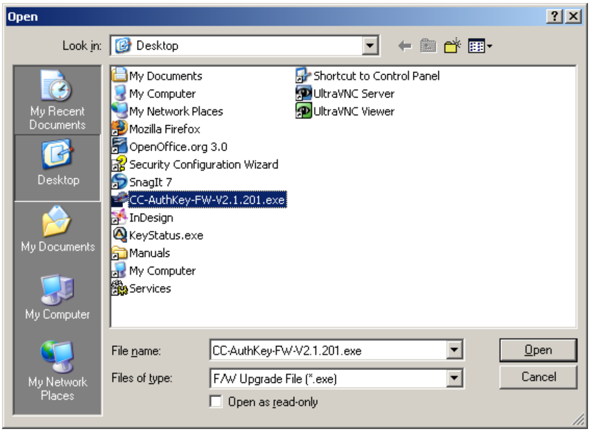
5. In the *File Open* dialog box that appears, select the firmware upgrade file, then click **Open**.



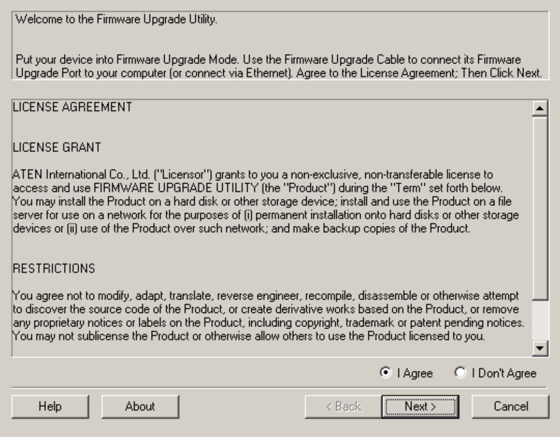
Look in: Desktop

File name: CC-AuthKey-FW-V2.1.201.exe

Files of type: F/W Upgrade File (*.exe)

☐ Open as read-only

6. Read and *Agree* to the License Agreement (enable the *I Agree* radio button).



Welcome to the Firmware Upgrade Utility.

Put your device into Firmware Upgrade Mode. Use the Firmware Upgrade Cable to connect its Firmware Upgrade Port to your computer (or connect via Ethernet). Agree to the License Agreement; Then Click Next.

LICENSE AGREEMENT

LICENSE GRANT

ATEN International Co., Ltd. ("Licensor") grants to you a non-exclusive, non-transferable license to access and use FIRMWARE UPGRADE UTILITY (the "Product") during the "Term" set forth below. You may install the Product on a hard disk or other storage device; install and use the Product on a file server for use on a network for the purposes of (i) permanent installation onto hard disks or other storage devices or (ii) use of the Product over such network; and make backup copies of the Product.

RESTRICTIONS

You agree not to modify, adapt, translate, reverse engineer, recompile, disassemble or otherwise attempt to discover the source code of the Product, or create derivative works based on the Product, or remove any proprietary notices or labels on the Product, including copyright, trademark or patent pending notices. You may not sublicense the Product or otherwise allow others to use the Product licensed to you.

● I Agree ○ I Don't Agree

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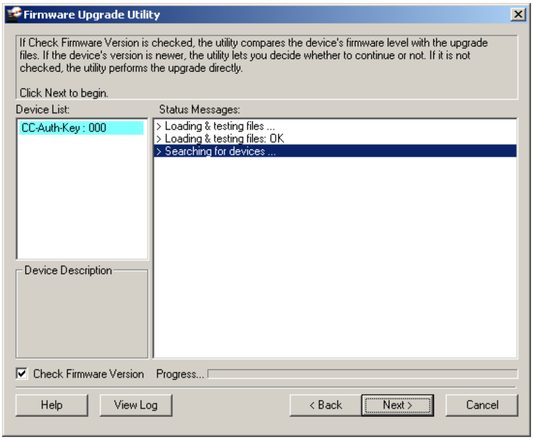
7. The utility searches your installation. When it finds your device, it lists it in the *Device List* panel.



If Check Firmware Version is checked, the utility compares the device's firmware level with the upgrade files. If the device's version is newer, the utility lets you decide whether to continue or not. If it is not checked, the utility performs the upgrade directly.

Click Next to begin.

Device List:

CC-Auth-Key : 000

Status Messages:

```
> Loading & testing files ...
> Loading & testing files: OK
> Searching for devices ...
```

Device Description

☑ Check Firmware Version

Progress...

Note: If you enable *Check Firmware Version*, the Utility compares the device's firmware level with that of the upgrade files. If it finds that the device's version is higher than the upgrade version, it brings up a dialog box informing you of the situation and gives you the option to Continue or Cancel.

If you don't enable *Check Firmware Version*, the Utility installs the upgrade files without checking if they are a higher level.

Click **Next** to continue.

(Continues on next page.)

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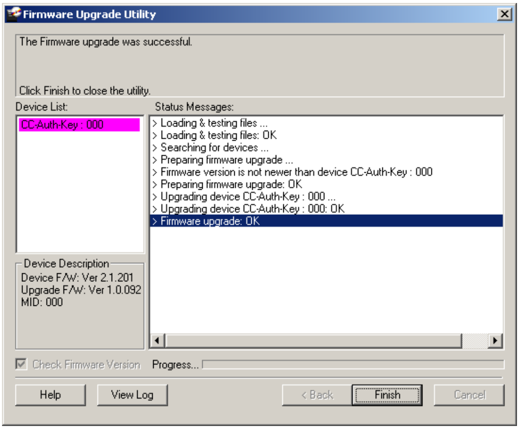
Upgrade Succeeded

After the upgrade has completed, a screen appears to inform you that the procedure was successful:



The Firmware upgrade was successful.

Click Finish to close the utility.

Device List:

CC-Auth-Key : 000

Status Messages:

```
> Loading & testing files ...
> Loading & testing files: OK
> Searching for devices ...
> Preparing firmware upgrade ...
> Firmware version is not newer than device CC-Auth-Key : 000
> Preparing firmware upgrade: OK
> Upgrading device CC-Auth-Key : 000 ...
> Upgrading device CC-Auth-Key : 000: OK
> Firmware upgrade: OK
```

Device Description

Device F/W: Ver 2.1.201

Upgrade F/W: Ver 1.0.092

MID: 000

☑ Check Firmware Version

Click **Finish** to close the Firmware Upgrade Utility.

Key License Upgrade

Overview

The CC series has a feature that allows end users (clients) to update their authentication keys to reflect an increase to their number of licenses. The key license upgrade can be performed either by the clients or by the dealers/ distributors, and can take place either in a browser session over the Internet (an Online upgrade), or via a stand-alone utility program (an Offline upgrade).

Clients first inform their dealers/distributors of the number of licenses to be upgraded. The dealers/distributors then place an order with an Altusen sales representative, specifying the number of licenses to be added. After processing the order, Altusen then sends a confirmation and authorization email to the dealer/distributor with the necessary details for performing the upgrade.

Note: A separate order must be processed for each key.

There are two ways to upgrade the key:

- **On Line:** To perform the upgrade the key is inserted in the computer's USB port and a browser session is opened to directly upgrade the key. If the client performs the upgrade, the dealer/distributor provides him with the email authorization details; if the dealer/distributor performs the upgrade, the client provides him with the Authentication Key.
- **Off Line:** A Windows-based *Key Status Utility* is used to extract the key's information and write it to a Key Information Data File. The key information data file is then used in a a browser session to generate a license upgrade file. After the license upgrade file has been generated, the Key Status Utility is used again to write the upgrade file's information to the license key.
  - If the client is the one who updates the CC license database, the dealer/ distributor provides him with the email authorization details – allowing the client to generate his key license upgrade file. The client then uses the Key Status Utility and the key license upgrade file to upgrade the Authentication Key's license information.
  - If the dealer/distributor is the one who updates the CC license database, the client provides him with the key information data file (extracted with the Key Status Utility) which the dealer/distributor uses to generate the client's key license upgrade file. The dealer/distributor then returns the key license upgrade file to the client which the client uses with the Key Status Utility to upgrade the Authentication Key's license information.

Online Upgrade

Clients contact their dealers/distributors to place their upgrade order(s). A separate order must be processed for each key. After the dealers/distributors place the upgrade orders with an Altusen sales representative, they receive a confirmation and authorization email, similar to the example below:

> Your order is ready to be processed. Please go to http://xxx.xxx.x.xxx to upgrade your key's license.
>
> Login Information:
>
> - Username: myname2
> - Password: mypassword5678
>
> Order Information:
>
> - Order ID: 1017000700 (authorized number: 2068919892). This order requests 7 more server(s) and 20500 more node(s)

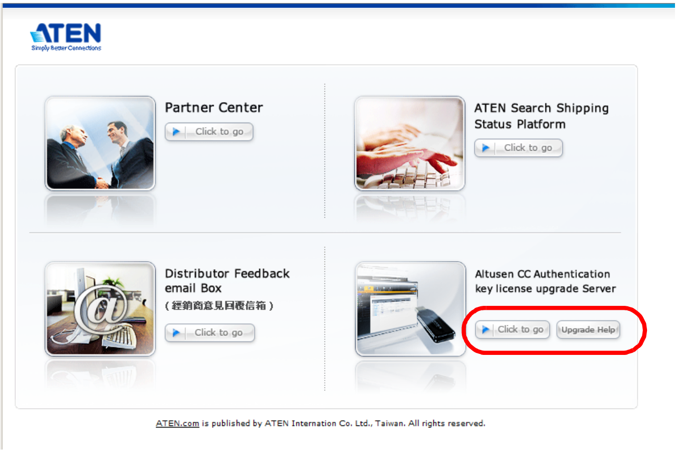
Either the client or the dealers/distributors can perform the upgrade. If the dealer does it, the client provides the dealer with his license key; if the client does it, the dealer forwards the confirmation email to him.

To perform a an online upgrade, do the following:

1. Plug the authentication key into a USB port on your computer.
2. Open a browser and log into the URL indicated in the email.

   Note: Accept the certificate(s) if asked.

   The ATEN *Partner Center* page appears:


ATEN
Simply Better Connections
Partner Center
Click to go
ATEN Search Shipping Status Platform
Click to go
Distributor Feedback email Box
（經銷商意見回覆信箱）
Click to go
Altusen CC Authentication key license upgrade Server
Click to go
Upgrade Help

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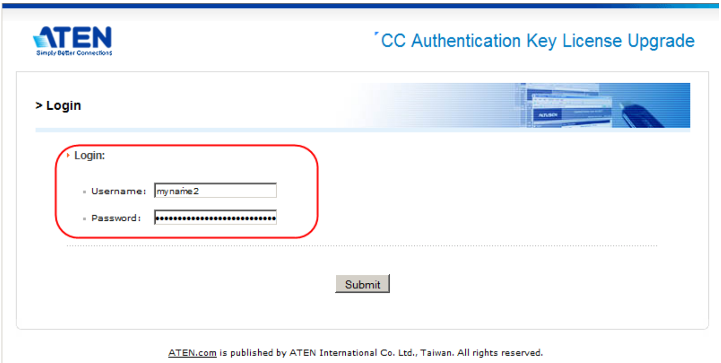
3. The key license upgrade panel is at the lower right. Click the **Click to go** button to start the upgrade procedure.

Note: 1. You can open an online help file for performing the upgrade by clicking the *Upgrade Help* button

2. Accept the certificate(s) if asked.

4. When the upgrade Login screen comes up, log in with the Username and Password provided in the authorization email.


ATEN
Simply Better Connections
CC Authentication Key License Upgrade
> Login

Login:

Username: myname2

Password: ••••••••••••••••••••••••••

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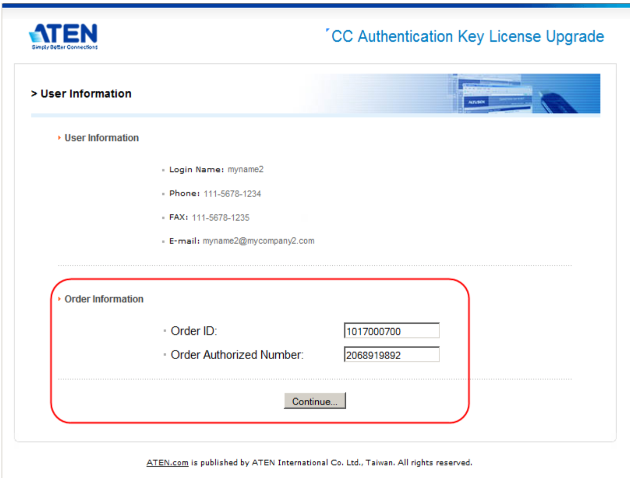
5. In the screen that comes up, key in the Order ID number and Order Authorization number that applies to the upgrade, then click **Continue**.


ATEN
Simply Better Connections
CC Authentication Key License Upgrade
> User Information

User Information

Login Name: myname2

Phone: 111-5678-1234

FAX: 111-5678-1235

E-mail: myname2@mycompany2.com

Order Information

Order ID: 1017000700

Order Authorized Number: 2068919892

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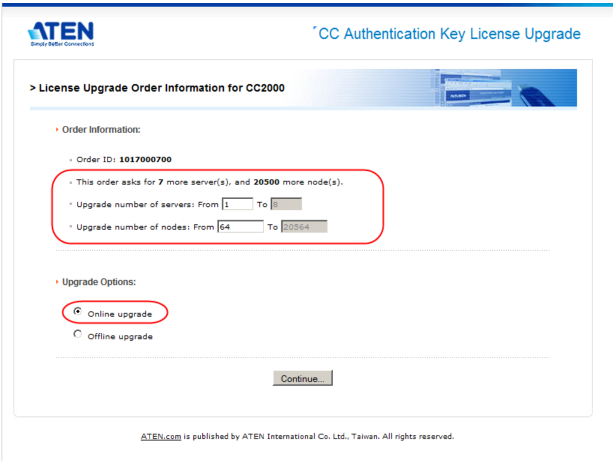
6. In the License Upgrade Order Information screen, key in the current number of licenses in the From fields (the To fields are automatically filled in), and select **Online upgrade**.



ATEN Simply Better Connections

CC Authentication Key License Upgrade

> License Upgrade Order Information for CC2000

Order Information:

- Order ID: **1017000700**
- This order asks for **7** more server(s), and **20500** more node(s).
- Upgrade number of servers: From 1 To 8
- Upgrade number of nodes: From 64 To 20564

Upgrade Options:

● Online upgrade

○ Offline upgrade

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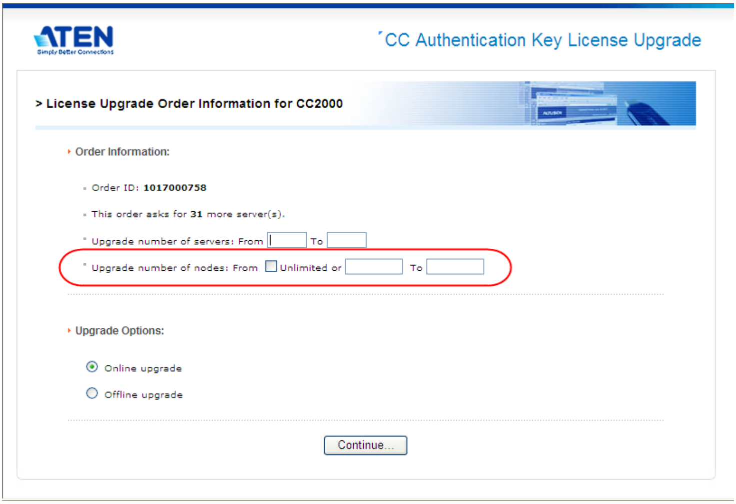
Note: You can use the Key status utility (CCAuthKeyStatus.exe) to see the current number of licenses.

If only server licenses are being upgraded, the Upgrade Order Information Screen looks like the one below. If the node licenses are already set to be *unlimited*, put a check in the checkbox; otherwise fill in the appropriate node numbers in the From field:



ATEN Simply Better Connections

CC Authentication Key License Upgrade

> License Upgrade Order Information for CC2000

Order Information:

- Order ID: **1017000758**
- This order asks for **31** more server(s).
- Upgrade number of servers: From To
- Upgrade number of nodes: From □ Unlimited or To

Upgrade Options:

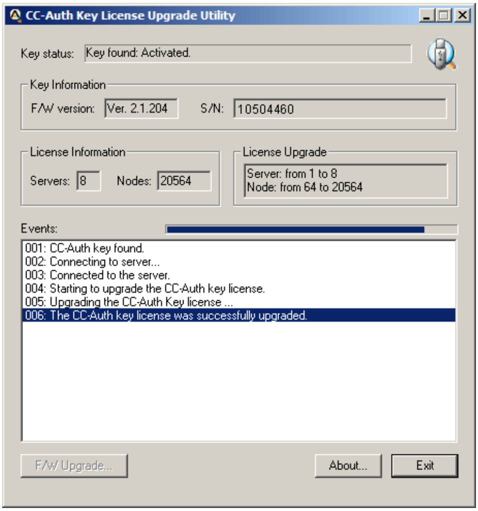
● Online upgrade

○ Offline upgrade

7. Click **Continue**.
8. When the CC Authentication Key License Upgrade by Distributor screen comes up, click **Download**.
9. When the browser asks what to do with the file (KeyUpgrade.exe), select *Save to disk*.
10. Leave the browser open, exactly as it is; go to where you downloaded the file and execute it.

Note: This step must be done in the same web session that you downloaded the KeyUpgrade.exe file in. Otherwise the upgrade will not succeed.

The upgrade utility comes up and starts the upgrade. The actions it performs are reported in the main panel:



Key status: Key found: Activated.

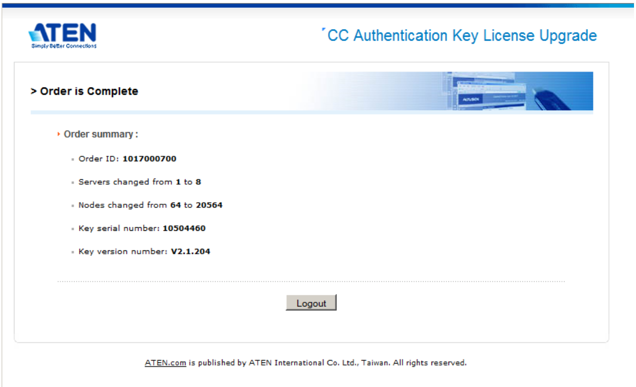
F/W version: Ver. 2.1.204 S/N: 10504460

Servers: 8 Nodes: 20564

Server: from 1 to 8
Node: from 64 to 20564

```
001: CC-Auth key found.
002: Connecting to server...
003: Connected to the server.
004: Starting to upgrade the CC-Auth key license.
005: Upgrading the CC-Auth Key license ...
006: The CC-Auth key license was successfully upgraded.
```

11. When the upgrade is finished, a window pops up to inform you that the upgrade was successful. Click **OK** to close the popup.The browser screen provides a summary of the upgrade:



CC Authentication Key License Upgrade

> Order is Complete

- Order summary :
  - Order ID: **1017000700**
  - Servers changed from **1** to **8**
  - Nodes changed from **64** to **20564**
  - Key serial number: **10504460**
  - Key version number: **V2.1.204**

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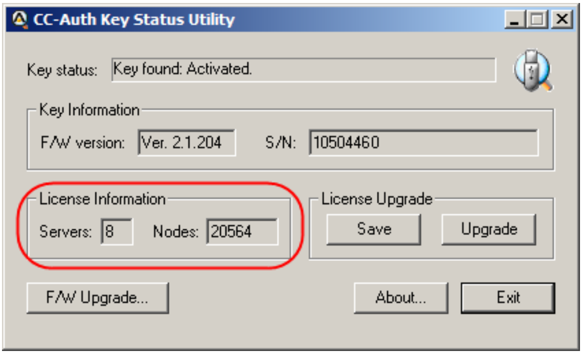
12. Click **Logout** to exit.

You can use the Key status utility (CCAuthKeyStatus.exe) to confirm that the number of licenses on the key has been changed to reflect the successful upgrade:



CC-Auth Key Status Utility

Key status: Key found: Activated.

Key Information

F/W version: Ver. 2.1.204 S/N: 10504460

License Information

Servers: 8 Nodes: 20564

Upgrade Succeeded

After the upgrade has succeeded, the dealer/distributor receives an email from Altusen informing him that the upgrade has been completed online. For example:

> Your order (Order ID: 1017000700) has been completed successfully by the online utility.
> The key (PSN: 10504460) server number has been upgraded from 1 to 8, and node number from 64 to 20564.

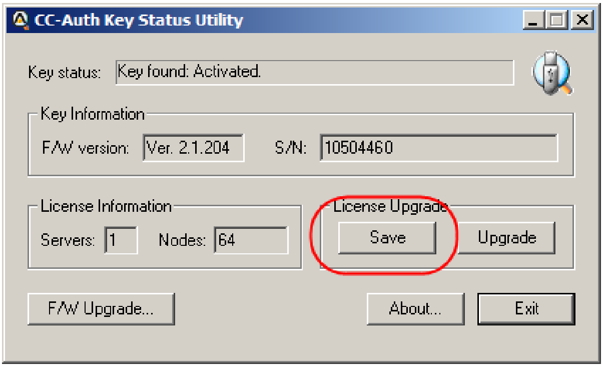
Offline Upgrade

An Offline upgrade can be performed either by the dealer/distributor, or the end user client. The advantage of this type of upgrade is that the client doesn't give up the use of his key. All he needs to do is email a key information data file to the dealer/distributor and receive a key upgrade file in return.

Preliminary Steps

To perform the upgrade, the first step that the client must perform is to create a *Key Information Data File*, as follows:

1. With the authentication key plugged in, run the *Key Status Utility* (CCAuthKeyStatus.exe).
2. In the *License Upgrade* panel of the dialog box that comes up, click **Save** to create a *Key Information Data File* (KeyUpload.dat).



CC-Auth Key Status Utility

Key status: Key found: Activated.

Key Information

F/W version: Ver. 2.1.204 S/N: 10504460

License Information

Servers: 1 Nodes: 64

Note: The Key Information Data File is created in the same directory that the Key Status Utility resides in.

After the Key Information Data File is created, the client sends it to the dealer/distributor.

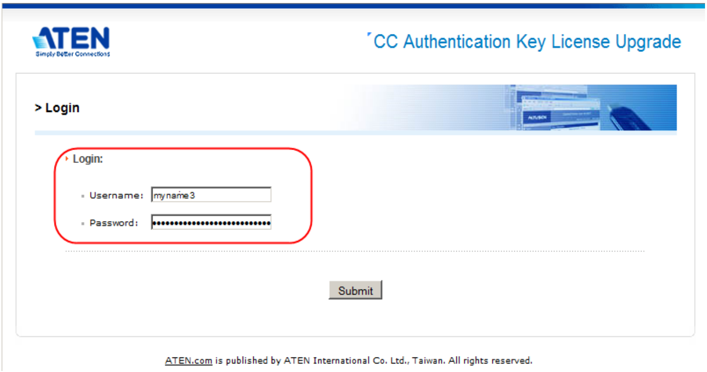
Performing the Upgrade

After the dealers/distributors place the upgrade orders with an Altusen sales representative, they receive a confirmation and authorization email from ALTUSEN, for example:

> Your order is ready to be processed. Please go to http://xxx.xxx.x.xxx to upgrade your key's license.
>
> Login Information:
>
> - Username: myname3
> - Password: mypassword3
>
> Order Information:
>
> - Order ID: 1017000750 (authorized number: 1605991978). This order requests 1 more server(s) and 448 more node(s)

To perform the upgrade, do the following:

1. Follow steps 1 – 3 given for the Online Upgrade (see page 273).
2. When the upgrade Login screen comes up, log in with the Username and Password provided in the authorization email.



CC Authentication Key License Upgrade

> Login

Login:

Username: myname3

Password: ••••••••••••••••••••••••••

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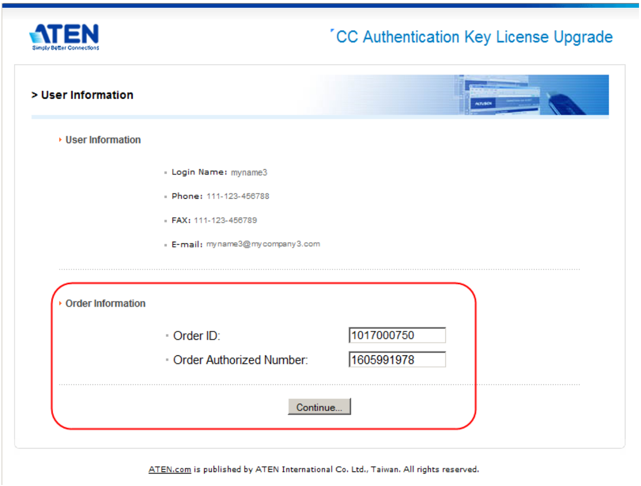
3. In the screen that comes up, key in the Order ID number and Order Authorization number that applies to the upgrade, then click **Continue**.



CC Authentication Key License Upgrade

> User Information

User Information

- Login Name: myname3
- Phone: 111-123-456788
- FAX: 111-123-456789
- E-mail: myname3@mycompany3.com

Order Information

- Order ID: 1017000750
- Order Authorized Number: 1605991978

Continue...

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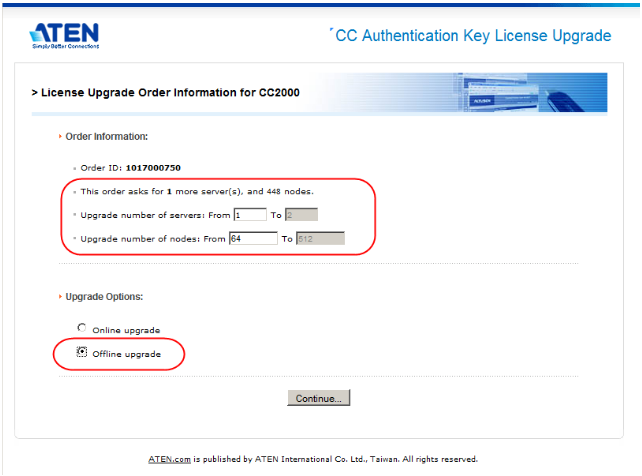
4. When the License Upgrade Order Information screen comes up, key in the number of current licenses in the *From* fields. The *To* fields are automatically filled in.

Note: If necessary, you can use the Key Status Utility (CCAuthKeyStatus.exe) to see the number of current licenses.

5. Select that this is to be an Offline upgrade, then click **Continue**.



CC Authentication Key License Upgrade

> License Upgrade Order Information for CC2000

Order Information:

- Order ID: **1017000750**
- This order asks for **1** more server(s), and 448 nodes.
- Upgrade number of servers: From 1 To 2
- Upgrade number of nodes: From 64 To 512

Upgrade Options:

○ Online upgrade

● Offline upgrade

Continue...

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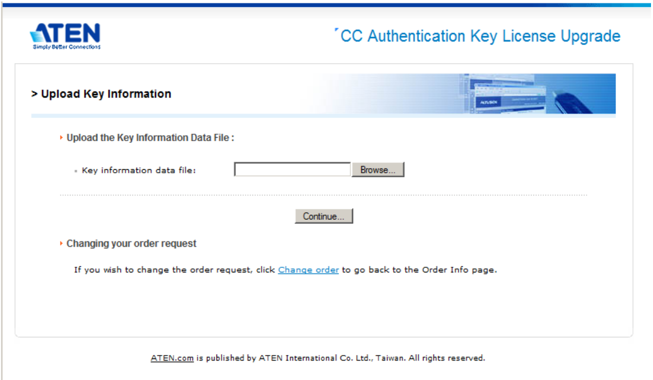
6. When the Upload Key Information screen comes up, click **Browse**; load the **KeyUpload.dat** file that was generated in the *Preliminary Steps* section; then click **Continue**.



CC Authentication Key License Upgrade

> Upload Key Information

Upload the Key Information Data File :

- Key information data file: [ ] Browse...

Continue...

Changing your order request

If you wish to change the order request, click Change order to go back to the Order Info page.

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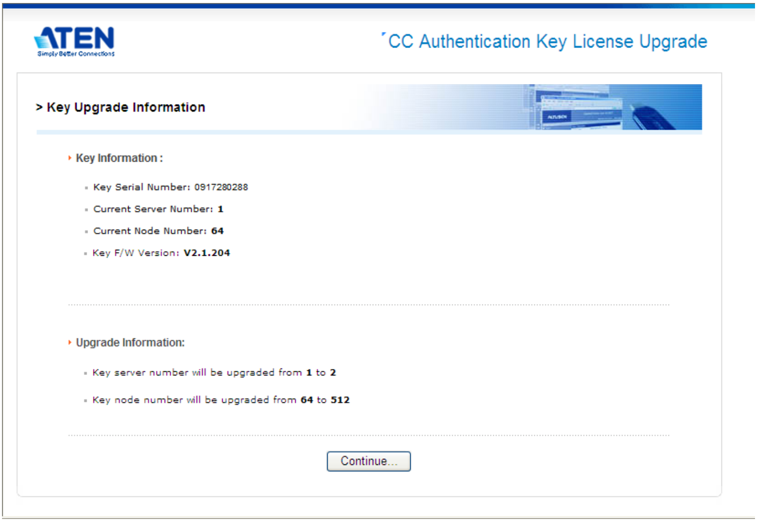
7. The next screen that comes up summarizes the transaction up to this point.



CC Authentication Key License Upgrade

> Key Upgrade Information

Key Information :

- Key Serial Number: 0917280288
- Current Server Number: **1**
- Current Node Number: **64**
- Key F/W Version: **V2.1.204**

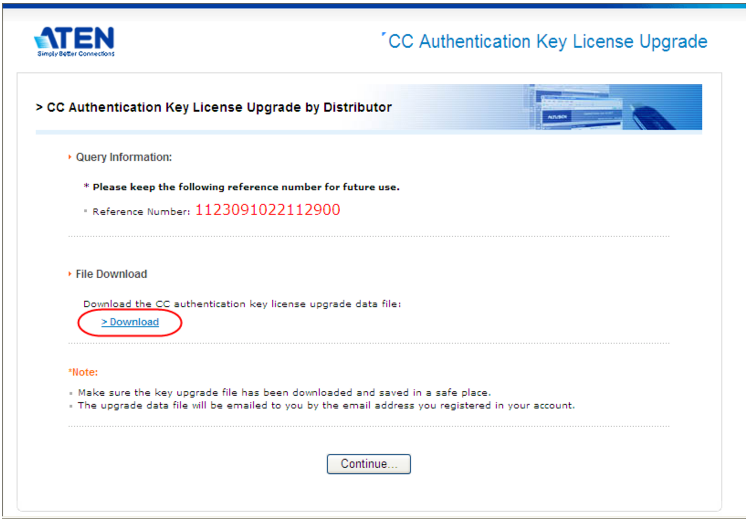
Upgrade Information:

- Key server number will be upgraded from **1** to **2**
- Key node number will be upgraded from **64** to **512**

Continue...

Click **Continue** to move on.

8. In the screen that appears next, click **Download** to download the key license upgrade data file (KeyUpgrade.dat).



CC Authentication Key License Upgrade

> CC Authentication Key License Upgrade by Distributor

Query Information:

* Please keep the following reference number for future use.

Reference Number: 1123091022112900

File Download

Download the CC authentication key license upgrade data file:

*Note:

- Make sure the key upgrade file has been downloaded and saved in a safe place.
- The upgrade data file will be emailed to you by the email address you registered in your account.

9. When the browser asks what to do with the key upgrade file, select *Save to disk*. After the file is saved to disk, click **Continue** to go on.

10. In the confirmation popup that appears click **Yes**. A summary page confirming the order appears.

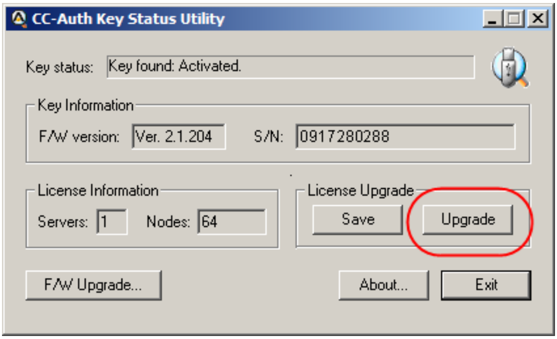
11. Click **Logout** to exit.

Note: 1. If you are upgrading more than one key, you can rename the KeyUpgrade.dat files to separately recognizable names (keeping the *dat* extension).

2. If the client is performing the upgrade, the dealer/distributor provides the KeyUpgrade.dat file to the client.

12. Run the *Key Status Utility* again.

13. In the License Upgrade panel, click **Upgrade**.



CC-Auth Key Status Utility

Key status: Key found: Activated.

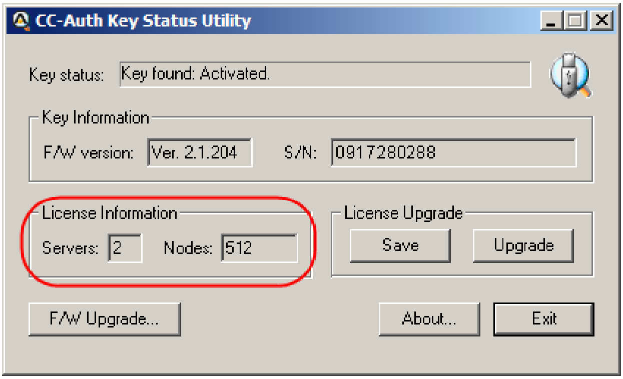
Key Information

F/W version: Ver. 2.1.204 S/N: 0917280288

License Information

Servers: 1 Nodes: 64

14. In the dialog box that comes up, navigate to the upgrade file (KeyUpgrade.dat) and select it.
    - Once you click **Open**, a window pops up stating that the upgrade was successful.
    - The figure for the number of licenses in the License Information panel changes to reflect the upgrade.



CC-Auth Key Status Utility

Key status: Key found: Activated.

Key Information

F/W version: Ver. 2.1.204 S/N: 0917280288

License Information

Servers: 2 Nodes: 512

Offline Upgrade Failure

If the offline upgrade fails, it may be due to the key upgrade file (KeyUpgrade.dat), having become corrupted during the file transfer process. There are two ways to proceed:

- When the key upgrade file is downloaded, an email is sent to the dealer/ distributor containing the particulars, along with a copy of the upgrade file in case there was a problem with the original file transfer – as shown in the example, below:

```
Offline upgrade email response:

Your CC-Authentication key's upgrade data file is
attached. Please upgrade your CC-Auth key with the
attached file.

Key Info:

* F/W Version: 2.1.204

* Serial number: 0917280288

License Upgrade Info:

* From 1 to 2 concurrent servers

* From 64 to 512 concurrent nodes

Confirmation Info:

* Username: newname

* Password: 1123091022112900

If you have any problem with upgrading your CC-
Authentication key's license, please confirm it online
at http://xxx.xxx.x.xxx using the username and
password above.
```

  You can repeat steps 11 (Run the Key Status Utility) and 12 (Click Upgrade) – this time using the copy of the key upgrade file (KeyUpgrade.dat) that was attached in the dealer/distributor email.

- If the above fails to resolve the problem, information contained in the *Offline email upgrade response* can be used to try an online upgrade. Either the dealer/distributor can provide the end user with the authorization details, or the end user can give his key to the dealer/ distributor.

Order Expiration

Once Altusen sends the dealer/distributor the confirmation/authorization email informing him that the order is ready to be processed, he has a total of two weeks to process the order. If during that time the order is not processed, two more emails reminding him that order has not been processed are sent:

1. Your order will expire in one week...
2. Your order will expire in one day...

If, the order still has not been processed by the end of the deadline, a final email is sent, informing the dealer/distributor that the order has expired, as follows:

Your order has expired and has been cancelled...
If you still wish to add licenses, you must place a new order.

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Appendix D

External Authentication Services

Overview

In addition to its own internal *Username / Password* authentication procedure, the CC2000 supports authentication from external, third party authentication services. If a third party service has been specified for a user, the CC2000 transfers the login information to the appropriate service for authentication using an encrypted HTTPS (SSL) connection. The CC2000 supports the following third party external authentication servers: LDAP, LDAPS, Active Directory, RADIUS, TACACS+, and Windows NT Domain.

Approved Services

The following services have been tested and approved for use with the CC2000:

- AD Server: Microsoft Windows Server 2003
- LDAP: Microsoft Windows Server 2003; OpenLDAP
- RADIUS: Microsoft IAS for Windows Server 2003; FreeRADIUS
- TACACS+: Microsoft Windows Server 2003 (ClearBox)
- Microsoft Windows NT Domain
- MOTP: Mobile One-Time Password

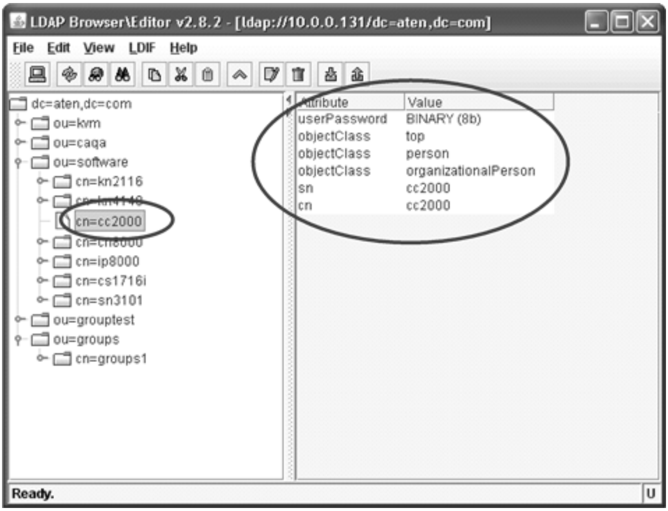
LDAP/LDAPS – OpenLDAP Setting Example

In this example, the external server uses OpenLDAP; its IP address is 192.168.10.100; its service port is 389, and the server administrator has created a file named: *cc2000ldap.ldif* in the OpenLDAP directory, that contains the following:

```
dn: cn=cc2000,ou=software,dc=aten,dc=com
objectclass: top
objectclass: person
objectclass: organizationalPerson
cn: cc2000
sn: cc2000
```

```
userPassword: password
```

The LDAP administrator can check the LDAP definition with LDAP Browser. He should see a screen that looks like the one below:


LDAP Browser\Editor v2.8.2 - [ldap://10.0.0.131/dc=aten,dc=com]
File Edit View LDIF Help
Ready.

- dc=aten,dc=com
  - ou=kvm
  - ou=caqa
  - ou=software
    - cn=kn2116
    - cn=kn1140
    - cn=cc2000
    - cn=cn8000
    - cn=ip8000
    - cn=cs1716i
    - cn=sn3101
  - ou=grouptest
  - ou=groups
    - cn=groups1

Attribute	Value
userPassword	BINARY (8b)
objectClass	top
objectClass	person
objectClass	organizationalPerson
sn	cc2000
cn	cc2000

The CC2000 Administrator gets this information to use in the *Adding an External Authentication Server* procedure (see *LDAP/LDAPS*, page 79). In this example, the fields would be filled in as follows:

IP: 192.168.10.100

Port: 389

BaseDN: dc=aten,dc=com

UserRDN: ou=software

Key attribute: cn

Object class: person

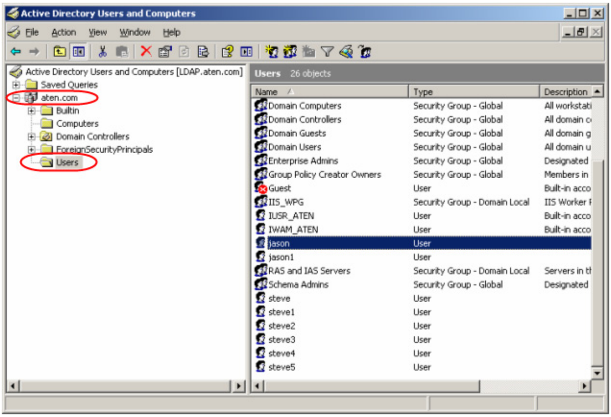
Full name attribute: sn

After the LDAP/LDAPS Authentication server has been added, the CC2000 Administrator can use the Browse button to browse all the user names in the *software* directory.

Active Directory Settings Example

In this example the external server is Active Directory on Windows Server 2003 system; its IP address is 192.168.10.100. Configure Active Directory in Windows Server 2003 as follows:

1. Open Start → Control Panel → Administrative Tools → Active Directory Users and Computers → Domain (aten.com in our example) → Users. A window, similar to the one below, appears:


Active Directory Users and Computers
File
Action
View
Window
Help
Active Directory Users and Computers [LDAP.aten.com]
Saved Queries
aten.com
Builtin
Computers
Domain Controllers
ForeignSecurityPrincipals
Users
Users 26 objects

Name	Type	Description
Domain Computers	Security Group - Global	All workstati
Domain Controllers	Security Group - Global	All domain c
Domain Guests	Security Group - Global	All domain g
Domain Users	Security Group - Global	All domain u
Enterprise Admins	Security Group - Global	Designated
Group Policy Creator Owners	Security Group - Global	Members in
Guest	User	Built-in acco
IIS_WPG	Security Group - Domain Local	IIS Worker I
IUSR_ATEN	User	Built-in acco
IWAM_ATEN	User	Built-in acco
jason	User	
jason1	User	
RAS and IAS Servers	Security Group - Domain Local	Servers in th
Schema Admins	Security Group - Global	Designated
steve	User	
steve1	User	
steve2	User	
steve3	User	
steve4	User	
steve5	User	

The CC2000 Administrator gets this information to use in the *Adding an External Authentication Server* procedure (see *Active Directory*, page 80). In this example, the fields would be filled in as follows:

IP: 192.168.10.100

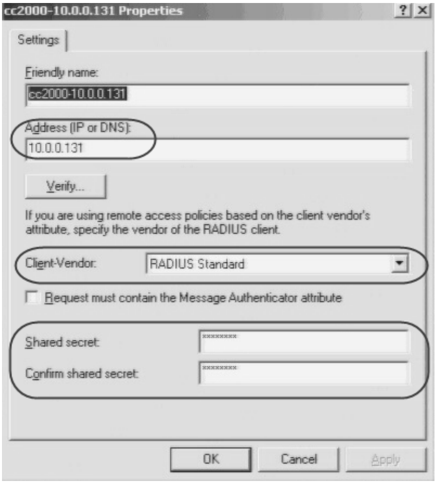
UserRDN: cn=users

After the Active Directory Authentication server has been added, the CC2000 Administrator can use the Browse button to browse all the user names in the *Users* directory.

RADIUS Settings Example

In this example the external server is RADIUS: Microsoft IAS for Windows Server 2003; its IP address is 10.0.0.100. Configure RADIUS as follows:

1. Open Start → Control Panel → Administrative Tools → Internet Authentication Services.
2. In the screen that comes up, right click on **RADIUS Client**.
3. Select **New RADIUS Client**.
4. In the screen that comes up key in the *Friendly name*. For example: cc2000-10.0.0.131, then click **Next**. A screen, similar to the one below, appears:



cc2000-10.0.0.131 Properties

Friendly name: cc2000-10.0.0.131

Address (IP or DNS): 10.0.0.131

If you are using remote access policies based on the client vendor's attribute, specify the vendor of the RADIUS client.

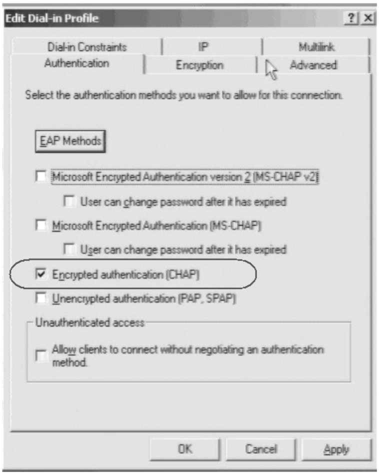
Client-Vendor: RADIUS Standard

□ Request must contain the Message Authenticator attribute

Shared secret: ********

Confirm shared secret: ********

5. In this example, the CC2000's IP is *10.0.0.131*; the Client-Vendor is *RADIUS Standard*. For the *Shared secret*, use **password**.
6. After clicking OK, you return to the Internet Authentication Services screen. In the left panel, click **Remote Access Policies**; in the main panel right click **Use Windows authentication for all users**; select *Properties*.
7. In the screen that comes up, click the **Edit Profile** button, then select the **Authorization** tab. A screen similar to the one below appears:



Select the authentication methods you want to allow for this connection.

□ Microsoft Encrypted Authentication version 2 (MS-CHAP v2)

□ User can change password after it has expired

□ Microsoft Encrypted Authentication (MS-CHAP)

□ User can change password after it has expired

☑ Encrypted authentication (CHAP)

□ Unencrypted authentication (PAP, SPAP)

Unauthenticated access

□ Allow clients to connect without negotiating an authentication method.

8. In this example we use CHAP for encrypted authorization

The CC2000 Administrator gets this information to use in the *Adding an External Authentication Server* procedure (see *RADIUS and TACACS+*, page 80). In this example, the fields would be filled in as follows:

IP: 10.0.0.100

Authentication type: CHAP

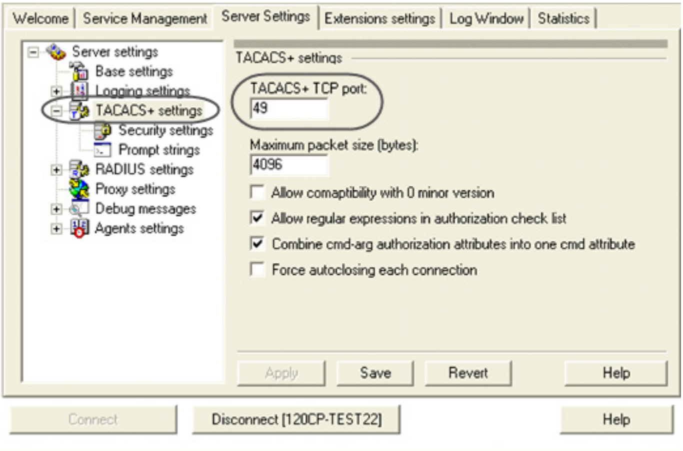
Shared secret: password

After the RADIUS Authentication server has been added, when the CC2000 Administrator adds user accounts, he must use the names that were configured on the RADIUS server under Open Start → Control Panel → Administrative Tools → Computer Management → Local Users and Groups → Users for the Login names.

TACACS+ Settings Example

In this example the external server is TCACS+: Microsoft IAS for Windows Server 2003 (ClearBox); its IP address is 10.0.0.100. Configure TCACS+ as follows:

1. Open Start → All Programs → ClearBox RADIUS TACACS+ Server → Server Manager.
2. In the screen that comes up, click **Connect**.
3. Key in the password that you set when you installed the ClearBox RADIUS TACACS+ Server.
4. In the *ClearBox Server Configurator* screen that comes up, select the **Server Settings** tab. A screen, similar to the one below, appears:



TACACS+ settings

TACACS+ TCP port: 49

Maximum packet size (bytes): 4096

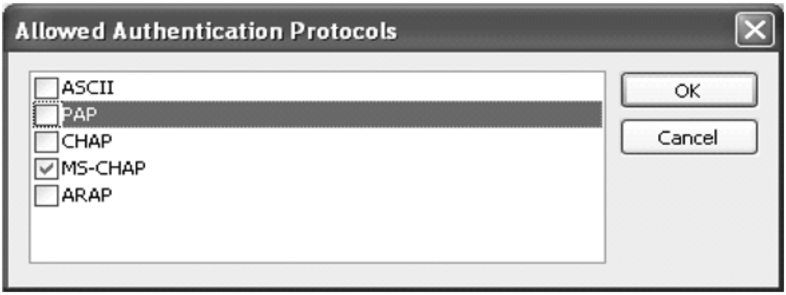
□ Allow comaptibility with 0 minor version

☑ Allow regular expressions in authorization check list

☑ Combine cmd-arg authorization attributes into one cmd attribute

□ Force autoclosing each connection

5. In this example, the TACACS+ service port is 49.
6. Open Start → All Programs → ClearBox RADIUS TACACS+ Server → Configurator.
7. In the screen that comes up in the left panel, select Realms → def; then select the **Authentication** tab.
8. Click the **Allowed Protocols...** button. A screen similar to the one below appears:



Allowed Authentication Protocols

□ ASCII
□ PAP
□ CHAP
☑ MS-CHAP
□ ARAP

9. In this example we use MS-CHAP for the allowed authentication protocol.
10. You return to the *ClearBox Server Configurator* screen. In the left panel select Data Sources → users.
11. In the main panel of the screen that comes up, there is an MS Access entry field with a path specifying the *general.mdb* file. The accounts contained in this file are generated through MS Access.

The CC2000 Administrator gets this information to use in the *Adding an External Authentication Server* procedure (see *RADIUS and TACACS+*, page 80). In this example, the fields would be filled in as follows:

IP: 10.0.0.100

Port: 49

Authentication type: MSCHAP

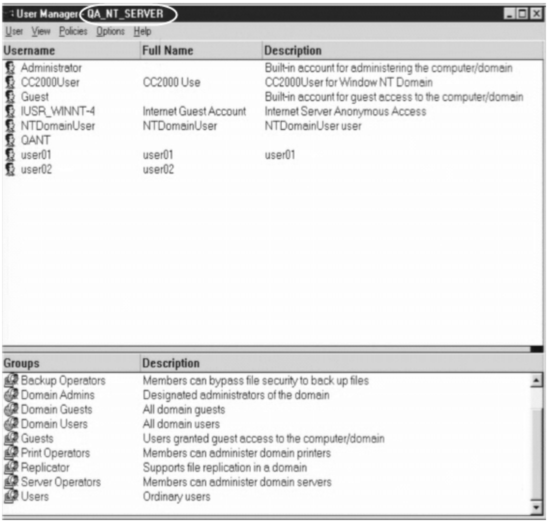
Shared secret: the password that you set when you installed the ClearBox RADIUS TACACS+ Server

After the TACACS+ Authentication server has been added, when the CC2000 Administrator adds user accounts, he must use the names that were configured in the TACACS+ server's *general.mdb* file.

NT Domain Settings Example

In this example the external server is Microsoft Windows NT Domain; its Server IP is QA_NT_SERVER. Configure NT Domain as follows:

Open Start → Programs → Administrative Tools (Common) → User Manager for Domains. A screen, similar to the one below, appears:



Username	Full Name	Description
Administrator		Built-in account for administering the computer/domain
CC2000User	CC2000 Use	CC2000User for Window NT Domain
Guest		Built-in account for guest access to the computer/domain
IUSR_WINNT-4	Internet Guest Account	Internet Server Anonymous Access
NTDomainUser	NTDomainUser	NTDomainUser user
QANT		
user01	user01	user01
user02	user02	

Groups	Description
Backup Operators	Members can bypass file security to back up files
Domain Admins	Designated administrators of the domain
Domain Guests	All domain guests
Domain Users	All domain users
Guests	Users granted guest access to the computer/domain
Print Operators	Members can administer domain printers
Replicator	Supports file replication in a domain
Server Operators	Members can administer domain servers
Users	Ordinary users

The CC2000 Administrator gets this information to use in the *Adding an External Authentication Server* procedure (see *Windows NT Domain*, page 81). In this example, the fields would be filled in as follows:

Server IP: QA_NT_SERVER

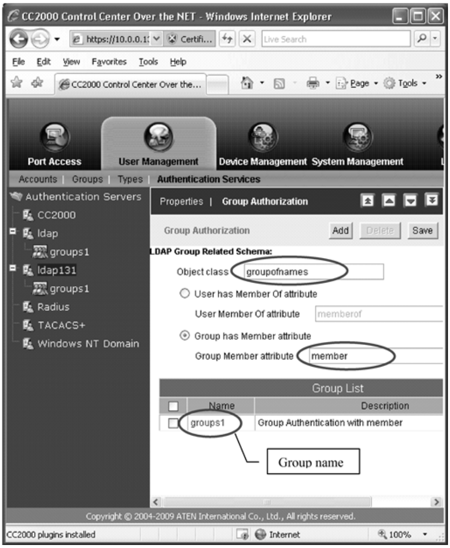
After the NT Domain server has been added, when the CC2000 Administrator adds user accounts, he must use the names that were configured under *User Manager for Domains*.

LDAP Group Authorization Setting Examples

Example 1

In this example the external server is OpenLDAP on Windows Server 2003 as shown in the LDAP/LDAPS Settings Example on page 287.

1. Under the CC2000 User Manager tab, select Authentication Services → Authentication Servers.
2. Select the OpenLDAP server; then click **Group Authorization**.
3. Click the *Group has Member attribute* radio button.
4. Click **Add** (at the top-right of the panel).
5. In this example add the **groups1** group. The screen should look similar to the one below:


CC2000 Control Center Over the NET - Windows Internet Explorer
https://10.0.0.1
Certifi...
Live Search
File Edit View Favorites Tools Help
CC2000 Control Center Over the...
Page Tools
Port Access
User Management
Device Management
System Management
Accounts | Groups | Types | Authentication Services
Authentication Servers
CC2000
ldap
groups1
ldap131
groups1
Radius
TACACS+
Windows NT Domain
Properties | Group Authorization
Group Authorization
Add
Delete
Save
Copyright © 2004-2009 ATEN International Co., Ltd., All rights reserved.
CC2000 plugins installed
Internet
100%

LDAP Group Related Schema:

Object class: groupofnames

○ User has Member Of attribute

User Member Of attribute: memberof

● Group has Member attribute

Group Member attribute: member

Group List

□	Name	Description
□	groups1	Group Authentication with member

Group name

The OpenLDAP administrator uses this name (*groups1* in our example) to create a group under OpenLDAP with the same name as the one just created on the CC2000 server, as follows:

1. Open the *core.schema* file. The default settings we are interested in are as follows:

   attributetype (2.5.4.31 NAME '***member***'

       DESC 'RFC2256: member of a group'

       SUP distinguishedName)

   objectclass (2.5.6.9 NAME '***groupOfNames***'

       DESC 'RFC2256: a group of names (DNs)'

       SUP top STRUCTURAL

       MUST (***member*** $ cn)

       MAY (businessCategory $ seeAlso $ owner $ ou $ o $ description))

2. Edit the *cc2000ldap.ldif* file to add a definition for groups1 and have cc2000 user accounts fall under groups1, as follows:

   dn: cn=***groups1***,ou=groups,dc=aten,dc=com

   objectclass: ***groupofnames***

   member: cn=***cc2000***,ou=software,dc=aten,dc=com

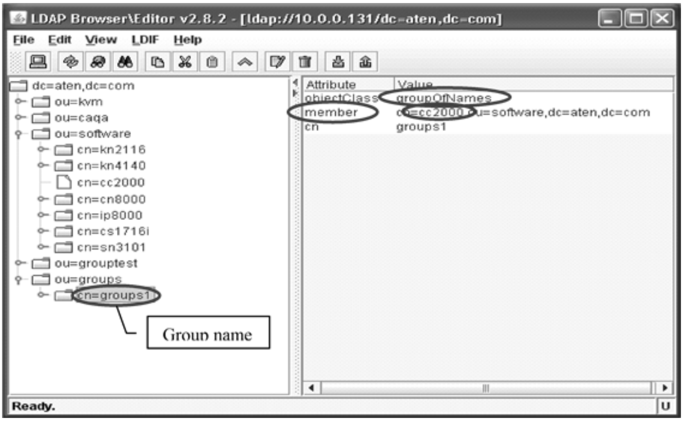
   cn: ***groups1***

Note: 1. The entry after dn: cn= should be the name of an actual group created under Group Authorization (see *Group Authorization*, page 84) on the CC2000 server.

2. The entry after objectclass: should be consistent with the name that was entered for the Object class when the group was created on the CC2000 server. Change the default entry in this file to match.

3. The entry after *member: cn=* should be an actual user login name.

3. You can check the group definition with LDAP Browser. You should see a screen similar to the one below:



Attribute	Value
objectClass	groupOfNames
member	cn=cc2000,ou=software,dc=aten,dc=com
cn	groups1

4. The above example has added a member – cc2000 – to the groups1 group. To add additional members to the group, edit the file to include them. For example:

   member: cn=***cc2000-1***,ou=software,dc=aten,dc=com

   member: cn=***cc2000-2***,ou=software,dc=aten,dc=com

Once these procedures are completed, CC2000 users who are authenticated through the LDAP/LDAPS server, are authorized according to the permissions assigned to the group.

Example 2

By default OpenLDAP only supports the *Group has Member attribute* setting for the group related schema – this was the setting used in Example 1.

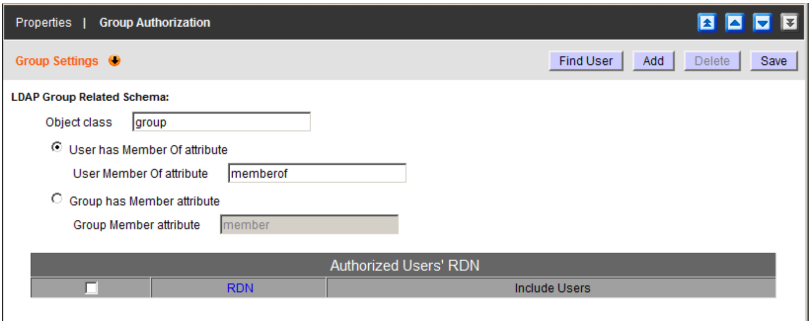
An alternative setting used by other LDAP servers – *User has Member Of attribute* – can also supported under OpenLDAP by extending the schema.

In this example the external server is OpenLDAP on Windows Server 2003 as shown in the LDAP/LDAPS Settings Example on page 287.

1. Under the CC2000 User Manager tab, select Authentication Services → Authentication Servers.
2. Select the OpenLDAP server; then click **Group Authorization**.
3. Click the *User has Member Of attribute* radio button.

4. Click **Add** (at the top-right of the panel).

5. In this example add the **groups1** group. The screen should look similar to the one below:



LDAP Group Related Schema:

Object class: group

● User has Member Of attribute

User Member Of attribute: memberof

○ Group has Member attribute

Group Member attribute: member

Authorized Users' RDN		
□	RDN	Include Users

The OpenLDAP administrator uses this name (*groups1* in our example) to create a group under OpenLDAP with the same name as the one just created on the CC2000 server, as follows:

1. Open the *core.schema* file. Extend the schema as follows:

   attributetype (1.2.840.113556.1.2.102

      NAME '***memberof***'

      DESC 'RFC2256: member of a group'

      SUP distinguishedName)

   objectclass (1.2.840.113556.1.5.9

      NAME '***person***'

      SUP organizationalPerson

      STRUCTURAL

      MUST (cn)

      MAY (userPassword $ description $ sn $ mail $ ***memberof***))

2. Edit the *cc2000ldap.ldif* file to add a user account to the *groups1* group, as follows:

   dn: cn=***cc2000test***,ou=software,dc=aten,dc=com

   objectclass: top

   objectclass: ***person***

   objectclass: organizationalPerson

   cn: cc2000test

sn: cc2000test

memberof: cn=***groups1***,ou=groups,dc=aten,dc=com

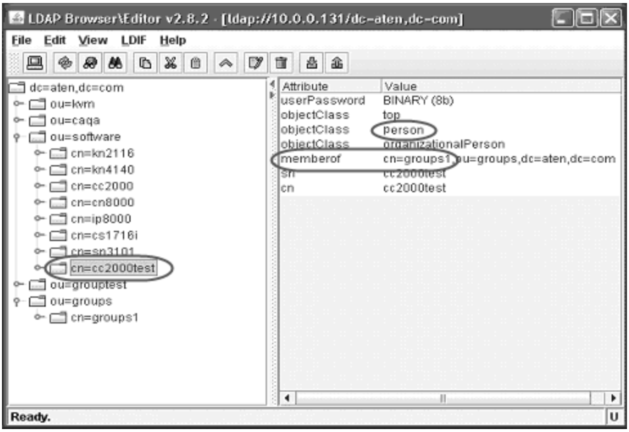
userPassword: password

Note: 1. The entry after dn: cn= should be an actual user login name.

2. The entry after objectclass: should be consistent with the name that was entered for NAME in the extended schema.

3. The entry after memberof: cn= should be the name of an actual group created under Group Authorization (see *Group Authorization*, page 84) on the CC2000 server.

3. You can check the group definition with LDAP Browser. You should see a screen similar to the one below:


LDAP Browser\Editor v2.8.2 - [ldap://10.0.0.131/dc=aten,dc=com]
File
Edit
View
LDIF
Help
Ready.

```
dc=aten,dc=com
  ou=kvm
  ou=caqa
  ou=software
    cn=kn2116
    cn=kn4140
    cn=cc2000
    cn=cn8000
    cn=ip8000
    cn=cs1716i
    cn=sn3101
    cn=cc2000test
  ou=grouptest
  ou=groups
    cn=groups1
```

Attribute	Value
userPassword	BINARY (8b)
objectClass	top
objectClass	person
objectClass	organizationalPerson
memberof	cn=groups1,ou=groups,dc=aten,dc=com
sn	cc2000test
cn	cc2000test

4. Repeat step 2 for each user account that you want to add to the group.

Once these procedures are completed, CC2000 users who are authenticated through the LDAP/LDAPS server, are authorized according to the permissions assigned to the group.

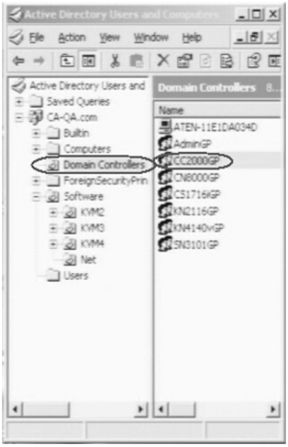
Active Directory Group Authorization Setting Example

In this example the external server is Active Directory on Windows Server 2003 as shown in the Active Directory Settings Example on page 289.

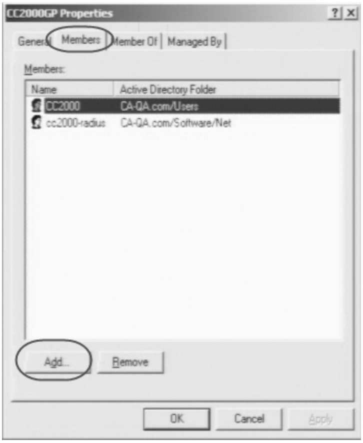
1. Under the CC2000 User Manager tab, select Authentication Services → Authentication Servers.
2. Select the Active Directory server; then click **Group Authorization**.
3. In this example add the **CC2000GP** group.

The Active Directory administrator uses this name (CC2000GP in our example) to create a group under Active Directory with the same name as the one just created on the CC2000 server, as follows:

1. Open Start → Control Panel → Administrative Tools → Active Directory Users and Computers → Domain (CA-QA.com in our example).
2. In the left panel, right click **Domain Controllers**; select **New**; select **Group.**
3. In the dialog that comes up, key in the name of the group (CC2000GP in our example). A window, similar to the one below, appears:



4. In the right panel, right click **CC2000GP**; select **Properties**; select **Members**. A window, similar to the one below, appears:



Name	Active Directory Folder
CC2000	CA-QA.com/Users
cc2000-radius	CA-QA.com/Software/Net

5. Click **Add**.

The dialog that comes up lets you add members to the group. The members are selected from the accounts found in the *Users* folder (see the left panel of the original screen).

MOTP Settings

For further information regarding MOTP servers and settings, please use the link or QR code below:

www.aten.com/CC2000-OTP

For assistance setting up the MOTP server, refer to the OTP document on the CC2000 landing page.

Appendix E
SSO HTML Sample Codes

Overview

If *Single Sign On* is enabled, it will allow users from another web application to log in CC2000 automatically through a form-based authentication. An example of the HTML sample codes is in the next section.

SSO HTML Sample Codes

```
<html>

<head><title>Sample page for CC2000 SSO (Single Sign On) Sample</
title></head>

<script language="JavaScript">

<!--

function doLogin()

{

    form1.submit();

}

-->

</script>

<body>

    <table>

  <div align="center">

      <form id="form1" name="form1"  method="post" action="https://
10.3.166.65:443/ccadmin/singlesignon.do">

    <!-- Server_IP_port: CC2000 server IP/port (default port could be omitted)
-->

      <tr>

        <td>
    <font size=5>Test page for CC2000 SSO (Single Sign On)</font>
&nbsp;&nbsp;
     </td>
    </tr>
    <tr>
     <td>
      CC Username: <input class="sw4" type="text"
name="MySSO_Username" value="administrator" size="15"> <br><br>
      <!-- signonusername: Username field in CC2000 SSO setting page -->
    </td>
   </tr>
    <tr>
     <td>
      CC Password: <input class="sw4" type="password"
name="MySSO_Password" value="password" size="15"> <br><br>
      <!-- signonpassword: Password field in CC2000 SSO setting page -->
    </td>
   </tr>
    <tr>
     <td>
     <!--
      CC Username: <input class="sw4" type="text" name="loginname"
value="administrator" size="15">  &nbsp;&nbsp;&nbsp;&nbsp; CC
Password: <input class="sw4" type="password" name="loginpass"
value="password" size="15"> <br><br>
      -->
      <input class="bw" type="button" value="SSO to CC2000"
name="login" onClick="doLogin();">
    </td>
   </tr>
```

```
        </form>
    </div>
</body>
</html>
```