System Requirements

This chapter shows you how to install and configure the South Africa tone plan software.

Installation and Configuration

This section lists system requirements for using the South Africa country feature package on SDS and VCO platforms operating with system software V3.x through V5.x. These requirements are categorized by hardware, firmware, and software. For any site-specific concerns, contact Cisco Systems as described in the preface.

The South Africa country feature package consists of the following components:

- Digital Tone Generator (DTG) card or DTG-2 card
- Call Progress Analyzer (CPA) or Service Platform (SPC) cards, software-configured for CPA (displayed as SPC-CPA)
- SPC card software-configured for DTMF (displayed as SPC-DTMF)
- Diskette for the CPA and SPC cards containing the download files

Note   Service circuit cards must occupy only one resource group in the Resource Group Summary screen; further, different card types cannot share the same resource group. Use either the SPC or the CPA card (but not both) if your system requires CPA service circuit functionality.

Hardware Requirements

Refer to the *Cisco VCO/4K Tone Plan Release Notes* for information on the A-law and Mu-law rules and timing rules governing the hardware configurations of cards with jumpers/dual in-line packages (DIP) switches, and the software configurations of cards without jumpers/DIPs.

Refer to the *Cisco VCO/4K Card Technical Descriptions* for each service circuit card and for each network card for jumper and DIP switch settings.

Firmware Requirements

Refer to the *Cisco VCO/4K Tone Plan Release Notes* for information on system firmware requirements particular to the South Africa country feature package.

Refer to your system release notes for step-by-step instructions to install firmware on either the DTG-2 mezzanine card or DTG card.

Software Requirements

Refer to the *Cisco VCO/4K Tone Plan Release Notes* for information on system software requirements particular to the South Africa country feature package.

System software V5.1 FSR00 PUN24, or higher, is required to operate the South Africa SPC software on the SPC.

Call Progress Analyzer and Service Platform Card Downloads

Your country feature package includes a 3.5-inch diskette containing the following Call Progress Analyzer (CPA) and Service Platform Card (SPC) download files:

cpa.dwn
cpa.nor
cpa.spc
cpa.sit
cpa.ctg
dtmf.spc

Copy the diskette's contents to your system's C:/BOOT directory. You must be using system software V5.1 FSR00 PUN24, or higher.

If you are using system software V5.1 FSR00 PUN23 or lower, copy only the cpa.dwn file to the C:/BOOT directory.

Refer to the *Cisco VCO/4K System Administrator's Guide* for step-by-step instructions to copy the above files to your system's C:/BOOT directory.

⚠
Caution   Always wear a wrist strap when installing software and handling system components to prevent damage to the components and loss of data.

The files are now loaded onto your hard disk. Complete the installation by loading the files from the hard disk to the cards. The method of loading depends on whether or not it is for a new installation, or for an existing installation. For new installations, refer to the "Loading the Software onto Cards—New Installations" section on page 1-2; for existing installations, refer to the "Loading the Software onto Cards—Existing Installations" section on page 1-3.

Refer to the *Cisco VCO/4K System Administrator's Guide* as you complete the installation procedure.

Loading the Software onto Cards—New Installations

To load files from the hard disk to cards in a new installation, follow these steps:

Step 1 If you have not already done so, access the Card Maintenance screen from the Maintenance Menu screen, and use the A command to add the CPA (displayed as Call Progress Analyzer) or the SPC (displayed as either SPC-CPA or SPC-DTMF) to the database.

Step 2 Insert your card, either the CPA or the SPC, into the appropriate slot. The card automatically runs internal diagnostics. One of two results follow, dependent upon which card you have inserted.

⚠
Caution Do not unseat or otherwise disturb the card while running internal diagnostics.

- For the CPA, the LEDs display the transition from off (all LEDs unlighted) to on (the red and yellow unlighted and the green lighted).
- For the SPC, the LED matrix display transitions from off (all LEDs unlighted) to on (the LED matrix lights the letters S, P, and C one at a time repeatedly; the lower right LED changes from unlighted to lighted repeatedly).

Step 3 Use the C command to activate the card from the Card Maintenance screen. The card takes the download.

⚠
Caution Do not unseat or otherwise disturb the card while it is downloading.

The service circuit spans are active, as can be seen from the Card Maintenance screen.

Step 4 Verify that the FRM225, FRM226, FRM241, and FRM242 messages appear in your log file, to ensure that the card has taken the download.

For the SPC, verify two additional messages in the log file—"Begin downloading spec file C:/boot/xxx.xxx" and "End downloading spec file C:/boot/xxx.xxx." The CPA does not have these, or any other, additional log file messages.

Step 5 Create a resource group for the CPA or the SPC service circuits.

You have completed the software installation.

Loading the Software onto Cards—Existing Installations

To load files from the hard disk to cards in an existing installation, follow these steps.

⚠
Caution This process disrupts in-progress calls and removes service circuits from operation for a few minutes.

Step 1 If you have not already done so, access the Card Maintenance screen from the Maintenance Menu screen, and take either the CPA card or the SPC service circuits out of service (OOS).

If you have a CPA, unseat it, wait 15 seconds, and then insert the card into its slot.

Step 2 From the Card Maintenance screen, use the C command to activate the CPA or the various SPC service circuits.

⚠
Caution Do not unseat or otherwise disturb the card while it is downloading.

Step 3 Verify that the following messages appear in the log file to ensure that the card has taken the download. The messages you need to verify are dependent upon which card type you are using.

- For the CPA: FRM225, FRM226, FRM241, and FRM242.

- For the SPC: "Begin downloading spec file C:/boot/xxx.xxx" and "End downloading spec file C:/boot/xxx.xxx."

Note The SPC does not take a redownloading of the spc.dwn file.

You have completed the software installation.

Typical System Software Configurations

This section lists typical system software configurations that are used with the South Africa country feature package. For more information on how to use and configure the various system software screens and menus, refer to the *Cisco VCO/4K System Administrator's Guide*.

Database Administration

Special considerations pertain to the following Database Administration menus and screens.

Card Summary Menu

The Card Summary menu displays the status and port availability of E1, 4xE1, and ICC cards. To assign operating characteristics to E1 spans, access the Configuration screen for that card from the Card Summary menu.

Note The term "E1 span" designates E1 and 4xE1 cards, or ICC cards with associated ICC-E1-I/O module.

Resource Group Summary Menu

To optimize outgoing call system performance, group E1 span outgoing ports into one or more resource groups.

Inpulse Rule and Outpulse Rule Screen

For information about inpulse and outpulse rule tokens, refer to the *Cisco VCO/4K System Administrator's Guide*.

Answer Supervision Template Screen

Refer to the "Tone Detection" section on page 2-3 for information on the answer supervision template function.

Maintenance

Special considerations pertain to the following Maintenance screen.

Card Maintenance Screen

Use the Card Maintenance screen to add, delete, or change the card/port status for E1 spans. When you add an E1 span to the Card Maintenance screen, its span type is set to CAS/R2 by default.

For E1 spans set to CAS/R2, ports 1 and 17 of the card's 32 ports are reserved. Port 1 (Channel 0) carries the frame alignment pattern, remote alarm indication bit, and national-use bits. Port 17 (Channel 16) carries the multiframe alignment pattern, extra bits, and channel-associated signaling bits.

For 4xE1 and ICC cards, set the span type to CCS/31B from the Card Summary menu in order to use port 17 as a bearer port. Use E1-31B firmware on E1 cards in order to use port 17 as a bearer port.

Diagnostics

Special considerations pertain to the following Diagnostics screens.

Card Display Screen

The Card Display screen lists the operating status of E1 spans. Information on the Card Display screen varies according to card type and span type.

Port Display Screen

The Port Display screen lists the processing states, rule processing, links, paths, and digit collection activity of E1 spans.

Test Port Card Screen

The Test Port Card screen tests individual E1 channels. A path is set up between three elements—the selected E1 channel(s), the Service Platform Card-Dual Tone Multifrequency (SPC-DTMF) card or DTMF Receiver Card (DRC), and a Digital Tone Generator (DTG) channel. The system compares the signals sent by the DRC with the signals received by the SPC-DTMF or DRC and reports discrepancies. You can test all channels on E1 spans with one command. You can select the E1 span for port card diagnostic tests. The E1 span enters a local loopback mode during the test and sends out an all 1s (ones) pattern.

Test Service Circuit Screen

The Test Service Circuit screen tests DRC and SPC-DTMF service circuits.

Host Commands and Reports

The host commands and reports are documented in the *Cisco VCO/4K Standard Programming Reference* and the *Cisco VCO/4K Extended Programming Reference*.