System Requirements

Installation and Configuration

This section lists system requirements for running the Argentina country feature package on SDS and VCO platforms operating with system software V3.3 through V5.x. These requirements are categorized by hardware, firmware, and software. For site-specific concerns, contact Cisco Systems as described in the preface.

The Argentina 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)

- Multi-frequency Call Report 2 (MFCR2) card

- Diskette for the CPA and Service Platform (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 the A-law and Mu-law rules and timing rules governing the hardware configurations of cards with jumpers/DIPs, and the software configuration 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 regarding system firmware requirements particular to the Argentina 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, and to install firmware on the MFCR2 card.

Software Requirements

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

System software V5.1 FSR00 PUN21, or higher, is required to operate the Argentina SPC software on the SPC.

Call Progress Analyzer and Service Platform Card Downloads

Your country feature package contains a 3.5-inch diskette containing Call Progress Analyzer (CPA) and Service Platform Card (SPC) download files. The following files are included in the directory:

cpa.dwn
cpa.nor
cpa.spc
cpa.sit
cpa.ctg
mfcr2.sim
mfcr2.sma
mfcr2.utg
mfcr2.spc
mfcr2.smt
dtmf.spc

If you are using system software V5.1 FSR00 PUN21 and higher, copy all files to your system's C:/BOOT directory.

If you are using system software lower than V5.1 FSR00 PUN21, 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 in order to copy the above files to your system's C:/BOOT directory.

Note Always wear a wrist strap when installing software and handling system components.

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 you use depends on whether you are loading the files onto a new or existing installation. For new installations, refer to the "Loading the Software onto Cards—New Installations" section on page 1-3; 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* for step-by-step instructions as you complete this installation procedure.

Loading the Software onto Cards—New Installations

To load files from the hard disk to cards on 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 (the console displays this choice as Call Progress Analyzer) or the SPC (the console displays this choice 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 from the Card Maintenance screen to activate the card. The card takes the download. The service circuit spans are active, as can be seen from the Card Maintenance screen.

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

Step 4   Verify the received FRM225, FRM226, FRM241, and FRM242 messages in your log file in order 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 on 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, then insert the card into its slot.

Step 2   Use the C command from the Card Maintenance screen 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 received download messages in your 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, verify the received FRM225, FRM226, FRM241, and FRM242 messages.

- For the SPC, verify the following two messages—"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 used with the Argentina 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 consideration pertains to the following Database Administration menus and screens.

Card Summary Menu

The Card Summary menu displays the status and port availability of MFCR2, E1, T1, 4xE1, 4xT1, and ICC cards. To assign operating characteristics to E1/T1 spans, access the Configuration screen for that card from the Card Summary menu.

✎
Note The term "E1/T1 span" designates E1, 4xE1, and 4xT1 cards, or ICC cards with associated ICC-E1-I/O module. Single span T1 cards are not applicable to this country feature package.

Resource Group Summary Menu

You must define all MFCR2 card ports in a single resource group in the Resource Group Summary menu and Resource Group Configuration screen. To optimize outgoing call system performance, group E1/T1 span outgoing ports into one or more resource groups.

Inpulse Rule and Outpulse Rule Screen

Typical inpulse and outpulse rule tokens used to support R2 signaling are listed in Table 1-1.

Table 1-1   Typical Inpulse and Outpulse Rule Tokens Used to Support R2 Signaling

Inpulse Tokens		Outpulse Tokens	
REP NEXT	CLR CHAR1 [xx]	REP END	OP ANI
MFCR2	WINK ENAB	REP NEXT	OP MFCR2
DIGITS [xx]	IP ANI [xx]	OP FIELD [xx]	
END CHAR1 [xx]	IP FIELD [xx]	OP CAT [xx]	

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

For more information on how to construct inpulse and outpulse rules for R2 signaling, refer to Chapter 2, "R2 Signaling Tones and Pulse Code Modulation Line Signaling."

Answer Supervision Template Screen

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

System Configuration

Special considerations pertain to the following System Configuration screen.

System Features Screen

The Enable MFCR2 Supervised Clear fearture flag supports automatic call release on outgoing ports in response to backward MFCR2 supervision tones. When the Enable MFCR2 Supervised Clear feature flag is set to **Y**, an outgoing port is released when a B2, B4, A4, or C4 backward tone is detected during R2 signaling. The system performs disconnect processing appropriate to the port, and generates an Outgoing Port Change of State ($DA) report that indicates a supervision error and specifies the backward tone. Backward supervision tones are described in Chapter 2, "R2 Signaling Tones and Pulse Code Modulation Line Signaling." The $DA report is discussed in the *Cisco VCO/4K Standard Programming Reference* and the *Cisco VCO/4K Extended Programming Reference*.

Note   This feature flag enables/disables automatic call release on a system-wide basis. When the feature is enabled (set to **Y**), any outgoing port receiving the backward error tones is automatically released. If the feature flag is disabled (set to **N**), the outgoing port remains in SETUP unless out-of-band supervision or a host command changes the port state.

Maintenance

Special considerations pertain to the following Maintenance screen.

Card Maintenance Screen

Use the Card Maintenance screen to add, delete, and change the card/port status for MFCR2 and E1/T1 spans. When an E1/T1 span is added to the Card Maintenance screen, its span type is set to CAS/R2 by default.

For MFCR2 cards, you can activate/deactivate each of the card's eight ports. For E1/T1 spans, ports 1 and 17 of the card's 32 ports are deactivated. 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, 4xT1, and ICC cards, set the span type to CCS/31B from the Card Summary menu to use port 17 as a bearer port. Use E1-31B firmware on single span E1 cards 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 MFCR2 and E1/T1 spans. Information on the Card Display screen varies according to card type.

Port Display Screen

The Port Display screen lists the processing states, rule processing, links, paths, and digit collection activity of MFCR2 and E1/T1 spans.

Test Port Card Screen

The Test Port Card screen tests individual E1 channels. A path is set up between the selected channel(s) and MFCR2 circuits, and a tone channel. The system compares the signals sent with the signals received and reports discrepancies. You can test all channels on an E1/T1 spans with one command. Select the E1/T1 span for port card diagnostic tests. The E1/T1 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 function tests MFCR2 cards.

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*. The MF Collection Control ($68) command, and the MF Digit ($D0) and the Outgoing Port Change of State ($DA) reports are affected by changes to the system software for Argentina.

- **$68 Command**—Collects MF or MFCR2 digits sent over the trunk. The digits are sent to the host in the form of an MF Digit ($D0) report. This command can also be used to attach and/or detach MF receivers or MFCR2 transceivers to and/or from a trunk.

- **$D0 Report**—Transfers the MF digit collection information from the system to the host. The report shows whether the digit report is valid and the name of the incoming port from which the digits were collected. If a collection error occurred, the present state of the Controlling Port (CP_SETUP or forced to IDLE) is also shown. This report can be included as a report segment in an Inpulse Rule Complete ($DD) report.

- **$DA Report**—As part of R2 signaling on outgoing trunks, the Outgoing Port Change of State ($DA) report shows the final backward supervision tone detected to the host. This tone is shown in the Answer Supervision Code (byte offset 9 if using the standard programming API; byte offsets 16 and 17 if using the extended API). Values of 33 xx indicate the backward supervision tone, where xx indicates the Group A or Group B tone (tone meaning subject to context of call).