

# 1 Text -Based Configuration

## Introduction

Alcatel's Text-Based Configuration feature provides optional approaches to viewing and configuring switch information. With this feature, switch settings can either be configured *online* using the Command Line Interface (CLI) or *offline* using a standard text file.

### Online Configuring

With online configuring, the user connects to an active switch and manually enters configuration commands at the feature's Command Line Interface (CLI). Like the traditional User Interface (UI), configuration changes are applied with each command input. However, the CLI is notably different from the UI in that no configuration menus or submenus are used. Instead, the CLI uses intuitive, user-friendly syntax in the form of single-line commands.

#### ◆ Note ◆

Although menus are not supported at the CLI, switch information tables (e.g., IP Routing Table, ARP Resolution Table, etc) are available through the CLI's **view** commands.

For more information on accessing and using the CLI, refer to pages 1-4 and 1-5.

### Offline Configuring

With offline configuring, CLI commands are typed into a stand-alone text document (Microsoft Word, WordPad, or Notepad for example). When the resulting configuration file is placed in the switch's **/flash** or **/simm** directory, changes can be applied to the switch by issuing a **configuration** command.

A configuration file can be viewed or edited offline at any time using a standard text editor. It can then be uploaded and applied to additional switches in the network. This allows users to easily clone switch configurations. Moreover, the ability to store comprehensive network information in a single text file facilitates troubleshooting, testing, and overall network readability.

For more information on offline editing and using the **configuration** command suite, refer to Chapter 2, "Working with Configuration and Dump Files."

### Software Requirements

In order to use the Text-Based Configuration feature, your switch(es) must be running software release **4.1.x** or later.

In addition, Text-Based Configuration requires that you load the **text\_cfg.img** file in your switch's flash file system. The **text\_cfg.img** file must be from the same software release as the **mpm.img** file (e.g., **4.1.3**). For more information on using FTP or ZMODEM to load files to the switch, refer to "Installing Switch Software" in your User Manual.

After initially loading the **text\_cfg.img** file, reboot the switch to enable Text-Based Configuration.

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## Products Supported

Text-Based Configuration is supported on OmniSwitch, Omni Switch/Router, OmniStack, and OmniAccess. (Text-Based Configuration is not available for PizzaSwitch and PizzaPort hubs.)

## Features Supported

The CLI supports the following features:

- Basic System Configuration
- Groups and VLANs
- IP and IPX Routing
- DNS
- 10/100 Interface Configuration
- Bridging/Spanning Tree
- Interswitch Protocols
- HRE-X Filtering
- SNMP and SNMP Trap Simulation
- ATM and CSM Configuration
- ATM Services
- Circuit Emulation
- PNNI
- Additional Functions (listed below)

## Additional Functions

The following section includes general information on dump and configuration files, the configuration file timer, ATM and CSM Profile features, and command prefix recognition.

### Dump Files

The Text-Based Configuration feature includes a dump file function. This function allows users to capture and save the switch's current configuration in a single text file. These captured configuration settings can then be uploaded to a single switch or multiple switches. This allows easy cloning of switch configurations for those networks requiring multiple, similarly-configured switches. Troubleshooting is also greatly facilitated, as aggregate network information can be read at a glance.

#### ◆ Important Note ◆

The dump file function captures only *non-default* switch information.

For a complete description of dump file commands, refer to Chapter 2, "Working with Configuration and Dump Files."

### Configuration File Timer

You can schedule the switch to apply a configuration file at a specified time. This timer function can greatly facilitate maintenance functions such as synchronized batch updates.

For information on scheduling a configuration file, refer to Chapter 2, "Working with Configuration and Dump Files."

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## ATM and CSM Profiles

In addition, the Text-Based Configuration feature includes a profile option for ATM and CSM connections. A profile is used to create a template for multiple ATM or CSM connections. While the UI requires that you individually configure each connection—even those with the same parameter values—the CLI's profile feature allows you to create and store aggregate connection information.

When a profile is first created, it contains default values for all parameters. Subsequent commands can be used to modify the content of a profile. (Any ATM or CSM connection associated with a profile can still be configured on an individual basis.)

For a complete description of profile commands, refer to Chapter 11, “ATM Port Commands,” and Chapter 12, “CSM Port Commands.”

## Command Prefix Recognition

Many command prefixes are used repeatedly when configuring specific network information (e.g., configuring groups, ATM connections, etc). In an effort to reduce redundant command entry, the CLI has been designed to store commonly-used prefix information.

When a commonly-used command prefix is first entered, the CLI will retain the prefix information. Then, when a related command is entered, the CLI will assume the stored prefix. The user is only required to enter the suffix information for the related command.

For example, if you enter

**group 5 mobility on**

the CLI will store the prefix **group 5**. Now, if you enter a related command for the same group, you are only required to enter suffix information. For example,

**authentication on**

can be entered in lieu of **group 5 authentication on**.

### ◆ Note ◆

If you want to enable authentication for *another* group, you must reenter the full command prefix, including the new group ID.

Commands with prefix recognition capabilities are marked with underlined text. For example,

**group <number> mobility {on | off | enable | disable}**

## Deleting Stored Prefix Information

Information on deleting stored prefixes using the **prefix clear** command is contained in Chapter 3, “Global Commands.”

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## Accessing the CLI Prompt

In order to dynamically configure a switch using the CLI, you must first log in to the switch and access the CLI prompt. To do this, follow the steps below:

1. Boot up the switch and open your workstation's terminal emulation software (e.g., HyperTerminal, Telnet, PROCOMM PLUS, etc).

The following login prompt will be displayed:

**login :**

2. Type either **admin** or **diag** at the login prompt and press **<Enter>**.

### ♦ Important Note ♦

You must have write privileges in order to access the CLI prompt; as a result, you cannot log in as **user**.

The password prompt will be displayed:

**password:**

3. Type the correct login password at the prompt and press **<Enter>**. (The factory default password is **switch**.)

The switch's Main Menu will be displayed, followed by the UI system prompt.

4. Type **cli** at the UI prompt and press **<Enter>**.

The CLI prompt will be displayed:

**Entering command line interface. Type quit to exit  
->**

You are now ready to dynamically configure the switch using the Command Line Interface.

### ♦ Important Note ♦

If you receive a **Parser not loaded** error message, log out of the switch by entering **exit** at the prompt and then verify that you have a current version of the **text\_cfg.img** file loaded in your switch's flash directory. Refer to *Software Requirements* on page 1-1 for more information.

## Exiting the CLI

To exit the CLI, type **exit** or **quit** at the CLI prompt. You will be returned to the User Interface (UI) system prompt.

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## Using the CLI

Chapters 2 through 14 of this reference guide detail all current CLI commands. These commands are entered at the CLI prompt. (CLI commands are *not* intended for use at the UI prompt.)

CLI commands may also be typed into a text-based configuration file and applied to the switch. This is also referred to as *offline* configuring. For general information on offline configuring, refer to page 1-1.

All command descriptions listed in this reference guide include applicable command syntax options, corresponding UI commands, screen output, and table descriptions.

Note that the majority of CLI commands are independent, single-line commands and can therefore be entered in any order. However, some functions may require you to configure specific network information *before* other commands can be entered. For example, before removing a group, you must first remove all associated VLANs.

For additional CLI rules, refer to the information below.

## Basic Command Line Rules

The following is a list of command line rules that will help you avoid syntax and configuration errors when configuring your switch.

- Be sure to enter only one command per line.
- No command may be extended across multiple lines.
- No command may be abbreviated or altered unless otherwise stated. (Refer to the **define** command in Chapter 3, “Global Commands,” for information on creating command aliases.)
- If you want to use spaces within a user-defined text string, you must enclose the user-defined text string in quotation marks (“”). For example, **system admin-contact “Networking Admin and MIS”**

### ◆ Troubleshooting ◆

If you receive a **Command Syntax Error** message after entering a command, double-check the command as written and reenter it exactly as described in this reference guide. Be sure to include all required syntax option parameters.

For information on CLI Text Conventions, refer to page 1-6.

## Accessing CLI Help Information

To view CLI Help options, type **help ?** at the CLI prompt and press <Enter>. The following list of options will be displayed:

Enter choice: **IP IPX RMON INTERFACE VIEW SHOW SYSTEM**

Enter **help** followed by a selected topic. For example,

**help rmon**

Valid commands and command syntax options for the selected topic will be displayed.

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## CLI Text Conventions

<b><u>underlined text</u></b>	<p>Indicates a command with prefix recognition capability.</p> <p>Example:</p> <p><b>group <u>&lt;number&gt;</u> mobility {on   off   enable   disable}</b></p> <p>For more information, refer to <i>Command Prefix Recognition</i> on page 1-3.</p>
<i>italicized text</i>	<p>Indicates <i>user-specific</i> information. Examples include IP addresses, slot numbers, passwords, etc.</p>
<b>&lt; &gt;</b> (Brackets)	<p>Indicate <i>required</i> command parameters.</p> <p>Example:</p> <p><b>ping &lt;ip-address&gt;</b></p> <p>Here, user-specific information (an IP address) must be entered:</p> <p><b>ping 172.23.9.101</b></p> <p>Otherwise, a command syntax error would occur.</p>
<b>[ ]</b> (Straight Braces)	<p>Indicate <i>optional</i> parameters for a given command.</p> <p>You are not required to enter optional parameters before executing commands. If no parameter is specified, the command default will be used. Command defaults are listed (when applicable) in the Command Syntax sections.</p> <p>Example:</p> <p><b>slot [slot-number]</b></p> <p>Here, you can enter either of the following options:</p> <p><b>slot</b> (to select the default--in this case, the default is <i>all slots</i>)</p> <p><b>slot 3</b> (to select slot 3 information only)</p> <p>(Note that this example also includes <i>italicized text</i>. The optional parameter in this case is a user-specified slot number.)</p>
<b>{ }</b> (Curly Braces)	<p>Indicate that the user must choose between one or more parameters.</p> <p>Example:</p> <p><b>swap {on   off}</b></p> <p>Here, you must choose one of the following:</p> <p><b>swap on</b></p> <p><i>or</i></p> <p><b>swap off</b></p>

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(Vertical Lines)	<p>Used to separate parameter choices within a command string. For example, the command string</p> <p style="text-align: center;"><b>snmp community {read-only   read-write   read   write}</b></p> <p>separates the following four command choices:</p> <p style="text-align: center;"><b>read-only</b> <b>read-write</b> <b>read</b> <b>write</b></p>
“(Quotation Marks)	<p>Used to enclose text strings that contain spaces</p> <p>Example:</p> <p style="text-align: center;"><b>system location “NMS Test Lab”</b></p>

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## Configuration Tutorial

The following configuration tutorial is intended for beginning and intermediate users and is provided as an example only. The tutorial will take you through the following configuration steps:

- Creating and deleting Groups and VLANs
- Viewing Group and VLAN information
- Viewing IPX statistics
- Enabling/disabling IPX Routing
- Creating a dump file
- Editing the dump file offline
- Viewing current switch files
- Applying a configuration file
- Exiting the CLI

### ♦ Important ♦

Before proceeding, make a note of your current IP address and subnet mask. Also, be sure that changing current switch parameters (e.g. enabling or disabling IPX Routing) will not adversely effect your network.

1. If you have not already done so, access the CLI prompt using your workstation's terminal emulation software (e.g., HyperTerminal, Telnet, etc). For more information, see *Accessing the CLI Prompt* on page 1-4.
2. Create a new group by entering the following command (in this example, the group ID is 7):

**group 7**

3. Create a VLAN for Group 7 by entering the following command:

**vlan 7 2**

4. View the new Group and VLAN information by entering the following command:

**view vlan**

5. Display IPX statistics and errors by entering the following command:

**view ipx**

6. If IPX is currently *on* (displayed at the first line of the statistics and errors table), disable IPX by entering the following command:

**no ipx routing**

If IPX is currently *off* (displayed at the first line of the statistics and errors table), enable IPX by entering the following command:

**ipx routing**



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7. Next, create a dump, or *snapshot*, of the current configuration by entering the following command:

**dump all**

A screen similar to the following will be displayed:

**Configuration dump successful for: atm bridging interface ip ipx snmp system vlan  
Dump file: asc.1.snap**

Make a note of the dump file name (e.g., **asc.1.snap**).

8. Using your workstation's FTP client software, transfer the dump file from the switch's current directory to your workstation's hard drive.

**♦ Important ♦**

Be sure to transfer the dump file in ASCII mode.

9. Open the dump file located on your hard drive using any ASCII-based text editor (e.g., Microsoft WordPad).
10. Add the following commands to the dump file (be sure to enter each command on a separate line exactly as shown):

**group 8  
vlan 8 2**

11. Save all changes and close the file.
12. Using your workstation's FTP client software, transfer the dump file from your workstation's hard drive back to the switch.

**♦ Reminder ♦**

Be sure to transfer the dump file in ASCII mode.

13. Return to your workstation's terminal emulation software and access the CLI.
14. Display all files in the switch's current directory by entering the following command:

**ls**

15. Apply the changes you made to the dump file by entering the following command:

**configuration apply <file-name>**

substituting the correct dump file name for **<file-name>**. For example:

**configuration apply asc.1.snap**

16. View Group and VLAN information by entering the following command:

**view vlan**

Note that Group 8 and the associated VLAN 2 have been successfully added.

17. Exit the CLI by entering either **quit** or **exit** at the CLI prompt.

This concludes the CLI tutorial. Refer to the following chapters for more information on command usage, including working with dump and configuration files.

