



Cisco VCO/4K System Software Version 5.1(2) Release Notes

February 2000

These release notes describe new features and caveats in system software release 5.1(2) for the Cisco VCO/4K switch. Use these release notes in conjunction with the *Cisco VCO/4K Software Installation Guide* and the *Cisco VCO/4K System Administrator's Guide*.

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New and Changed Information

The following features are new or have changed for Cisco VCO/4K system software, hardware, or firmware.

- Live Upgrade
- Talk-only conference support for Communication Assistance for Law Enforcement Act (CALEA) applications
- Per-port tracing feature
- Enhanced selective message tracing capability
- Per-span overlap for Integrated Services Digital Network (ISDN)
- Service Platform Card (SPC) outpulsing support

Live Upgrade

The Live Upgrade feature is available and can be used with system software version 4.2 and higher in order to upgrade to future software versions.

Live Upgrade Restrictions and Limitations

The following restrictions apply to the use of Live Upgrade.

- You must be running system software version 4.2 or higher in order to use the Live Upgrade feature.
- You must manually select the month, day, and year in the Select Upgrade Log File screen. Refer to DDTs issue CSCdp46309, found in Table 3, and the *Cisco VCO/4K Software Installation Guide* for further information.
- Using Live Upgrade from system software versions 4.2 and higher requires modification in the initial upgrade procedures which prevents an Event Handler error. Refer to "Live Upgrade Procedures from V4.2 and Higher", page 17, for further information.
- Using Live Upgrade from system software versions 5.0.0.25 through 5.1.0.26 requires modification of the initial upgrade procedures which prevents DSP failure on switchover. Refer to "Live Upgrade Procedures from V5.0.(0.25) through V5.1.(0.26) with SPCs", page 17, for further information.

Talk-Only Conference Support for Communication Assistance for Law Enforcement Act (CALEA) Applications

Talk-only conference support has been added to VCO/4K system software version 5.1(2) and allows users to employ surveillance services for intercepting a subject's communications. This, and similar abilities, configured through customer applications, can now be accomplished without the intercept subject noticing surveillance or disturbance on any conversation or conference with which they are involved.

The following features are supported with system software version 5.1(2):

- Ports of a proper call state (CP_SETUP, CP_STABLE) can be entered as a talk-only party to a CALEA conference with the Conference Control (\$6D) command.
- One port, defined as talk-only, can be entered into multiple CALEA conferences simultaneously.

- A talk-only port can be removed from a CALEA conference with the \$6D command, without causing any disturbance.
- If the port (CALEA conference intercept subject) is involved in an active call or conference, entering the port into the CALEA conference does not cause any disturbance to the current active call or conference.
- If a port is involved in multiple CALEA conferences, the tearing down of one conference does not cause any disturbance.

API Modifications

The Conference Control (\$6D) command, of both the *VCO/4K Standard Programming Reference* and the *VCO/4K Extended Programming Reference*, has been modified to enable this enhanced conference capability. Byte offset 8 (port control code) of the standard reference and byte offsets 17 and 18 (port control code) of the extended reference are redefined as follows.

Standard Programming Reference

The first byte of the port control code, byte offset 8, `IIIIA0LL`, has been modified to allow the talk-only conference capability. Construct bytes in binary according to the descriptions below, then convert to hex for use in the command.

A – specifies the talk-only conference capability. Specify bit setting according to the list below.

- A = 1 – talk-only conference enabled—the port is talk-only to the conference to which it is attached; this setting has precedence over the W setting.
- A = 0 – talk-only conference disabled; the W setting determines configuration.

Refer to the *VCO/4K Standard Programming Reference* for further information on the Conference Control (\$6D) command.

Extended Programming Reference

The first byte (17), `IIIIA0LL`, of the port control code (byte offsets 17 and 18) has been modified to allow the talk-only conference capability.

A – specifies the enhanced conference capability. Specify bit setting according to the list below.

- A = 1 – talk-only conference enabled—the port is talk-only to the conference to which it is attached; this setting has precedence over the W setting.
- A = 0 – talk-only conference disabled; the W setting determines configuration.

Refer to the *VCO/4K Extended Programming Reference* for further information on the Conference Control (\$6D) command.

Talk-Only Conference Support for CALEA Applications Restrictions and Limitations

The total number of conference participants with this enhancement is limited to eight, which is the same as the regular conference. In addition, it is the responsibility of the host to explicitly adjust the conference structure for external events. For example, if an external event is defined as a port going on-hook, the host must remove the port from the conference.

Per-Port Tracing Feature

Per-port tracing capability has been added to VCO/4K system software version 5.1(2) and allows VCO/4K users to select Host and NBC tracing on a per-port basis to analyze and/or debug a problem more efficiently—while minimizing the impact upon switch performance. Complete the following steps to trace Host and NBC messages on a per-port basis.

- Step 1** Use the Port Display screen's RLSP: field to designate the rack, level, slot, and port for which you want the tracing to be performed.
- Step 2** Enter your selections to update the system's configuration.
- Step 3** Use the Port Display screen's TRACE: Host __ NBC __ fields to either enable (1) or disable (0) the tracing of Host and NBC messages.
- Step 4** Use the Port Display screen's RLSP: field to verify that the settings are as you configured in Step 1.



Note

Do not use the Port Display screen's PA field to verify your selections; using the PA field to verify your selections will result in the trace flags (TRACE: Host __ NBC __ fields) to be cleared and tracing will not be performed.

- Step 5** Repeat Step 1 through Step 4 for all ports for which you want to trace Host and NBC messages.
- Step 6** From the Diagnostic menu, select Option K to access the System Trace Configuration screen; use this screen to start and stop the Host and NBC tracing. Select the SELECTED value for per-port tracing, and reserve the ALL selection for all port tracing, within the System Trace Configuration screen. Refer to Figure 1, which shows the screen as it appears when you are performing selective host message tracing and/or selective NBC message tracing on a per-port basis.

Figure 1 System Trace Configuration Screen

```

          S Y S T E M      T R A C E      C O N F I G U R A T I O N

HOST MESSAGE TRACE: ENABLED          MESSAGES: SELECTED
  Enable On Reboot:  N                _ _ _ _ _
  Reset/Clear Ports: N                _ _ _ _ _
  Host Connections:  ALL              _ _ _ _ _
  Port Addresses:    SELECTED          _ _ _ _ _
  Print Port List:   N                NETWORK STATUS: ALL
  Trace Output:     FILE              _ _ _ _ _

NBC MESSAGE TRACE: ENABLED          MESSAGES: SELECTED
  Enable On Reboot:  N                _ _ _ _ _
  Reset/Clear Ports: N                _ _ _ _ _
  Voice Path Trace:  N                _ _ _ _ _
  Port Addresses:    SELECTED          _ _ _ _ _
  Print Port List:   N
  Trace Output:     FILE
    
```

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Refer to the *VCO/4K System Administrator's Guide* for further information on using the System Trace Configuration screen for per-port tracing.

Per-Port Tracing Restrictions and Limitations

The following list describes the restrictions, limitations, and helpful information you need to know when using the per-port tracing feature:

- Multiple ports can be traced. Refer to the steps above for a complete description of this ability.
- Always use the Port Display screen's `RLSP :` field to verify the settings on the Port Display screen. Do not use the `PA` field. Refer to the steps above for a complete workaround solution.
- Not all messages are supported for per-port tracing with this release. All such messages are traced according to the instructions in the *VCO/4K System Administrator's Guide*. The following host messages are those not supported for per-port tracing:
 - `$F0, $80, $81, $82, $83, $D9, $65, $90, $91, $C0 nn`.



Caution

Do not assume that your per-port trace settings are cleared upon a system restart; any per-port trace settings you have configured will remain through system restarts.

Enhanced Selective Message Tracing Capability

Enhanced selective message tracing capability has been added to VCO/4K system software version 5.1(2), and allows VCO/4K users to selectively trace Interface Controller Card (ICC) and Service Platform Card (SPC) associated NBC command and report messages, in addition to the message tracing that is already available for other system cards.

From the Diagnostic menu, select Option K to access the System Trace Configuration screen; use the screen to select the message types you want to trace.

Refer to the *VCO/4K System Administrator's Guide* for further information on selective message tracing.

Per-Span Overlap for Integrated Services Digital Network (ISDN)

The Per-span Overlap feature has been added to VCO/4K system software version 5.1(2), and allows VCO/4K users to configure each NET5 or QSIG span as overlap receiving in forward or accumulate mode. As a result of this feature, the Enable NET5 Overlap Receiving feature flag has been removed from the System Features screen. In addition, the PRI Card Configuration screen, for single span cards, and the ICC ISDN Span Configuration screen have been modified. This feature resolves DDTs issue CSCdm91468.

Interface Modifications

The Enable NET5 Overlap Receiving feature flag has been removed from the System Features screen in system software version 5.1(2). Refer to Figure 2 for the new System Features screen.

System Features

This feature flag functionality has been moved to field selection configuration within the PRI Card Configuration screen (refer to Figure 3) and the ICC ISDN Span Configuration Screen (refer to Figure 4).

Figure 2 System Features Screen

| S Y S T E M F E A T U R E S | | | |
|----------------------------------|---------------|----------------------------------|---------------|
| FEATURES | ALLOWED (Y,N) | FEATURES | ALLOWED (Y,N) |
| Redundant System | N | Send All ISDN Connect Reports | N |
| Output Periodic Alarm Reports | N | Enable \$66 Cmd Host Checking | N |
| Card/Alarm Status at Init. | N | Cut Thru For Non-ISDN Alerting | N |
| Manual Intervention For SLIP/OOF | N | Enable 4th Column DTMF | N |
| Enable Grace Timing On Null Rule | N | Set System to A-Law | Y |
| Disable Card Error Report/Reset | N | Enable AllPortsDeactivated Alm | N |
| Enable Digit Field Reporting | N | \$EA Reports on DChannel RESTART | N |
| Suppress PSC/Rule Abort Messages | N | Send All ISDN Disconnect Report | N |
| Enable Host Password Check | N | Convert Reorder Tone To Busy | N |
| Force Bearer/Lap Activation | N | K1197 Layer 3 Testing | N |
| Enable MFC-R2 Supervised Clear | N | Enable Host Call Ref | N |
| Enable SLIC Guarded Disconnect | N | Extended Operation Mode Set | N |
| Enable CPA Monitor Disconnect | N | C-bus Mode Enabled | N |
| Revert to Basic Redundancy | N | | |
| Send Reports Before Guard Time | N | | |
| Enable ISDN Manual Disconnect | N | | |

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Refer to the *VCO/4K System Administrator's Guide* for further information on feature flags.

PRI Card Configuration

To perform per-span overlap for single-span cards, access the PRI Card Configuration screen. This screen, shown in Figure 3, employs a new field: OVERLAP. The OVERLAP field is described below.

Field type: data entry via **Select** or **Rev Select** key. This field specifies per-span overlap configuration for the E1 ISDN NET5 span type; all other E1 and T1 ISDN span types are not supported.

Figure 3 PRI Card Configuration Screen

```

P R I C A R D C O N F I G U R A T I O N

CARD LOCATION: R,L,S 1 1 15          TYPE: PRI-E1 PRI/NET5
                                      STATUS: Active

DISPLAY PROTOCOL PARAMETERS ___
ACCESS TYPE: USER      TRX CLOCK: SCLK  CA IP RULE: 2  SLIP MAINT LIMIT: 255
SWITCH TYPE: NET5_UK   REF CLOCK: 1544  NCA IP RULE: 0  OOF MAINT LIMIT: 17
SPAN LENGTH: 533-655  CRC4: ON        A/Mu LAW: A  OVERLAP: FORWARD

```

| PORT | NAME | GROUP | GRP NAME | COS |
|------|------|-------|----------|-----|
| 1 | | 3 | 1-1-15 | 2 |
| 2 | | 3 | 1-1-15 | 2 |
| 3 | | 3 | 1-1-15 | 2 |
| 4 | | 3 | 1-1-15 | 2 |
| 5 | | 3 | 1-1-15 | 2 |
| 6 | | 3 | 1-1-15 | 2 |
| 7 | | 3 | 1-1-15 | 2 |
| 8 | | 3 | 1-1-15 | 2 |

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Select FORWARD if the host is responsible for handling the sending/receiving of overlap messages on this span. The initial SETUP message, and any subsequent INFO messages, are sent by the VCO as they are received, to the host, and the host is responsible for initiating the sending of the SETUP ACKNOWLEDGE message.

**Note**

The FORWARD selection contains the same meaning as selecting Y in the now defunct Enable NET5 Overlap Receiving feature flag, found in system software versions 5.1(1) and lower.

Select ACCUMULATE if the host is not capable of handling the sending/receiving of overlap messages on this span. The initial SETUP message is held by the VCO, while the VCO generates the SETUP ACKNOWLEDGE message and accumulates any subsequent INFO messages before sending one SETUP message to the host which contains all the data from the initial SETUP message and the INFO messages.

**Note**

The ACCUMULATE selection contains the same meaning as selecting N in the now defunct Enable NET5 Overlap Receiving feature flag, found in system software versions 5.1(1) and lower.

ICC ISDN Span Configuration

To perform per-span overlap for ICC spans, access the ICC ISDN Span Configuration screen. This screen, shown in Figure 4, employs a new field: OVERLAP. The OVERLAP field is described below.

Field type: data entry via **Select** or **Rev Select** key. This field specifies per-span overlap configuration for the E1 ISDN NET5 and QSIG span types; all other E1 and T1 ISDN span types are not supported.

Figure 4 ICC ISDN Span Configuration Screen

```

I C C I S D N S P A N C O N F I G U R A T I O N

SPAN LOCATION: R,L,S 1 1 15-1-1      TYPE : ICC-E1 PRI/NET5
                                      STATUS: Out of Service

DISPLAY PROTOCOL PARAMETERS _
ACCESS TYPE: USER      TRX CLOCK: SCLK  CA IP RULE: 3  SLIP MAINT LIMIT: 255
SWITCH TYPE : NET5_UK  REF CLOCK: LOOP  NCA IP RULE: 0  OOF MAINT LIMIT: 17
SPAN LENGTH: 533-655  CRC4      : ON    A/Mu LAW:  A   OVERLAP: FORWARD

      PORT      NAME      GROUP      GRP NAME      COS
      ----      -
      1          -          -          -             2
      2          -          -          -             2
      3          -          -          -             2
      4          -          -          -             2
      5          -          -          -             2
      6          -          -          -             2
      7          -          -          -             2
      8          -          -          -             2

```

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Refer to the PRI Card Configuration screen's OVERLAP field definitions (above) for usage guidelines.

Refer to the *VCO/4K ICC ISDN Supplement* for further information on the configuration of ICC ISDN spans.

Per-Span Overlap for ISDN Restrictions and Limitations

The per-span overlap for ISDN feature is used for E1 ISDN span types NET5 and QSIG only.

The following DDTs issues describe caveats you need to be aware of as you implement the per-span overlap feature:

- CSCdp68345: SNMP is not implemented for the ISDN per-span overlap feature.
- CSCdp71800: The ISDN timer T302 does not fire when the per-span overlap feature is set to ACCUMULATE.
- CSCdp71864: The ISDN QSIG protocol used with the per-span overlap feature sends an incorrect state; however, no functionality problems have been detected.
- CSCdp84612: ISDN ACCUMULATE mode returns the wrong SETUP ACKNOWLEDGE.

Service Platform Card (SPC) Outpulsing Support

Service Platform Card (SPC) outpulsing support has been added to VCO/4K system software version 5.1(2), and allows VCO/4K users to increase the output channels from the standard 63 channels.

Use the Card Maintenance screen's ADD, DELETE, CHANGE STATUS (A, D, C, P) : field to select the SPC-OUTP card type for the DSPs you want to configure for SPC outpulsing. Make sure you add these ports to the SPC outpulse resource group, and then activate the cards in order for the SPC outpulsing to take effect.

Refer to the *VCO/4K System Administrator's Guide* for further information on outpulse configuration.

SPC Outpulsing Restrictions and Limitations

Keep the following restrictions and limitations in mind when configuring SPCs for outpulsing:

- The SPC is not a replacement of the DTG card; the DTG card is required to provide static tones.
- SPC outpulsing is only limited by the number of DSPs that are configured for outpulsing—there are 63 outpulsing channels per DSP—and by available time slots.

System Requirements

This section provides a list of system requirements for running VCO/4K system software. These requirements are categorized by hardware, firmware, and software. Contact Cisco Systems TAC (Technical Assistance Center) for any site-specific information.

Hardware Requirements

To operate system software V5.1, your Cisco VCO/4K switch must be equipped with the following minimum components and revisions.

- System Controller
 - VME-147 System Controller Card (must have updated boot PROMs) or Combined Controller (16MB 68030-based CPU)

Refer to the *CPU Upgrade Procedure* (63104050100) if you need to replace a 25MHz/8MB CPU with a 33MHz/16MB CPU.
 - CPU Transition Module (CPU-TM) or storage/control I/O module
 - SWI Version A0AR
- Storage Subsystem
 - SCSI interface hard drive, 42MB or larger
 - 3.5" SCSI interface floppy drive
- Control Circuit Cards
 - NBC-3 card, rev C0GR or E0AR

Two NBC-3 cards are required for redundant systems.
 - Alarm Arbiter Card (AAC), rev COUR (or later) is required for C-bus operation
- Service Circuit Cards
 - DTG-2 or DTG (Digital Tone Generator)
- Network Circuit Cards
 - ICC, rev C09P
 - 16-span ICC E1 I/O module, rev A15P
 - 4- and 8-span ICC E1 I/O module, rev A16P
 - 16-span ICC T1 I/O module, rev A16P
 - 4- and 8-span ICC T1 I/O module, rev A17P

**Note**

Use the I/O module specific to your needs; you do not need all of the I/O modules listed above to meet the hardware minimum requirements.

Firmware Requirements

Table 1 lists the system firmware requirements. Refer to the technical descriptions in Volumes 3 and 4 of your Cisco VCO/4K hardware documentation set for firmware locations for each card.

For country specific firmware requirements (which affect DTG-2 or DTG, CPA, and MFCR2 cards), refer to the *VCO/4K Master Configuration Guide Release Notes*.

**Note**

The firmware label applied by Cisco Systems may list only the last four digits of the checksum. The checksum for the NBC-3 LP125 is not listed because the programming for this item is part of the NBC-3 download file.

Table 1 **Firmware Requirements**

| Card | Firmware | Checksum | Versions | Location | Changed Since V5.1(1) |
|-----------|---------------------|----------|----------|----------|-----------------------|
| 8LTC | 8LTC | 0000E09F | 1.43 | U2 | N |
| BRC | BRC | 00002412 | 2.01 | U2 | N |
| CPA | CPA | 0000A7A2 | 1.03 | U2 | N |
| CPU | Boot EVEN | 006E691D | 5.00 | U1 | N |
| | Boot ODD | 00866CBF | 5.00 | U15 | |
| | MVME147-023 ODD | 5741B41F | 2.44 | U30 | |
| | MVME147-023 EVEN | 5741B42F | 2.44 | U22 | |
| D+I | D+I | 00003158 | 2.02 | U9 | N |
| DID-2 | DID-2 | 000010C3 | 1.41 | U2 | N |
| DRC-8 | DRC | 00009625 | 5.23 | U2 | N |
| DRC-24/48 | DRC-2 | 00004241 | 3.08 | U2 | N |
| DVC | DVC | 000095BE | 2.07 | U2 | N |
| E+M | E+M | 0000D381 | 2.06 | U2 | N |
| E1-CAS | E1-CAS/MERC | 0000F1C6 | 2.13 | U23 | N |
| | E1-CAS/R2 | 00002654 | 2.01 | U23 | |
| | E1-31B | 0000EF58 | 3.03 | U23 | |
| | E1-CAS/R2 (No CRC4) | 000EDF08 | 3.43 | U23 | |
| | CAS PROC | 00001E78 | 1.04 | U85 | |
| | 32 CHAN SETUP | 0000CDDE | 1.00 | U113 | |
| | GAIN/LAW PROM | 000011D2 | 1.02 | U45/53 | |

Table 1 *Firmware Requirements (continued)*

| Card | Firmware | Checksum | Versions | Location | Changed Since V5.1(1) |
|------------------|----------------------|----------------------|-----------------|-----------------|------------------------------|
| ICC I/O Module | Com Bus | 00299FE4 | 8.01 | U48 | N |
| | J3 | 00275397 | 8.01 | U76 | |
| | CS | 002A9F8A | 8.01 | U12 | |
| | 5x7, Rev B | 000B5C9A | 8.01 | U11 | |
| | PCM Interface | 00257696 | 8.02 | U41 | |
| IPRC-8 | IPRC 8-PORT | 00220D75 | 1.03 | U2 | N |
| IPRC-64 | IPRC 64-PORT | 00220DC1 | 1.03 | U2 | N |
| IPRC-128 | IPRC 128-PORT | 00220E0A | 1.03 | U2 | N |
| MRC | MRC | 0000EE80 | 3.08 | U2 | N |
| MVDC-T1 | Local Bus | 000D373B | LP100A | U35 | N |
| | Com Bus | 00186169 | LP101A | U19 | |
| | Interrupt | 000AE787 | LP102 | U75 | |
| | PCM Interface | 001748E3 | LP103A | U107 | |
| | Framer | 0005FE2C | LP104 | U76 | |
| | Gain/Law | 0005A153 | LP105B | U49 | |
| | T1 Clock | 000BE051 | LP106 | U80 | |
| | Gain/Law | 00776220 | — | U50 | |
| | Boot PROM | 0066DF90 | 1.08 | U10 | |
| NBC-3 Card Rev C | LP122 SWI | 00194974 | LP122C | U66 | N |
| | LP123 Counter | 0018E096 | LP123E | U13 | |
| | LP124 Chip Select | 000D7B43 | LP124C | U12 | |
| | LP125 Com Bus FPGA | — | LP125C | U43 | |
| | LP126 Com Bus EPLD | 0005CED8 | LP126B | U47 | |
| | LP127 Mezzanine Add. | 0006C919 | LP127A | U105 | |
| | Boot PROM | 00F597BE | 1.02 | U4 | |
| NBC-3 Card Rev E | LP141 SWI | 0019204D | LP141A | U31 | Y |
| | LP140 Counter | 0015E220 | LP140H | U73 | |
| | LP139 Chip Select | 000D4209 | LP139A | U30 | |
| | LP125 Com Bus FPGA | — | LP125C | U53 | |
| | Boot PROM | 00F597BE 00F5D06E | 1.02 or 1.03 | U1 | |
| SLIC-2 | SLIC-2 | 000010B9 | 1.41 | U2 | N |

Table 1 Firmware Requirements (continued)

| Card | Firmware | Checksum | Versions | Location | Changed Since V5.1(1) |
|-------------------------------|------------------------|----------|----------|--|-----------------------|
| SSC | Com Bus Control | 00186169 | LP101A | U24 | N |
| | PCM Interface | 00185A34 | LP130B | U76 | |
| | Quad 9 to 1 | 0017878C | LP129A | U71/U70 | |
| | Redundancy Control | 0017F249 | LP128A | U100 | |
| | Subrate Matrix Control | 000BB573 | LP131 | U31 | |
| | Boot PROM | 00400736 | 1.02 | U10 | |
| T1 | T1 | 00002BA5 | 1.26 | U2 | N |
| | T1 Aux Proc | 00007125 | 1.00 | U45 | N |
| UTC-2 Rev A | UTC | 0000F91E | 6.00 | U2 | N |
| UTC-2 Rev B | UTC | 0000ECF0 | 6.54 | U2 | N |
| 4XT1 | 4XT1 68340 VIRT CM | 28FAF0 | 1.09 | U10 | N |
| | 4XT1 68302 ODD | 00277AE4 | 1.14 | U47, 93, 150, 185 | N |
| | 4XT1 68302 EVEN | 00242750 | 1.14 | U48, 94, 151, 186 | N |
| | GAIN/LAW CCITT G.711 | 000FCD68 | 1.03 | U25, 28, 67, 78, 120, 131, 158, 170 | N |
| | PATH SETUP ROM | 0000CDDE | 1.00 | U35, 86, 116,178 | N |
| E1-PRI (NTDASS2, DPNSS) | E1-PRI FW Odd | 00105999 | 1.03 | U38 | N |
| | E1-PRI FW Even | 000DA6C3 | 1.03 | U39 | N |
| | E1-PRI 32 Chan Setup | 0000CDDE | 1.00 | U113 | N |
| | PCM Gain/Law | 000011D2 | 1.02 | U45/53 | N |
| E1-PRI 120Ω (NET5) | Net5 ODD | 1075A4 | 1.04 | U38 | N |
| | Net5 EVEN | DB375 | 1.04 | U39 | N |
| PRI | PRI FW Odd | 00107EA5 | 1.02 | U38 | N |
| | PRI FW Even | 000DB30B | 1.02 | U39 | N |
| | 32 Chan Setup | 0000CDDE | 1.00 | U29 | N |
| | PCM GAIN/LAW | 000011D2 | 1.02 | U45/53 | N |
| PRI/N | ODD | 00115CB1 | 1.09 | U38 | N |
| | EVEN | 000DEE1D | 1.09 | U39 | N |
| | 32 Chan Setup | 0000CDDE | 1.00 | U29 | N |
| | PCM Gain/Law | 000011D2 | 1.02 | U45/53 | N |

Table 1 *Firmware Requirements (continued)*

| Card | Firmware | Checksum | Versions | Location | Changed Since V5.1(1) |
|--|----------------------|-----------------|-----------------|--|------------------------------|
| 4XE1 | 4XE1 68340 VIRT CM | 28FAF0 | 1.09 | U10 | N |
| | 4XE1 68302 ODD | 00263E25 | 1.04 | U47, 93, 150, 185 | N |
| | 4XE1 68302 EVEN | 002313DD | 1.04 | U48, 94, 151, 186 | N |
| | GAIN/LAW CCITT G.711 | 000FCD68 | 1.03 | U25, 28, 67, 78, 120, 131, 158, 170 | N |
| | PATH SETUP ROM | 0000CDDE | 1.00 | U35, 86, 116,178 | N |
| DCC ¹ (North American Tone Plan) | DCC | 0000A575 | 2.02 | U2 | N |
| | LIN/PCM 0 DB | 0000B9A2 | 1.00 | U43 | N |
| | LIN/PCM -3 DB | 0000AB04 | 1.00 | U44 | N |
| | PCM/LIN Odd | 0000AFA2 | 1.00 | U33 | N |
| | PCM/LIN Even | 0000B736 | 1.00 | U34 | N |
| DTG/DTG-2 ¹ (North American Tone Plan) | DTG-FW ² | 000077AD | 1.23 | U2 | N |
| | | 00007C30 | 1.25 | U2 | |
| | Tone ODD | 00000078 | 2.04 | U54 | |
| | Tone EVEN | 00004217 | 2.04 | U53 | |
| | MAP PROM LP87 | 0000628A | 1.1 | U36 | |
| | MAP PROM LP88 | 00004B9E | 1.1 | U37 | |

1. Refer to the *VCO/4K Master Configuration Guide Release Notes* for listings of firmware requirements for countries other than those found in North America.
2. Version 1.23 or 1.25 is required. Version 1.25 supplies an additional tone for customers in Canada.

Software Requirements

Table 2 lists valid software checksums and versions for the VCO/4K system software and optional software products.

Use the Software/Firmware Configuration utility to identify the version and checksum of each software file installed on the system (refer to the *Cisco VCO/4K System Administrator's Guide* for more information). System software files are distributed across the installation floppy diskettes. Each optional software product is contained on a single floppy diskette.

Table 2 Software Requirements

| VCO/4K System Software | Filename | Checksum | File Version ¹ | Changed Since V5.1(1) |
|------------------------|-------------|----------|---------------------------|-----------------------|
| Executable Files | GLOBALS.EXE | 01546A19 | — | Y |
| | HOSTMGR.EXE | 04C1AEF8 | — | Y |
| | SYSWD.EXE | 01C2F28B | — | Y |
| | REDMGR.EXE | 00FB5AE3 | — | Y |
| | PERMGR.EXE | 00000000 | — | N |
| | NETMGR.EXE | 02F8A728 | — | Y |
| | SNMP.EXE | 029F3B90 | — | Y |
| | INSTALL.EXE | 022A6EC3 | — | Y |
| | TELERTE.EXE | 00007ADA | 4.00 | N |
| | NFAS.EXE | 00007B0C | 6.48 | Y |
| | NI2.EXE | 00007B0C | 6.48 | Y |
| Download Files | MVDCT1.DWN | 00F2D33A | 1.08 | N |
| | NBC.DWN | 01095D96 | 1.09 | N |
| | DNI.DWN | 006F4101 | 1.02 | N |
| | SSC.DWN | 006C84CB | 1.00 | N |
| | CPA.DWN | 003079F3 | 8.09 | N |
| | DVC.DWN | 005ADA02 | 1.08 | N |
| | DTMF.DWN | 00053D1A | 2.02 | N |
| | IPRC.DWN | 0022E1EA | 1.04 | N |
| | 4xT1.DWN | 00349052 | 1.49 | N |
| | 4xE1.DWN | 0037F884 | 1.43 | N |
| | SPC.DWN | 06193389 | 5.06 | Y |
| | ICC.DWN | 0637C924 | 5.09 | Y |

Table 2 Software Requirements (continued)

| VCO/4K System Software | Filename | Checksum | File Version¹ | Changed Since V5.1(1) |
|---|---------------------------|-----------------|---------------------------------|------------------------------|
| Protocol Files ² | ICCCASR2.UPG | 0000071D | | N |
| | ICCCCS31.UPG | 00000128 | | N |
| | ICCCLEAR.UPG | 00000128 | | N |
| | ICCEM.UPG | 00000666 | | N |
| | ICCGR303.UPG ³ | 0000068E | | Y (New) |
| | ICC01.UPG | 00000666 | | N |
| | ICC02.UPG | 0000077a | | N |
| Operating System Files | VRTX OS | — | 1.08 | N |
| | IFX | — | 1.11 | N |
| | TNX | — | 1.45 | N |
| ISDN Optional Software⁴ | | | | |
| ISDN-NFAS | PRI.DWN | 008FEC7D | 6.48 | Y |
| | PRIN.DWN | 00930CBD | 6.48 | Y |
| ISDN-PRI | PRI.DWN | 008FEC7D | 6.48 | Y |
| | PRIN.DWN | 00930CBD | 6.48 | Y |
| NI-2 | PRI.DWN | 008FEC7D | 6.48 | Y |
| | PRIN.DWN | 00930CBD | 6.48 | Y |
| NTTPRI | NTTPRI.DWN | 008DF385 | 1.09 | N |
| NTDASS2 | NTDASS2.DWN | 009F44C9 | 3.08 | N |
| DPNSS | DPNSS.DWN | 00AB15B6 | 3.12 | N |
| NET5 | NET5.DWN | 008774E7 | 1.29 | N |

1. The software no longer lists the individual executable file (.EXE) version numbers in the Software/Firmware Configuration screen. A “—” character in the File Version column signifies that the file version matches the system software release, for example, V5.1. If a version number appears in the File Version column for an .EXE file, it is strictly for reference purposes; it does not appear in the Software/Firmware Configuration screen.
2. The checksum values for .upg files (protocol files) are displayed by accessing the Display File screen. Go to Maintenance Menu > Disk Utilities > Display File, and type: **c:boot<filename>**. The .upg file checksum value is displayed in the first four bytes of the second row.
3. GR-303 is not supported for customer use; reserved for Cisco Systems internal use only.
4. The optional software file version numbers are listed as they appear on the optional software diskette label.

Limitations and Restrictions

Table 3 lists the design constraints which have been identified in VCO/4K system software, and related software. Unless noted, these limitations and restrictions apply to all Cisco VCO/4K releases up to and including 5.1(2). Cisco Systems currently has no plans to address the following known design constraints.

Table 3 Known Design Constraints up to and Including 5.1(2)

| DDTs Issue | Description |
|------------|--|
| — | Do not pull the active side NBC-3 on an operating production switch. If you pull an active NBC-3, it can impact traffic and the system will generate errors. If you suspect a problem with an NBC-3 card and you wish to remove it, first switch sides to make it the standby side. |
| — | The ICC and SPC automatically reset after downloads. After a download to the ICC or the SPC, the card resets itself in order for the new download to take effect. |
| — | <p>The system does not allow the operational mode to be set back to standard once it has been set to extended. This is due to larger values which could be set in extended mode and are not valid in standard mode.</p> <p>The mode is stored in one of the database files. If you must return to standard mode during testing, do so by reverting to the saved database files which were copied before you set the extended mode.</p> |
| CSCdm18135 | If a resource group contains SPC-CONF, the system hunts by means of the Rotary method only (regardless of whether you select Rotary or Cyclic in the Hunt Type field from the Resource Group Summary screen). |
| CSCdm29344 | <p>The single-span CPA card does not allow for assigning a REP token to the SIT <i>and</i> ISUP tone signaling events simultaneously in an answer supervision template.</p> <p>The SIT (special information tone) and ISUP (integrated services digital network user part) tones have similar frequencies. If you include both of these signaling events in an answer supervision template, and you assign a REP token to both, the system always detects the SIT tone rather than the ISUP tone. Therefore, when you create an answer supervision template, assign the REP token to only one of these signaling events.</p> <p>Since the ISUP tone is used for out-of-band signaling and the SIT tone is used for in-band signaling, the two tones can be separately enabled in the answer supervision template without affecting any application connected to the network.</p> |
| CSCdm46309 | The Select Upgrade Log File screen default date is incorrect. Manually specify the month, day, and year of the log file you want to display or print. Refer to the <i>Cisco VCO/4K Software Installation Guide</i> for more information. |

Important Notes

- Live Upgrade
- ICC-T1 mixed protocols
- ICC-T1 ISDN span as primary timing source

Live Upgrade

It is possible to use Live Upgrade to upgrade to system software 5.1(2); however, refer to the following two sections for version-specific workaround procedures.

Live Upgrade Procedures from V4.2 and Higher

Complete the steps below to use Live Upgrade if you are using system software V4.2 and higher. This procedure is a workaround for DDTs issue CSCdp23217.



Caution

If you are using system software from V5.0.0.25 through V5.1.0.26, you must complete the steps below, and the steps in the following section, "Live Upgrade Procedures from V5.0.(0.25) through V5.1.(0.26) with SPCs", so that you do not lose all calls.

-
- Step 1** Boot the standby side of the switch.
 - Step 2** Wait for file synchronization and perform a switchover.
 - Step 3** Boot the new standby side; wait for file synchronization.
 - Step 4** Follow the Live Upgrade procedures contained in the *Cisco VCO/4K Software Installation Guide*.

Live Upgrade Procedures from V5.0.(0.25) through V5.1.(0.26) with SPCs

Complete the following steps to use Live Upgrade from system software V5.0.0.25 through V5.1.0.26. This procedure prevents DSP failure on switchover and is a workaround for DDTs issue CSCdm22671.



Caution

Follow this workaround procedure when using Live Upgrade from V5.0.0.25 through V5.1.0.26. Failure to do so will result in the loss of all calls that require SPC resources. Use this procedure to minimize the volume of lost calls, limiting them to those calls that are active on the SPC and that are taken out of service in order to re-flash.

-
- Step 1** Load the new SPC.DWN on the active side of the system.
 - Step 2** Take one SPC out of service (OOS).
 - Step 3** Place the same SPC in the active state.
 - Step 4** Wait for the download to complete and all DSPs become active on the SPC.
 - Step 5** Repeat Step 2 through Step 4 for all other SPCs, one at a time.
 - Step 6** Follow the Live Upgrade procedures contained in the *Cisco VCO/4K Software Installation Guide*.

ICC-T1 Mixed Protocols

The ICC-T1 can be configured with many combinations of ISDN and non-ISDN protocols. Support is limited to a maximum of two protocols per ICC. Due to the vast number of combinations, Cisco Systems has not tested all possible span/protocol combinations.

Table 4 lists the mixed protocols tested by Cisco Systems. Additional combinations will be tested in the future.

Table 4 ICC-T1 Mixed Protocols Tested by Cisco Systems

| | | Various Groups and Spans | | | | | | | | | |
|-----------------------------------|---------------------------------|---------------------------|-------------------------|-----------------------------|---------------------------|---------------------------|------------------------------|------------------------------|-----------------------------|---------------------------------|------------------|
| | | ICC-T1 ESF/B8ZS E&M | ICC-T1 SF/AMI E&M | ICC-T1 ESF/B8ZS CLEAR | ICC-T1 SF/AMI CLEAR | ICC-T1 ESF/B8ZS NTI | ICC-ISDN ESF/B8ZS 4ESS | ICC-ISDN ESF/B8ZS 5ESS | ICC-ISDN ESF/B8ZS NI2 | ICC-ISDN ESF/B8ZS NTT-PRI | ICC-ISDN NFAS |
| Various Groups and Spans | ICC-T1 ESF/B8ZS E&M | — | — | — | — | — | — | — | — | — | — |
| | ICC-T1 SF/AMI E&M | Tested ¹ | — | — | — | — | — | — | — | — | — |
| | ICC-T1 ESF/B8ZS CLEAR | Tested ¹ | Tested OK | — | — | — | — | — | — | — | — |
| | ICC-T1 SF/AMI CLEAR | — | — | — | — | — | — | — | — | — | — |
| | ICC-ISDN ESF/B8ZS NTI | Tested ¹ | Tested OK | Tested OK | — | — | — | — | — | — | — |
| | ICC-ISDN ESF/B8ZS 4ESS | — | Tested OK | — | Tested OK | — | — | — | — | — | — |
| | ICC-ISDN ESF/B8ZS 5ESS | — | — | — | — | — | — | — | — | — | — |
| | ICC-ISDN ESF/B8ZS NI2 | — | Tested OK | — | — | — | — | — | — | — | — |
| | ICC-ISDN ESF/B8ZS NTT-PRI | — | — | — | — | — | — | — | — | — | — |
| | ICC-ISDN NFAS | Tested ¹ | — | — | — | — | — | — | — | — | — |

1. DDTs issue CSCdp46329 exists against this protocol with ESF/B8ZS.

ICC-T1 ISDN Span as Primary Timing Source

When an ICC-T1 ISDN span is configured as the primary timing source, the incoming clock on the ICC-T1 ISDN fails to synchronize if you are upgrading from an existing database to a new database in VCO/4K system software release 5.1(2).

To utilize your existing ICC-T1 ISDN (NI2, 4ESS, 5ESS, NTI, NTT) span as the primary timing source, complete the following steps when you upgrade to 5.1(2).



Note You do not need to perform the following procedure if you are adding a new T1 span as the primary timing source to the database or if you are currently running system software V5.1(1).



Note When you upgrade your software to 5.1(2), Cisco Systems recommends that you perform this procedure on the ICC T1 ISDN spans configured as the primary and secondary timing source.

- Step 1** Take the existing ICC T1 ISDN span, configured as the primary timing source, out of service (OOS).
- Step 2** From the ICC ISDN Span Configuration screen, perform the following steps.
- a. Change the REF CLOCK field parameter from **LOOP** to **1544**.
 - b. Press **Enter**.
 - c. Change the REF CLOCK field parameter from **1544** to **LOOP**.
 - d. Press **Enter**.
- Step 3** Return the ICC T1 ISDN span (from Step 1) back in service.

Caveats

This section contains open and resolved software caveats for this release of the Cisco VCO/4K. Caveats describe unexpected behavior or defects in Cisco VCO/4K system software or related hardware.

Resolved Caveats

Table 5 lists the caveats issued against release VCO/4K system software, and related optional software applications, that have been resolved in system software release 5.1(2).

Table 5 Resolved Caveats for Release 5.1(2)

| DDTS Issue | Description |
|------------|--|
| CSCdm35752 | ISDN RELEASE COMPLETE timer fails. |
| CSCdm39121 | Document changed: reference to Appendix F changed to Appendix E. Key combinations changed from Esc 9 to Esc * in Appendix E., Table E.1. |
| CSCdm40053 | When you power up the switch, or change the states of cards, the ports on one ISDN span may show OOS FE while the ports on the other ISDN span stays in SERV-IDLE. |

Table 5 Resolved Caveats for Release 5.1(2) (continued)


| DDTS Issue | Description |
|-------------------|---|
| CSCdm40323 | DC power connections depicted for terminal block type Power Entry Module of the VCO/4K are incorrect. |
| CSCdm47898 | SNMP walk on firmware not fully functional. |
| CSCdm48945 | Live Upgrade does not allow cutover of all cards. |
| CSCdm50255 | Live Upgrade causes standby crash. |
| CSCdm56431 | IPRC prompt libraries must be numbered consecutively. |
| CSCdm65311 | Designate out of service and in service on a port basis, not a span basis. |
| CSCdm68972 | ICC NET5 card stays in active state with D-channel failure. |
| CSCdm90549 | VCO sends wrong cause codes when network side at timers T303 and T305 expiry. |
| CSCdm91468 | ICC overlap receiving fails. |
| CSCdm94168 | Add latest ADI microcode revision to Porsche/Turbo/1407. |
| CSCdp09587 | ICC-T1 PRI/5ESS fails under load. |
| CSCdp23217 | Live Upgrade fails with Process Event Handler. |
| |  Note This issue is not fixed in prior releases, refer to the Important Notes section for workaround procedures. |
| CSCdp27863 | Digit collection drops some of the digits. |
| CSCdp30391 | ICC-T1 (NTT_CS) stops sending SABME. |
| CSCdp30563 | ICC/SPC do not re-flash during live upgrade. |
| CSCdp34436 | VCO sends DISC with wrong cause codes when altering. |
| CSCdp34440 | VCO sends DISC with no cause code when ALERT. |
| CSCdp35476 | ICC-T1 span OOS to IS, timer T309 failure. |
| CSCdp40089 | Path not setup properly upon ICC-E1 disconnect. |
| CSCdp41156 | PRI/N 5ESS backup D-channel stays OOF-FE. |
| CSCdp41515 | ICC-PRI/N 5ESS NFAS backup D-channel OOS-NE. |
| CSCdp41518 | MFC1 does not work in A-law for SPC version. |
| CSCdp43541 | \$49 command processed before \$70 command network status byte (NSB)11 is sent to controlling host; a NSB 11 indicates failure of D-channel memory allocation. |
| CSCdp45387 | The \$49 command with information element for non-ISDN port. |
| CSCdp46309 | Manually specify the day, month, and year of the log file before you display/print the file. |
| CSCdp46324 | Live Upgrade fails to file synchronization. |
| CSCdp48261 | When you configure an ICC span as ESF_NR, the SS7 signaling links through the ICC and D+I cards are not up and running. This occurs when SS7 sends messages through SS7 signaling links at the time of startup. The paths are set up between the D+I ports and the ICC T1 timeslots. SS7 restarts. When MTP L2/L3 is up, the signaling links are also up. When cktint is up and begins sending the GRS messages, the signaling links go down. |

Table 5 Resolved Caveats for Release 5.1(2) (continued)


| DDTS Issue | Description |
|-------------------|---|
| CSCdm40323 | DC power connections depicted for terminal block type Power Entry Module of the VCO/4K are incorrect. |
| CSCdm47898 | SNMP walk on firmware not fully functional. |
| CSCdm48945 | Live Upgrade does not allow cutover of all cards. |
| CSCdm50255 | Live Upgrade causes standby crash. |
| CSCdm56431 | IPRC prompt libraries must be numbered consecutively. |
| CSCdm65311 | Designate out of service and in service on a port basis, not a span basis. |
| CSCdm68972 | ICC NET5 card stays in active state with D-channel failure. |
| CSCdm90549 | VCO sends wrong cause codes when network side at timers T303 and T305 expiry. |
| CSCdm91468 | ICC overlap receiving fails. |
| CSCdm94168 | Add latest ADI microcode revision to Porsche/Turbo/1407. |
| CSCdp09587 | ICC-T1 PRI/5ESS fails under load. |
| CSCdp23217 | Live Upgrade fails with Process Event Handler. Note  This issue is not fixed in prior releases, refer to the Important Notes section for workaround procedures. |
| CSCdp27863 | Digit collection drops some of the digits. |
| CSCdp30391 | ICC-T1 (NTT_CS) stops sending SABME. |
| CSCdp30563 | ICC/SPC do not re-flash during live upgrade. |
| CSCdp34436 | VCO sends DISC with wrong cause codes when altering. |
| CSCdp34440 | VCO sends DISC with no cause code when ALERT. |
| CSCdp35476 | ICC-T1 span OOS to IS, timer T309 failure. |
| CSCdp40089 | Path not setup properly upon ICC-E1 disconnect. |
| CSCdp41156 | PRI/N 5ESS backup D-channel stays OOF-FE. |
| CSCdp41515 | ICC-PRI/N 5ESS NFAS backup D-channel OOS-NE. |
| CSCdp41518 | MFC1 does not work in A-law for SPC version. |
| CSCdp43541 | \$49 command processed before \$70 command network status byte (NSB)11 is sent to controlling host; a NSB 11 indicates failure of D-channel memory allocation. |
| CSCdp45387 | The \$49 command with information element for non-ISDN port. |
| CSCdp46309 | Manually specify the day, month, and year of the log file before you display/print the file. |
| CSCdp46324 | Live Upgrade fails to file synchronization. |
| CSCdp48261 | When you configure an ICC span as ESF_NR, the SS7 signaling links through the ICC and D+I cards are not up and running. This occurs when SS7 sends messages through SS7 signaling links at the time of startup. The paths are set up between the D+I ports and the ICC T1 timeslots. SS7 restarts. When MTP L2/L3 is up, the signaling links are also up. When cktint is up and begins sending the GRS messages, the signaling links go down. |

Table 5 Resolved Caveats for Release 5.1(2) (continued)

| DDTS Issue | Description |
|-------------------|--|
| CSCdp48822 | With ICC-T1/NI2 configuration in NFAS mode, one side may come up as OOS-FE. |
| CSCdp59647 | ICC generated Quiet tone needed. |
| CSCdp70853 | Per-port tracing for host messages not working. |
| CSCdp73923 | Adding SPC-OUP to resource groups in 2K mode is not supported; results in missing Outgoing Port Change of State (\$DA) reports. |
| CSCsf52497 | Make configurable port ranges clear in MIB. |
| CSCsf52515 | SNMP: the MIB object <code>ptcRfClck</code> returns wrong values. |
| CSCsf62653 | Using a 4xE1 you cannot set both the TS0 and TS16 to the same bit combination. |
| CSCsf62661 | The LIBRARY token argument should allow TMP=255. |
| CSCsf62766 | Inconsistency in the SNMP and license configuration. |
| CSCsf62875 | SNMP: the fpr testing prompts the MIB object <code>pmptLibCard</code> type incorrect. |
| CSCsf63272 | SNMP: the MIB object <code>sscAlarm</code> needs to be verified. |
| CSCsf73771 | Card alarms set on switchover. |
| CSCsf84732 | <p>A network status byte of \$23 (illegal address error) is returned by the Subrate Path Control (\$65) command when the \$65 command contains an address greater than 0x7ff. This occurs during the following scenario:</p> <ul style="list-style-type: none"> • The Subrate Switching Card (SSC) is active. • C-bus is enabled. • Several spans of an ICC-E1 card are then added. • The spans are located at address 0x900 and above. <p>When a \$65 command is sent to connect a subrate path through the spans, the switch returns NSB = 23.</p> |
| CSCsf85050 | Outpulsing without CPA (SPC-OUTP) fails. |
| CSCsf85189 | The \$C0 00 extended mode command returns a network status byte of \$01 (command successfully processed) when it should return a network status byte of \$1A (invalid clock value). |
| CSCsf85199 | Alarm Arbiter Card cannot make B-side active. |
| CSCsf85237 | SPC-OUTP does not work properly when used in a resource group. The system stops outpulsing even when SPC-OUTP is taken out of service. |
| CSCsf85261 | VCO/4K has a non-standard ARP reply. |

Open Caveats

Table 6 describes possible unexpected behavior by Cisco VCO/4K release 5.1(2). Unless noted, these caveats apply to all Cisco VCO/4K system software releases up to and including 5.1(2).

Table 6 Open Caveats up to and Including Release 5.1(2)


| DDTs Issue | Description |
|------------|--|
| — | <p>With Four Span E1 cards, resource groups can include channel 17, depending on whether the card spans are provisioned for CCS/31B or CAS. In CCS/31B mode, channel 17 is a bearer channel and can be added to a resource group. In CAS mode, channel 17 is used as the D-channel, and therefore, cannot be in a resource group.</p> <p>After you add and configure a Four Span E1 card, you can change the mode from the Resource Group Configuration screen. However, the system does not automatically remove channel 17 from the resource group when you change the mode from CCS/31B to CAS, or automatically add channel 17 to the resource group when you change the mode from CAS to CCS/31B. When you change the span from CCS/31B to CAS, all call attempts on channel 17 fail because channel 17 is no longer a bearer channel. When you change a span from CAS to CCS/31B mode, bandwidth is wasted.</p> <p>Resolution: Verify that resource groups properly reflect the nature of channel 17 when changing the mode of a Four Span E1 card span between CCS and CAS.</p> <p> Note The system administration console and SNMP do not prevent users from configuring bearer-channel signaling and timing parameters for channels that are not truly bearer channels. This applies to channel 17 for CAS mode and channel 1 for both modes. (Channel 1 is used for framing.) Users may find this misleading, but it is harmless.</p> |
| — | <p>SPC outpulsing defined for a card in level 2 of a VCO/80 may not always work.</p> <p>Workaround: Define SPC outpulsing in level 1 if you are experiencing problems.</p> |
| CSCdp23008 | No warning given if manually OOS-ing spans/ports with stable calls. |
| CSCdp49217 | FTP hangs while running ftp scripts to the VCO. |
| CSCdp64900 | When a new DSP is defined in the database as SPC-OUTP, on an SPC that has no SPC-OUTP on it, the SPC-OUTP will fail to work until the card is rebooted. |
| CSCdp68345 | <p>SNMP is not implemented for ISDN per-span overlap feature. Administration screen and SNMP support have been removed from the predecessor feature—the Enable NET5 Overlap Receiving feature flag.</p> <p>Workaround: Per-span overlap feature can be configured via the administration screen only.</p> |
| CSCdp71800 | <p>The ISDN timer T302 does not fire when the per-span overlap feature is set to ACCUMULATE.</p> <p>Workaround: Ensure that the other end sends SENDING COMPLETE IE.</p> |
| CSCdp71864 | The ISDN QSIG protocol used with the per-span overlap feature may send an incorrect state in the STATUS message; however, no functionality problems have been detected. |
| CSCdp77409 | <p>If an IPRC and an ICC are both present in the switch, the IPRC may prevent the download of the ICC.</p> <p>Resolution: If the problem occurs, it can be cleared by either taking the ICC card OOS and then back to active, or reseating the ICC.</p> |
| CSCdp79890 | During startup of host application, the VCO will close the socket and report “socket write error” OP would block in the log file. |

Table 6 Open Caveats up to and Including Release 5.1(2) (continued)

| DDTs Issue | Description |
|-------------------|--|
| CSCdp84612 | ISDN ACCUMULATE mode returns the wrong SETUP ACKNOWLEDGE. |
| CSCsf31137 | After a warm start, the system sends a (\$DC) report to start call processing before IPRC prompt downloading is complete. Workaround: From the System Host Configuration screen, enable the Host Control of Call Load feature. When you enable this feature, host links are not marked as available for call processing until a \$C0 04 host command is received from the host. |
| CSCsf41605 | If an error occurs in the disk operation when you use the Data Base Store or Data Base Retrieve commands (under File Utilities), no warning is displayed to indicate that all files may not have been copied correctly. |
| CSCsf41657 | If a SLIC ICT (incoming trunk) is telerouted to a SLIC OGT (outgoing trunk), and the SLIC OGT is ringing during a switchover, the SLIC OGT does not stop ringing when the SLIC ICT goes back on-hook. |
| CSCsf41717 | Avoid using the Software/Firmware Configuration screen to view the contents of floppy diskettes (device A:). This screen does not produce consistent information. Workaround: To view the contents of a floppy diskette, use the Disk Utilities Show Directory function. |
| CSCsf51888 | You must specify a resource type when you use the RELEASE inpulse rule token. If you do not specify a resource (IPRC, MRC, DRC, DTG, or CPA), the RELEASE token has no effect. |
| CSCsf51960 | If you use an Ethernet system host interface with up to four hosts and high loads, the system may fail. Higher loads may support even fewer host connections. |
| CSCsf51966 | One of the fields in Trunk Timing configuration is the Wink Send. For E1, this is the time period of the delayed dial signal. Tests have shown that this is about 60ms as opposed to the 30ms stated in the specifications. |
| CSCsf52155 | When the Four Span T1 is configured as FXO-LS, the card processes a WINK command after it seizes out. Workaround: Do not use a WINK in an outpulse rule when Four Span T1 cards are configured as FXO-LS. |
| CSCsf52242 | MF Digit (\$D0) reports indicating garbled digits are not sent to the host when the inpulse rule performing the collection contains the reporting control tokens REP EACH or REP NEXT. The system sends an Inpulse Rule Complete (\$DD) report informing the host that the inpulse rule was aborted, but does not send a subsequent \$D0 report. All other conditions that cause an inpulse rule to abort generate an additional report explaining the cause. If you use the reporting control token REP END in the inpulse rule, the \$DD report correctly contains a \$D0 segment indicating that the MF digits are garbled. If an inpulse rule with a REP EACH or REP NEXT token aborts while performing MF digit collection without generating an additional report, assume that the digit collection is garbled. |
| CSCsf52244 | You can use the \$67 command to append an odd number of digits to a field, which already contains an odd number of digits. However, the last digit of the first string and the first digit of the last string are lost. Two zeros are added to the end of the string to provide the correct number of digits. Workaround: To avoid this condition, use two-digit fields for digit storage instead of appending digits to an existing field. |

Table 6 Open Caveats up to and Including Release 5.1(2) (continued)

| DDTs Issue | Description |
|------------|---|
| CSCsf52245 | <p>You can use the \$67 command to collect up to 40 digits. Specify the number of digits that you want to collect in the Digit Collection Control byte. Command processing does not currently check this value to verify that the number is less than 40. If you specify a number greater than 40, the system still attempts to collect only 40 digits. The command is not rejected with a Network Status byte value of \$2C, as would be expected.</p> |
| | <p>Workaround: Specify 40 or less digits in the Digit Collection Control byte.</p> |
| CSCsf52246 | <p>An Inpulse Rule Complete (\$DD) report is generated when an inpulse rule aborts due to a CPA exhaust condition. The report does not, however, correctly specify the cause for the abort. The report indicates that the rule aborted because no outpulse channels were available (T = 1 in the Inpulse Rule/DVC Port byte offset 10). However, the CPA exhaust condition is identified by a Resource Allocation (\$D6) report, which specifies a resource limitation for the CPA resource group.</p> |
| CSCsf52247 | <p>You may experience a corrupted database if you inadvertently try to load a backup copy of an outdated database. The system does not detect the outdated database and does not automatically perform the database conversion.</p> |
| CSCsf52300 | <p>When the caller enters digits, a combination of the \$67 command and inpulse rule is being processed. The digits that are reported are the first three digits that the caller input. Those digits are reported in a \$DD report and are also stored in field 1.</p> <p>A second collection command (by means of the inpulse rule specified in the \$6A command) does not completely override the first collection command (in the \$67 command). The DRC collects only 3 digits and reports them to the host, per the \$67 command, but then stores those digits in field 1 per the inpulse rule.</p> <p>Workaround: Have the application remove the receiver attached with the \$67 command when the outgoing hangs up. Then send the \$6C, and then the \$6A to start the inpulse rule.</p> |
| CSCsf52355 | <p>When a channel RESTART occurs, the system issues an ISDN Port Change of State (\$EA) report. The event code (byte offset 16 for standard API, byte offset 20 for extended API) contains a value of \$4D (RELEASE message received) instead of a \$46 (RESTART message received). The IEs received are included in the report, therefore, the host can still interpret the report as a RESTART.</p> |
| CSCsf52581 | <p>Aux1 alarms triggered by the hardware (power supply, fan unit, or ring voltage failure) are not displayed on the System Alarms Display screen. Therefore, remote users cannot determine if a major hardware alarm is set.</p> |
| CSCsf62790 | <p>A load seize on inpulse rules with record and speak tokens at 22 seizures causes IPRC cards to go OOS. If simultaneous seizures occur while the IPRC is recording and playing temporary prompts, on systems configured with MFCR2 and Four Span E1 cards, which use Channel Associated Signaling (CAS) with CRC4 set to ON, the IPRC goes out of service and causes the system to fail.</p> <p>The IPRC also goes out of service and causes the system to dump and reboot when an inpulse rule (used to collect DTMF or MFCR2 digits) is followed by an inpulse rule (used to record a prompt) with the GOTO RULE or DO IRULE token.</p> |
| CSCsf62862 | <p>A network status byte of \$02 (Invalid command function ID) is returned by the Subrate Path Control (\$65) command when the \$65 command contains 82 destinations. The ISDN Port Control (\$49) command also returns a network status byte of 02 if the \$49 command contains between 258 and 261 bytes.</p> |

Table 6 Open Caveats up to and Including Release 5.1(2) (continued)

| DDTs Issue | Description |
|------------|---|
| CSCsf62917 | <p>There is a mismatch between the on-line and diskette disk utilities. Files that are created with the diskette disk utilities and which have special characters in them, such as underscores, are not readable with the on-line system software disk utilities when the system is up and running.</p> |
| CSCsf62948 | <p>Four Span T1 and Four Span E1 cards perceive the test patterns from a TTS-3 Analyzer as incoming seizures and generate FRM373 (Internal Message Length Error) and FRM102 (Card MSG) errors.</p> <p>Resolution: Remove the test boxes before connecting the system to the network and processing calls.</p> |
| CSCsf62956 | <p>The administration console intermittently gets re-initialized when the system reboots. This causes the keyboard type to reset to Numeric, instead of Application, which is required by the system software.</p> <p>Workaround: To correct this condition on systems with VT220 consoles, perform the following steps:</p> <ol style="list-style-type: none"> a. From the login screen, press PF3. The Set-Up Directory menu appears. b. Use the arrow keys to position the cursor in the General field and press Enter. The General Set-Up Menu appears. c. Use the arrow keys to position the cursor in the Keypad=Numeric field and press Enter. The field toggles to Keypad=Application. d. Press PF3 to save the setting and return to the login screen. <p>To correct this condition on systems with WYSE consoles, perform the following steps:</p> <ol style="list-style-type: none"> a. From the login screen, press PF3. The Set-Up Directory menu appears. b. Press PF11 (Kbd2). The Keyboard2 Set-Up Menu appears with the cursor in the Keypad=Numeric field. c. Press Enter. The field toggles to Keypad=Application. d. Press PF4 to save the setting and return to the login screen. |
| CSCsf62982 | <p>Major Alarm Not Set on Loss of Hosts: The system does not generate the following alarm when all external host connections are lost and TeleRouter is not enabled.</p> <p>ALM011: No Hosts Available</p> <p>If you disable TeleRouter, after you enabled it, the system still does not generate the alarm unless you configure a new Ethernet host, and then all host connections are lost.</p> |
| CSCsf63022 | <p>Telerouter \$D5 (Routing Action) reports do not appear in the system trace file, but they are sent to the host.</p> |
| CSCsf63117 | <p>When you change the system host configuration, the system may generate the following error:</p> <p>RED44: Standby DB Update Error - Bad Record Count, File [filename]</p> <p>When this error occurs, the changes made on the active side do not get written to the standby side.</p> |
| CSCsf63144 | <p>During the broadcast download cycle, Four Span T1 and Four Span E1 cards intermittently generate an internal error code 1. The broadcast download fails, but the system recovers and successfully performs a direct download to each card.</p> <p>Resolution: None. This issue does not affect service.</p> |

Table 6 Open Caveats up to and Including Release 5.1(2) (continued)

| DDTs Issue | Description |
|------------|--|
| CSCsf63245 | If you attempt to update the gateway routing tables before you install and enable Ethernet, the gateway routing tables get corrupted. Resolution: Install and enable Ethernet before you attempt to update the routing tables. |
| CSCsf63261 | If you use SNMP to configure resource groups on redundant systems, the port.tbl file gets corrupted and ports are missing from the resource groups. |
| CSCsf63269 | The RELEASE DTG token does not work: The RELEASE outpulse rule token does not release the DTG/DTG-2 and causes the system to log an error during inpulse rule execution. |
| CSCsf63349 | Outgoing ports on Single Span T1 cards intermittently become stuck in CP_OUTPUL after incoming seizures. |
| CSCsf63398 | If you add or delete a tone generator card while another tone generator is outpulsing, the switch may be unable to do further outpulsing and may even fail. Workaround: Do not add or delete tone generator cards while the switch is processing calls. |
| CSCsf63502 | From the active side of the system, if you change the mode on a Four Span T1 card from active to maintenance, and then to out of service, the changes also occur on the standby side. However, if you change the mode back to active from the active side, the card stays in maintenance mode on the standby side. If the switch changes over while this condition exists, calls are lost. Workaround: From the active side of the switch, change the mode back to out of service, to active, to maintenance, and then back to active. This causes the standby side to change from maintenance to active mode. |
| CSCsf63569 | If the outgoing Four Span T1 trunk resource groups are set to ROTARY search, the ports in the resource group get stuck in CP_WTF SUP. Workaround: Use CYCLIC search. |
| CSCsf63570 | If you press the ABORT button on the system controller it has no effect if you have not installed the Ethernet option. |
| CSCsf73828 | If you delete a DTG from the database in an active system, outpulsing ceases. This occurs even when there is no DTG physically present but there is a working DTG-2 available. Workaround: Reboot the system, or perform a system switchover to the other side, to restore normal operation of the DTG-2. When you switch back to the first side (after the switchover) the system continues to operate normally. |
| CSCsf73902 | The system does not log an error indication when the switch fails. Earlier releases of the software logged an error indication to aid in determining the cause of failure. |
| CSCsf73909 | Following a warm reset, the 4xE1 cards display ACTIVE while downloading. |
| CSCsf73960 | The FTP quote command is inconsistent. The quote compress command requires a drive specification (c:), but the uncompress and the split commands cannot accept it. |
| CSCsf73961 | The FTP command, <code>quote join c:core1 c:core1.x??</code> , does not work. The command results in the following error message: 500, Command not understood |
| CSCsf74440 | The Display Card Data screen does not record slips. The system was forced to slip by changing the AM2-D bulk call generator from internal to LINE A. Slips are recorded at the load box but the slip count does not increase on the Display Card Data screen. |

Table 6 Open Caveats up to and Including Release 5.1(2) (continued)

| DDTs Issue | Description |
|-------------------|--|
| CSCsf84591 | The active and standby sides may not correctly reflect the license of the opposite side: The numbers match but the active side reports a lower number of timeslots being allocated on the active side than on the standby side. Workaround: Set the license on both sides from the install diskettes. |
| CSCsf84601 | When the system attempts to delete large trace files, the following message may appear: Error During Disk Operation Resolution: Delete a large trace file by means of FTP. However, tracing should not be enabled on a loaded switch for extended periods of time. |
| CSCsf84608 | The prompt library is not working properly. When the prompts are loaded, the library menu lists the prompts and the duration of each, but the total usage field displays an invalid sum of the prompt times. The IPRC behaves normally, and no other effects are noticed in the system. |
| CSCsf84795 | The Programmable Trunk Configuration (non ICC or 4xT1/E1), Diagnostics Port Display, Call Progress Tone Monitor, and Routing Statistics Display screens support only two digits for inpulse and outpulse rules. In a future release, all appropriate fields will be increased to three digits to support the increased inpulse and outpulse rule system limits. |
| CSCsf84962 | All inpulse rules are aborting on port \$47F when using an ICC-T1 and a 1xT1. This does not, however, occur with a DTG card. |
| CSCsf84981 | The following error message may appear when you activate the SPC. DWNLD Error opening specs file (filename) This error is expected and should not indicate any unusual error condition. |
| CSCsf85047 | On cold or warm starts, the Subrate Switching Card (SSC) downloads then goes into maintenance (M) state. Workaround: Take the card out of service (OOS), then bring it to an active (A) state. |
| CSCsf85087 | The ICC-E1 does not work with the D+I card when the backplane law (System Features screen) and all ICC-E1 ports (ICC Programmable Trunk Configuration screen) are set to Mu-law. |
| CSCsf85092 | When your system is operating in extended mode, the "C" bit in the last fragment of the \$83 report is reporting digits rather than a 0 (zero). This bit should report a zero indicating that this is the last fragment. |
| CSCsf85097 | When you first add an SSC to the database, the Card Summary screen shows a port address of zero. The card downloads, but rather than the card going active (A), it goes into maintenance (M) state. If you take the card out of service (OOS) then bring it to an active state, the following message may appear: Download is in Progress Workaround: To display the correct port address for the SSC, and have the card go into an active state, you must reboot the system. |
| CSCsf85137 | If a DSP SRM is not physically installed on the SPC, but the DSPs are configured in the database, the system displays the SPC with a status of Maintenance (M) rather than Out of Service (O). |

Table 6 Open Caveats up to and Including Release 5.1(2) (continued)

| DDTs Issue | Description |
|------------|---|
| CSCsf85166 | When the system is running in extended mode, the api_stat.c routine to format the rack, level, and slot in the \$83 command from tokens does not work correctly. In extended mode, the system should add two bytes before rack and level, and two bytes before slot and span. Instead, it is adding one filler byte between rack, level, slot, and span. |
| CSCsf85214 | Spans that have been taken OOS are reactivated on a warm reboot. |

Related Documentation

The following documents contain information that may be useful to system software 5.1(2) users.

- *Cisco VCO/4K Software Installation Guide*
- *Cisco VCO/4K System Administrator's Guide*
- *VCO/4K Card Technical Descriptions*
- *VCO/4K Capacity Planning Guide*
- Product supplements for optional software, including:
 - *VCO/4K Management Information Base (MIB) Reference Guide*
 - *VCO/4K Management Information Base (MIB) User's Guide*
 - *VCO/4K Standard Programming Reference*
 - *VCO/4K Extended Programming Reference*
 - *VCO/4K ASIST/API Programming Reference*
 - *VCO/4K TeleRouter Reference Guide*
 - *VCO/4K ICC ISDN Supplement*
 - *VCO/4K Ethernet Supplement*
 - *VCO/4K Maser Configuration Guide Release Notes*
 - *North America 2 Tone Plan Supplement*
 - Applicable tone plan supplements

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- Telnet: cco.cisco.com
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

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