

如何为多种Cisco IOS软件版本选择和升级CIP或CPA微码

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简介

本文解释如何确定应该用一个特定Cisco IOS软件版本使用的微码版本。它也解释如何执行升级。

Cisco IOS软件每版本有其自己匹配的套信道接口处理器(CIP)和信道端口适配器(CPA)微码软件，不可能被交互混合。否则，CIP或CPA没有被认可，创建一整个网络的中断。例如，如果使用CIP微码CPA，然后CPA不会被认可，并且主机会话不会建立。

先决条件

要求

本文档的读者应掌握以下这些主题的相关知识：

- 如何配置Cisco CIP和xCPA一定数量的软件应用的和SNA连接和IBM协议支持的。参考[配置CSNA和CMPC](#)。
- CIP和XCPA微码的警告。参考[Cisco IOS软件并且微编码信道接口处理器和信道端口适配器微码版本注意和微码升级需求的指南](#)部分。
- 如何执行Cisco IOS软件升级在Cisco路由器。

使用的组件

本文档中的信息基于以下软件和硬件版本：

- Cisco IOS软件版本12.0(28)，升级对12.2(23)
- CIP2有硬件修订版5.00和CIP微码版本26-32的控制器，升级到28-15
- 主机多虚拟存储操作系统的所有版本
- 虚拟电信接入方式版本3.4或以上
- 有ESCON CIP2卡的Cisco 7500路由器

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

规则

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

何时升级微码？

一般，在稳定网络环境，软件升级被担保，当有在一个最新软件版本修复的已知问题或bug时或，当有在一个最新软件版本只存在的希望的新特性时。

此规则应用两个对CIP和CPA微码。

选择CIP或CPA微码的步骤

在本文中，使用有ESCON CIP2卡的一个Cisco 7500路由器。它运行Cisco IOS软件版本12.0(28)以微码版本cip26-32。路由器为Cisco Systems网络体系结构(SNA)只配置，与此信道配置：

```
Current configuration:
!
! Last configuration change at 14:06:30 UTC Wed Feb 25 2004
! NVRAM config last updated at 14:06:31 UTC Wed Feb 25 2004
!
version 12.0
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
service udp-small-servers
service tcp-small-servers
!
hostname powers
!
boot system tftp rsp-ajsv-mz.120-28 10.48.64.100
boot system flash
logging buffered 2000000 debugging
!
microcode CIP flash slot0:cip26-32
microcode reload
!
source-bridge ring-group 100
!
!
interface Channel2/0
 no ip address
 no ip directed-broadcast
 no keepalive
 csna 0110 00
!
```

```

interface Channel2/1
no ip address
no ip directed-broadcast
no keepalive
shutdown
!
interface Channel2/2
no ip address
no ip redirects
no ip unreachable
no ip directed-broadcast
no ip proxy-arp
no keepalive
lan TokenRing 0
source-bridge 20 1 100
adapter 15 4000.0666.0315
!

```

1. 要确定哪个微码版本运行，请发出**show controllers cbus**命令。

```

powers# show controllers cbus
!--- Output suppressed. slot2: CIP2, hw 5.00, sw 26.32, ccb 5800FF40, cmdq 48000090, vps
8192
software loaded from flash slot0:cip26-32_kernel_hw5
Loaded:seg_802      Rev. 0    Compiled by cip-release on 19-Jan-2004
Loaded:seg_csna     Rev. 0    Compiled by cip-release on 19-Jan-2004
Loaded:seg_eca      Rev. 0    Compiled by cip-release on 19-Jan-2004
Loaded:seg_tcpip    Rev. 0    Compiled by cip-release on 19-Jan-2004
Loaded:seg_tn3270   Rev. 0    Compiled by cip-release on 19-Jan-2004
EPROM version 2.1, VPLD version 5.9
ECA0: hw version 01, microcode version C20602C3
ECA1: hw version 01, microcode version C20602C3
Load metrics:
Memory    dram 106262600/128M
CPU        1m  1%, 5m  1%, 60m  1%
DMA        1m  1%, 5m  0%, 60m  0%
Vir0       1m  1%, 5m  1%, 60m  0%
Vir1       1m  0%, 5m  0%, 60m  0%
Channel2/0
gfreeq 48000170, lfreeq 48000260 (4544 bytes)
rxlo 4, rxhi 87, rxcurr 0, maxrxcurr 0
txq 48000268, txacc 480000F2 (value 47), txlimit 47
Channel2/1
gfreeq 48000170, lfreeq 48000270 (4544 bytes)
rxlo 4, rxhi 87, rxcurr 0, maxrxcurr 0
txq 48000278, txacc 480000FA (value 47), txlimit 47
Channel2/2
gfreeq 48000170, lfreeq 48000280 (4544 bytes)
rxlo 4, rxhi 87, rxcurr 0, maxrxcurr 0
txq 48000288, txacc 48000102 (value 47), txlimit 47
Channel2/2, txq 48000288, txacc 48000102 (value 47), txlimit 4

```

警告：发出**show microcode**命令不显示正确微码。默认情况下实际上，此命令显示用此Cisco IOS软件版本关联的默认CIP微码，并且，若有，装载它。并且，如果配置此默认微码的微码CIP闪存**flash_file_name**命令，它不会在配置里显示：

```

powers# show controllers cbus
!--- Output suppressed. slot2: CIP2, hw 5.00, sw 26.32, ccb 5800FF40, cmdq 48000090, vps
8192
software loaded from flash slot0:cip26-32_kernel_hw5
Loaded:seg_802      Rev. 0    Compiled by cip-release on 19-Jan-2004
Loaded:seg_csna     Rev. 0    Compiled by cip-release on 19-Jan-2004
Loaded:seg_eca      Rev. 0    Compiled by cip-release on 19-Jan-2004
Loaded:seg_tcpip    Rev. 0    Compiled by cip-release on 19-Jan-2004
Loaded:seg_tn3270   Rev. 0    Compiled by cip-release on 19-Jan-2004
EPROM version 2.1, VPLD version 5.9

```

```

ECA0: hw version 01, microcode version C20602C3
ECA1: hw version 01, microcode version C20602C3
Load metrics:
Memory      dram 106262600/128M
CPU          1m   1%, 5m   1%, 60m  1%
DMA          1m   1%, 5m   0%, 60m  0%
Vir0         1m   1%, 5m   1%, 60m  0%
Vir1         1m   0%, 5m   0%, 60m  0%
Channel2/0
  gfreeq 48000170, lfreeq 48000260 (4544 bytes)
  rxlo 4, rxhi 87, rxcurr 0, maxrxcurr 0
  txq 48000268, txacc 480000F2 (value 47), txlimit 47
Channel2/1
  gfreeq 48000170, lfreeq 48000270 (4544 bytes)
  rxlo 4, rxhi 87, rxcurr 0, maxrxcurr 0
  txq 48000278, txacc 480000FA (value 47), txlimit 47
Channel2/2
  gfreeq 48000170, lfreeq 48000280 (4544 bytes)
  rxlo 4, rxhi 87, rxcurr 0, maxrxcurr 0
  txq 48000288, txacc 48000102 (value 47), txlimit 47
Channel2/2, txq 48000288, txacc 48000102 (value 47), txlimit 4

```

2. 要确定哪CIP微码可以以Cisco IOS软件版本12.2(23)运行，请去[网络管理软件中心](#)。
3. 点击**Cisco IOS版本12.2的CIP/CPA微码**。Software Download页出现，列出所有微码版本能使用与Cisco IOS软件版本12.2。图

1

Software Center (Downloads)

Network Management Software

Please refer to the following information:

[Release Notes for CIP and CPA Microcode and Upgrade Instructions](#)

[Access Cisco Bug Navigator](#)

Download Channel Interface Processor (CIP) or Channel Port Adapter (CPA) Microcode

[CIP/CPA Microcode for Cisco IOS Release 12.3T](#)

[CIP/CPA Microcode for Cisco IOS Release 12.3](#)

[CIP/CPA Microcode for Cisco IOS Release 12.2T](#)

[CIP/CPA Microcode for Cisco IOS Release 12.2](#)

[CIP/CPA Microcode for Cisco IOS Release 12.1T](#)

[CIP/CPA Microcode for Cisco IOS Release 12.1](#)

[CIP/CPA Microcode for Cisco IOS Release 12.0T](#)

[CIP/CPA Microcode for Cisco IOS Release 12.0](#)

[CIP/CPA Microcode for Cisco IOS Release 11.3T](#)

[CIP Microcode for Cisco IOS Release 11.3](#)

[CIP Microcode for Cisco IOS Release 11.2](#)

[CIP Microcode for Cisco IOS Release 11.2-BC](#)

[CIP Microcode for Cisco IOS Release 11.1](#)

[CIP Microcode for Cisco IOS Release 11.0-BT](#)

CIP ucode is bundled as a part of the Cisco IOS Software for releases before Release 11.1.

4. 在Cisco CIP Microcode页，请点击**cip28-15.bin**。图

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Cisco CIP Microcode for 12.2 and 12.3

Select a File to Download

Sort by:

Filename	Release	Date	Size (Bytes)
cip28-15.bin CIP/CIP2 Microcode for IOS 12.2	28-15	19-DEC-2003	3937792
cip28-15.bugfixes.txt Bug fixes in release 28-15	28-15	19-DEC-2003	1644
xcpa28-15.bin XCPA Microcode for IOS 7200-IOS 12.2	28-15	19-DEC-2003	4205056
cip28-14.bugfixes.txt Bug fixes in release 28-14	28-14	31-JUL-2003	744
xcpa28-14.bin XCPA Microcode for IOS 7200-IOS 12.2	28-14	31-JUL-2003	4195840
cip28-14.bin CIP/CIP2 Microcode for IOS 12.2	28-14	31-JUL-2003	3928064

根据列表，当本文准备，cip28-15.bin是微码的新版本。总是被建议您使用最新的可用的微码。

5. 在Software Download页，右键单击cip28-15.bin和选择保存目标至于保存微码到一个本地文件夹。图

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TECHNICAL SUPPORT

Software Download

By proceeding to download this file, or by sending it to another individual by uuencoded email transmission, you agree to abide by the terms and conditions set forth in Cisco's [Software License Agreement](#).

Download : [cip28-15.bin](#) (Right click on this link and use 'Save Target As')

Details

Release	28-15
Description	CIP/CIP2 Microcode for IOS 12.2
Size	3937792
BSD Checksum	-
Router Checksum	0x4c74
MD5	1b84efcbf053ad2ec5c7bab62f636b2d
Date Published:	19-DEC-2003

Special File Publishing

Use this to publish a file for a customer who can retrieve it with a special access code.

Description: (required)

注意： 参考[Cisco IOS软件并且微编码信道接口处理器和信道端口适配器微码版本](#) Cisco IOS软件版本和他们对应的CIP和CPA微码完整列表的[注意和微码升级需求的兼容性](#)部分。如果没找到您的Cisco IOS软件版本的微码版本在一个特定的表里，您可以能查找它在一个最新Cisco IOS软件版本的表里或是在同一个Cisco IOS软件版本的不同产品系列的表里。例如，Cisco IOS软件版本12.1(7)T的最新的对应的CIP或CPA微码在Cisco IOS软件版本12.2页的CIP/CPA微码，因为Cisco IOS软件12.1用途微码版本28-x。

在升级微码之前执行的步骤

在升级微码前，您必须确保，信道连接适当地被关闭，使用此步骤，：

1. 执行在主机的这些步骤：发出D NET， MAJNODE发出命令查找是活跃的外部通信适配器(XCA)主节点和找出那个此连接的(在本例中我们使用QQXCA0)。

```
* CNM01      D NET, MAJNODES

CNM01      IST097I  DISPLAY  ACCEPTED
' CNM01

IST350I    DISPLAY TYPE = MAJOR NODES
IST089I    VTAMSEG  TYPE = APPL SEGMENT      , ACTIV
IST089I    NETM1PU  TYPE = PU T4/5          , ACTIV
IST089I    ISTPDILU TYPE = CDRSC SEGMENT     , ACTIV
IST089I    ISTDJCP  TYPE = ADJCP MAJOR NODE , ACTIV
```

```

IST089I  ISTCDRDY TYPE = CDRSC SEGMENT      , ACTIV
IST089I  ISTRTPMN TYPE = RTP MAJOR NODE    , ACTIV
IST089I  ISTTRL   TYPE = TRL MAJOR NODE    , ACTIV
IST089I  L3270T  TYPE = LCL 3270 MAJ NODE, ACTIV
IST089I  TSOMVS1 TYPE = APPL SEGMENT       , ACTIV
IST089I  NSPAPPL TYPE = APPL SEGMENT       , ACTIV
IST089I  APPCMVS1 TYPE = APPL SEGMENT       , ACTIV
IST089I  NETVMVS1 TYPE = APPL SEGMENT       , ACTIV
IST089I  TCP1AP1 TYPE = APPL SEGMENT       , ACTIV
IST089I  NETTM1AP TYPE = APPL SEGMENT       , ACTIV
IST089I  JES2APPL TYPE = APPL SEGMENT       , ACTIV
IST089I  DKNETV  TYPE = APPL SEGMENT       , ACTIV
IST089I  DKDDDLU TYPE = LUGROUP MAJ NODE   , ACTIV
IST089I  DKSTATIC TYPE = XCA MAJOR NODE    , ACTIV
IST089I  DKAPPN  TYPE = XCA MAJOR NODE    , ACTIV
IST089I  DKTN3270 TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  DKCHAN  TYPE = CA MAJOR NODE     , ACTIV
IST089I  DKLOCAL TYPE = LCL 3270 MAJ NODE, ACTIV
IST089I  DKXCAHPR TYPE = XCA MAJOR NODE    , ACTIV
IST089I  DKDSPU  TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  DKSNAPU TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  DK3174  TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  DKXCASUB TYPE = XCA MAJOR NODE    , ACTIV
IST089I  DKXNJJE TYPE = APPL SEGMENT       , ACTIV
IST089I  TRIGGER TYPE = PU T4/5           , ACTIV
IST089I  DKCDRM  TYPE = CDRM SEGMENT       , ACTIV
IST089I  ISTLSXCF TYPE = LCL SNA MAJ NODE  , ACTIV
IST089I  QQSWITCH TYPE = SW SNA MAJ NODE  , ACTIV
IST089I  QQDUSK  TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  ISTDSWMN TYPE = SW SNA MAJ NODE  , ACTIV
IST089I  QQGRAWN TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  QQSMN1  TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  QQPOWERS TYPE = SW SNA MAJ NODE  , ACTIV
IST089I  QQXCA0  TYPE = XCA MAJOR NODE    , ACTIV
IST089I  DKTCP   TYPE = APPL SEGMENT       , ACTIV
IST1454I          39 RESOURCE(S) DISPLAYED
IST314I  END

```

这能通过发出on命令也看到活动节点：

```

* CNM01      D NET, ID=QQXCA0

      CNM01      IST097I  DISPLAY  ACCEPTED
' CNM01
IST075I  NAME = QQXCA0          , TYPE = XCA MAJOR NODE
IST486I  STATUS= ACTIV          , DESIRED STATE= ACTIV
IST1021I MEDIUM=RING          , ADAPNO= 15, CUA=0200, SNA SAP= 4
IST654I  I/O TRACE = OFF, BUFFER TRACE = OFF
IST1656I VTAMTOPO = REPORT   , NODE REPORTED - YES
IST314I  END

```

撤销通过发出V NET,INACT,ID=QQXCA0,I命令使用，QQXCA0的XCA主节点XCA主节点和I的名称指示立即。

```

* CNM01      V NET, INACT, ID=QQXCA0, I

      CNM01      IST097I  VARY      ACCEPTED
      CNM01      IST1196I  APPN CONNECTION FOR NETA.POWERS
                        INACTIVE - TGN = 152
      CNM01      IST105I  QQXCA0  NODE NOW INACTIVE

```

发出D NET，MAJNODE再发出命令确保，节点在活动节点列表没出现。

```

* CNM01      D NET, MAJNODES

      CNM01      IST097I  DISPLAY  ACCEPTED
' CNM01

```

```

IST350I  DISPLAY TYPE = MAJOR NODES
IST089I  VTAMSEG  TYPE = APPL SEGMENT      , ACTIV
IST089I  NETM1PU  TYPE = PU T4/5          , ACTIV
IST089I  ISTDILU  TYPE = CDRSC SEGMENT     , ACTIV
IST089I  ISTDJCP  TYPE = ADJCP MAJOR NODE , ACTIV
IST089I  ISTDGRDY TYPE = CDRSC SEGMENT     , ACTIV
IST089I  ISTRTPMN TYPE = RTP MAJOR NODE    , ACTIV
IST089I  ISTTRL   TYPE = TRL MAJOR NODE    , ACTIV
IST089I  L3270T  TYPE = LCL 3270 MAJ NODE, ACTIV
IST089I  TSOMVS1  TYPE = APPL SEGMENT     , ACTIV
IST089I  NSPAPPL  TYPE = APPL SEGMENT     , ACTIV
IST089I  APPCMVS1 TYPE = APPL SEGMENT     , ACTIV
IST089I  NETVMVS1 TYPE = APPL SEGMENT     , ACTIV
IST089I  TCP1AP1  TYPE = APPL SEGMENT     , ACTIV
IST089I  NETTM1AP TYPE = APPL SEGMENT     , ACTIV
IST089I  JES2APPL TYPE = APPL SEGMENT     , ACTIV
IST089I  DKNETV   TYPE = APPL SEGMENT     , ACTIV
IST089I  DKDDDLU  TYPE = LUGROUP MAJ NODE , ACTIV
IST089I  DKSTATIC TYPE = XCA MAJOR NODE    , ACTIV
IST089I  DKAPPN   TYPE = XCA MAJOR NODE    , ACTIV
IST089I  DKTN3270 TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  DKCHAN   TYPE = CA MAJOR NODE     , ACTIV
IST089I  DKLOCAL  TYPE = LCL 3270 MAJ NODE, ACTIV
IST089I  DKXCAHPR TYPE = XCA MAJOR NODE    , ACTIV
IST089I  DKDSPU   TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  DKSNAPU  TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  DK3174   TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  DKXCASUB TYPE = XCA MAJOR NODE    , ACTIV
IST089I  DKXNJJE  TYPE = APPL SEGMENT     , ACTIV
IST089I  TRIGGER  TYPE = PU T4/5          , ACTIV
IST089I  DKCDRM   TYPE = CDRM SEGMENT     , ACTIV
IST089I  ISTLSXCF TYPE = LCL SNA MAJ NODE , ACTIV
IST089I  QQSWITCH TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  QQDUSK   TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  ISTDWMMN TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  QQGRAWN  TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  QQSMN1   TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  QQPOWERS TYPE = SW SNA MAJ NODE   , ACTIV
IST089I  DKTCP    TYPE = APPL SEGMENT     , ACTIV
IST1454I          38 RESOURCE(S) DISPLAYED
IST314I  END

```

!--- The QQXCA0 node no longer appears here.

变化设备脱机通过发出MVS命令**v nnn**，**offline**命令，其中**nnn**是设备地址(200，在本例中)。

V 200,OFFLINE

```
IEF281I 0200 NOW OFFLINE
```

验证设备通过发出**D M=DEV(nnn)**命令是脱机，**nnn**再是设备地址(200)。

```

00000280  D M=DEV(200)

00000080  IEE174I 17.08.41 DISPLAY M 047
00000080  DEVICE 0200 STATUS=OFFLINE
00000080  CHP                      42
00000080  DEST LINK ADDRESS          0D
00000080  DEST LOGICAL ADDRESS       00
00000080  PATH ONLINE                 Y
00000080  CHP PHYSICALLY ONLINE     Y
00000080  PATH OPERATIONAL           Y
00000080  MANAGED                     N
00000080  MAXIMUM MANAGED CHPID(S) ALLOWED:  0
00000080  ND                          = NOT AVAILABLE
00000080  DEVICE NED = C7500 .3 .CSC.A .73000109

```


2. 由于在上面，信道连接当前是非激活的;通过发出**show extended channel x/y statistics**命令验证此非活动状态在路由器，x是CIP slot，并且y是其端口。

```
powers# show extended channel 2/0 statistics
```

```
Path: 0110  -- ESTABLISHED
                Command          Selective System Device  CU
Dev Connects  Retries  Cancels      Reset   Reset  Errors  Busy
  00      37661    17438        4         0       2       0     0

                Blocks          Bytes          Dropped Blk   Memd
Dev-Lnk  Read  Write   Read  Write  Read    Write  wait Con
  00-00  17444 17442  810822 960552  0        0      0     N
```

```
Last statistics 6 seconds old, next in 4 seconds
```

```
powers#
```

注意：联系人值设备的200 N在此输出中表明不再有激活信道连接。

执行升级

这时，您准备执行微码升级。首先，然而，对Cisco IOS软件版本12.2(23)的升级通过发出**show version**命令然后确认它：

```
powers# show version
```

```
Cisco Internetwork Operating System Software
IOS (tm) RSP Software (RSP-A3JSV-M), Version 12.2(23), RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2004 by cisco Systems, Inc.
Compiled Wed 28-Jan-04 14:00 by kellmill
Image text-base: 0x60010948, data-base: 0x61ABA000

ROM: System Bootstrap, Version 11.1(8)CA1, EARLY DEPLOYMENT RELEASE SOFTWARE (fc1)
BOOTLDR: RSP Software (RSP-JSV-M), Version 11.2(7)P, SHARED PLATFORM, RELEASE SOFTWARE (fc1)

powers uptime is 19 minutes
System returned to ROM by reload
System image file is "tftp://10.48.64.100/rsp-a3jsv-mz.122-23"

cisco RSP4 (R5000) processor with 65536K/2072K bytes of memory.
R5000 CPU at 200Mhz, Implementation 35, Rev 2.1, 512KB L2 Cache
Last reset from power-on
G.703/E1 software, Version 1.0.
G.703/JT2 software, Version 1.0.
X.25 software, Version 3.0.0.
SuperLAT software (copyright 1990 by Meridian Technology Corp).
Bridging software.
TN3270 Emulation software.
Chassis Interface.
1 EIP controller (6 Ethernet).
1 FSIP controller (8 Serial).
6 Ethernet/IEEE 802.3 interface(s)
8 Serial network interface(s)
123K bytes of non-volatile configuration memory.

20480K bytes of Flash PCMCIA card at slot 0 (Sector size 128K).
20480K bytes of Flash PCMCIA card at slot 1 (Sector size 128K).
8192K bytes of Flash internal SIMM (Sector size 256K).
No slave installed in slot 7.
Configuration register is 0x2
```

powers#

遵从此步骤升级CIP或CPA微码：

1. 下载从[网络管理软件中心](#)的CIP微码(Cisco IOS软件版本12.2)并且复制它在TFTP server上。在本例中，用10.48.64.100的IP地址使用一TFTP server。
2. 确保您保存CIP配置对TFTP server或对闪存。**警告：** 如果，无论什么原因，新的微码没有装载，并且CIP卡没有被认识，则您将疏松所有CIP配置。所以，您必须确保，您在继续进行保存运行的配置的复制在安全的地方升级前。
3. 在路由器上，请发出**copy tftp slot:0**命令。

powers# **copy tftp slot:**

```
Address or name of remote host []? 10.48.64.100
Source filename []? cip28-15.bin
Destination filename [cip28-15.bin]?
Accessing tftp://10.48.64.100/cip28-15.bin...
Loading cip28-15.bin from 10.48.64.100 (via Ethernet1/0): !
  Expanding slot0:/cip28-15.bin_kernel_hw4 (312048 bytes): !!!!!!!!!!!!!!!!
CCCCCCCC
  Expanding slot0:/cip28-15.bin_kernel_hw5 (316268 bytes): !!!!!!!!!!!!!!!!
CCCCCCCC
  Expanding slot0:/cip28-15.bin_seg_802 (296956 bytes): !!!!!!!!!!!!!!!!
CCCCCCCC
  Expanding slot0:/cip28-15.bin_seg_cmpc (571556 bytes): !!!!!!!!!!!!!!!!
CCCCCCCC
  Expanding slot0:/cip28-15.bin_seg_csna (96712 bytes): !!!!!!!!!!!!!!!!
CC
  Expanding slot0:/cip28-15.bin_seg_eca (460704 bytes): !!!!!!!!!!!!!!!!
CCCCCCCCCCCC
  Expanding slot0:/cip28-15.bin_seg_offload (91552 bytes): !!!!!!!!!!!!!!!!
CC!
  Expanding slot0:/cip28-15.bin_seg_pca (68836 bytes): !!!!!!!!!!!!!!!!
CC!
  Expanding slot0:/cip28-15.bin_seg_push (15484 bytes): !!!
  Expanding slot0:/cip28-15.bin_seg_sslc (827760 bytes): !!!!!!!!!!!!!!!!
CCCCCCCCCCCCCCCC
  Expanding slot0:/cip28-15.bin_seg_tcpip (164840 bytes): !!!!!!!!!!!!!!!!
CCCCC
  Expanding slot0:/cip28-15.bin_seg_tn3270 (705952 bytes): !!!!!!!!!!!!!!!!
[OK - 3937792 bytes]
CCCCCCCCCCCCCCCCCCCC
```

3937792 bytes copied in 210.432 secs (18713 bytes/sec)

powers#

4. 一旦复制完成，请发出**dir slot0**：发出命令检查所有文件解压缩。

powers# **dir slot0:**

Directory of slot0:/

1	-rw-	1	Feb 27 2004 13:46:07 +00:00	cip28-15.bin
2	-rw-	312048	Feb 27 2004 13:46:07 +00:00	cip28-15.bin_kernel_hw4
3	-rw-	316268	Feb 27 2004 13:46:23 +00:00	cip28-15.bin_kernel_hw5
4	-rw-	296956	Feb 27 2004 13:46:40 +00:00	cip28-15.bin_seg_802
5	-rw-	571556	Feb 27 2004 13:46:56 +00:00	cip28-15.bin_seg_cmpc
6	-rw-	96712	Feb 27 2004 13:47:26 +00:00	cip28-15.bin_seg_csna
7	-rw-	460704	Feb 27 2004 13:47:32 +00:00	cip28-15.bin_seg_eca
8	-rw-	91552	Feb 27 2004 13:47:56 +00:00	cip28-15.bin_seg_offload
9	-rw-	68836	Feb 27 2004 13:48:01 +00:00	cip28-15.bin_seg_pca
10	-rw-	15484	Feb 27 2004 13:48:05 +00:00	cip28-15.bin_seg_push
11	-rw-	827760	Feb 27 2004 13:48:06 +00:00	cip28-15.bin_seg_sslc
12	-rw-	164840	Feb 27 2004 13:48:50 +00:00	cip28-15.bin_seg_tcpip
13	-rw-	705952	Feb 27 2004 13:48:58 +00:00	cip28-15.bin_seg_tn3270

```
20578304 bytes total (16647968 bytes free)
```

```
powers#
```

5. 由于使用的新的CIP微码，您必须更改微码CIP闪存slot0:cip26-32命令在路由器配置里微编码CIP闪存slot0:cip28-15。发出conf t命令：

```
powers# conf t
```

```
Enter configuration commands, one per line. End with CNTL/Z.
```

```
powers(config)#
```

发出微码CIP闪存slot0:cip28-15.bin命令。

```
powers(config)# microcode CIP flash slot0:cip28-15.bin
```

```
powers(config)# ^Z
```

发出show run命令确认配置更改。

```
powers# show run
```

```
Building configuration...
```

```
Current configuration : 3102 bytes
```

```
!
```

```
version 12.2
```

```
service timestamps debug datetime msec
```

```
service timestamps log datetime msec
```

```
no service password-encryption
```

```
service udp-small-servers
```

```
service tcp-small-servers
```

```
no service single-slot-reload-enable
```

```
!
```

```
hostname powers
```

```
!
```

```
boot system tftp rsp-a3jsv-mz.122-23 10.48.64.100
```

```
logging buffered 2000000 debugging
```

```
!
```

```
microcode CIP flash slot0:cip28-15.bin
```

```
microcode reload
```

```
clock summer-time MEST recurring last Sun Mar 2:00 last Sun Oct 3:00
```

```
no slave auto-sync config
```

```
ip subnet-zero
```

```
ip tcp path-mtu-discovery
```

```
!
```

```
!
```

```
source-bridge ring-group 100
```

```
!
```

```
interface Ethernet1/0
```

```
description ip address 10.48.64.43 255.255.255.0
```

```
ip address 10.48.64.43 255.255.255.128
```

```
no ip route-cache cef
```

```
no ip mroute-cache
```

```
!
```

```
!
```

```
interface Channel2/0
```

```
no ip address
```

```
no keepalive
```

```
csna 0110 00
```

```
!
```

```
interface Channel2/1
```

```
no ip address
```

```
no keepalive
```

```
shutdown
```

```
!  
interface Channel2/2  
  no ip address  
  no ip redirects  
  no ip unreachable  
  no ip proxy-arp  
  no keepalive  
  lan TokenRing 0  
  source-bridge 20 1 100  
  adapter 15 4000.0666.0315  
!
```

powers#

注意：如果在Cisco 7200路由器使用一CPA，这是您发出装载微码的命令：

```
microcode {pcpa | ecpa} slot0:xcpaxx-yy
```

注意：请使用**ecpa** Escon CPA或**pcpa**总线并且标记CPA;xx-yy是微码版本和版本号。这是示例如何发出与用于本文的微码版本的该命令：

```
microcode pcpa slot0:xcpa28-15
```

6. 在路由器配置中，请发出**microcode reload**命令装载新的CIP镜像。

```
powers# conf t
```

Enter configuration commands, one per line. End with CNTL/Z.

```
powers(config)# microcode reload
```

警告：发出**microcode reload**命令也重新加载所有接口，将打乱连接到此路由器和从此路由器，当微码重新加载时。此中断也许根据忙碌路由器如何持续几分钟，是。

7. 退出配置模式并且验证新的CIP微码通过发出**show controllers cbus**命令顺利地装载。

```
powers# show controllers cbus
```

```
!--- Output suppressed. slot2: CIP2, hw 5.00, sw 28.15, ccb 5800FF40, cmdq 48000090, vps  
8192 software loaded from flash slot0:cip28-15.bin_kernel_hw5 Loaded:seg_802 Rev. 0  
Compiled by cip-release on 15-Dec-2003 Loaded:seg_csna Rev. 0 Compiled by cip-release on  
15-Dec-2003 Loaded:seg_eca Rev. 0 Compiled by cip-release on 15-Dec-2003 EPROM version 2.1,  
VPLD version 5.9 ECA0: hw version 01, microcode version C20602C3 ECA1: hw version 01,  
microcode version C20602C3 Load metrics: Memory dram 121719760/128M CPU 1m 76%, 5m 76%, 60m  
76% DMA 1m 1%, 5m 1%, 60m 1% ECA0 1m 1%, 5m 1%, 60m 1% ECA1 1m 0%, 5m 0%, 60m 0% Channel2/0  
gfreeq 48000160, lfreeq 48000250 (4512 bytes) rxlo 4, rxhi 129, rxcurr 0, maxrxcurr 0 txq  
48000258, txacc 480000F2 (value 75), txlimit 75 Channel2/1 gfreeq 48000160, lfreeq 48000260  
(4512 bytes) rxlo 4, rxhi 129, rxcurr 0, maxrxcurr 0 txq 48000268, txacc 480000FA (value  
75), txlimit 75 Channel2/2 gfreeq 48000160, lfreeq 48000270 (4512 bytes) rxlo 4, rxhi 129,  
rxcurr 0, maxrxcurr 0 txq 48000278, txacc 48000102 (value 75), txlimit 75 Channel2/2, txq  
48000278, txacc 48000102 (value 75), txlimit 4 !--- Output suppressed. powers#
```

8. 发出**write memory**命令保存配置和保证路由器重新启动的正确微码每次装载。

排除故障

如果在步骤7获得没有输出，则新的微码未顺利地装载。当您发出**show controller cbus**命令时，您看到输出类似于此：

```
slot6: CIP, hw 4.04, sw 27.12, ccb 5800FF80, cmdq 480000B0, vps 8192  
software loaded from none
```

确保您装载在微码CIP闪存slot0:cip28-15命令指定的正确微码，并且确保微码在slot0 (请参阅步骤4)。

检查路由器配置(特别是信道接口配置)仍然在TFTP server;如果如此对步骤2的返回和再尝试步骤。

恢复信道连接

在验证以后新的CIP微码顺利地装载，请使用此步骤恢复信道连接：

1. 执行在主机的这些步骤：发出V 200,ONLINE命令变化联机设备的上一步。

```
00000280 V 200,ONLINE
```

```
00000080 IEE302I 0200 ONLINE
```

发出D M=DEV(nnn)命令(其中nnn是设备地址：200，在本例中验证的)设备有来的联机。

```
280 D M=DEV(200)
```

```
IEE174I 15.35.09 DISPLAY M 537
```

```
DEVICE 0200 STATUS=ONLINE
```

```
CHP 42
```

```
DEST LINK ADDRESS 0D
```

```
DEST LOGICAL ADDRESS 00
```

```
PATH ONLINE Y
```

```
CHP PHYSICALLY ONLINE Y
```

```
PATH OPERATIONAL Y
```

```
MANAGED N
```

```
MAXIMUM MANAGED CHPID(S) ALLOWED: 0
```

```
ND = NOT AVAILABLE
```

```
DEVICE NED = C7500 .3 .CSC.A .73000109
```

发出V NET,ACT,ID=QQXCA0命令(其中QQXCA0是XCA主节点的名称)恢复活动XCA主节点。

```
* CNM01 V NET,ACT,ID=QQXCA0
```

```
CNM01 IST097I VARY ACCEPTED
```

```
CNM01 IST093I QQXCA0 ACTIVE
```

发出D NET,ID=QQXCA0,E命令验证XCA主节点和他们相关的线路是活跃的。

```
* CNM01 D NET,ID=QQXCA0,E
```

```
CNM01 IST097I DISPLAY ACCEPTED
```

```
' CNM01
```

```
IST075I NAME = QQXCA0 , TYPE = XCA MAJOR NODE
```

```
IST486I STATUS= ACTIV , DESIRED STATE= ACTIV
```

```
IST1021I MEDIUM=RING ,ADAPNO= 15,CUA=0200,SNA SAP= 4
```

```
IST654I I/O TRACE = OFF, BUFFER TRACE = OFF
```

```
IST1656I VTAMTOPO = REPORT , NODE REPORTED - YES
```

```
IST170I LINES:
```

```
IST232I L0200000 ACTIV
```

```
IST232I L0200001 ACTIV
```

```
IST232I L0200002 ACTIV
```

```
IST232I L0200003 ACTIV
```

```
IST314I END
```

并且您可以检查MAJORNODES显示发现QQXCA0是活跃的。

```
* CNM01 D NET,MAJNODES
```

```
CNM01 IST097I DISPLAY ACCEPTED
```

```
' CNM01
```

```
IST350I DISPLAY TYPE = MAJOR NODES
```

```
IST089I VTAMSEG TYPE = APPL SEGMENT , ACTIV
```

```

IST089I NETM1PU TYPE = PU T4/5 , ACTIV
IST089I ISTOPDILU TYPE = CDRSC SEGMENT , ACTIV
IST089I ISTDJCP TYPE = ADJCP MAJOR NODE , ACTIV
IST089I ISTRCDRDY TYPE = CDRSC SEGMENT , ACTIV
IST089I ISTRTPMN TYPE = RTP MAJOR NODE , ACTIV
IST089I ISTTRL TYPE = TRL MAJOR NODE , ACTIV
IST089I L3270T TYPE = LCL 3270 MAJ NODE, ACTIV
IST089I TSOMVS1 TYPE = APPL SEGMENT , ACTIV
IST089I NSPAPPL TYPE = APPL SEGMENT , ACTIV
IST089I APPCMVS1 TYPE = APPL SEGMENT , ACTIV
IST089I NETVMVS1 TYPE = APPL SEGMENT , ACTIV
IST089I TCP1AP1 TYPE = APPL SEGMENT , ACTIV
IST089I NETTM1AP TYPE = APPL SEGMENT , ACTIV
IST089I JES2APPL TYPE = APPL SEGMENT , ACTIV
IST089I DKNETV TYPE = APPL SEGMENT , ACTIV
IST089I DKDDDLU TYPE = LUGROUP MAJ NODE , ACTIV
IST089I DKSTATIC TYPE = XCA MAJOR NODE , ACTIV
IST089I DKAPPN TYPE = XCA MAJOR NODE , ACTIV
IST089I DKTN3270 TYPE = SW SNA MAJ NODE , ACTIV
IST089I DKCHAN TYPE = CA MAJOR NODE , ACTIV
IST089I DKLOCAL TYPE = LCL 3270 MAJ NODE, ACTIV
IST089I DKXCAHPR TYPE = XCA MAJOR NODE , ACTIV
IST089I DKDSPU TYPE = SW SNA MAJ NODE , ACTIV
IST089I DKSNAPU TYPE = SW SNA MAJ NODE , ACTIV
IST089I DK3174 TYPE = SW SNA MAJ NODE , ACTIV
IST089I DKXCASUB TYPE = XCA MAJOR NODE , ACTIV
IST089I DKXNJE TYPE = APPL SEGMENT , ACTIV
IST089I TRIGGER TYPE = PU T4/5 , ACTIV
IST089I DKCDRM TYPE = CDRM SEGMENT , ACTIV
IST089I ISTLSXCF TYPE = LCL SNA MAJ NODE , ACTIV
IST089I QQSWITCH TYPE = SW SNA MAJ NODE , ACTIV
IST089I QQDUSK TYPE = SW SNA MAJ NODE , ACTIV
IST089I ISTDWSMN TYPE = SW SNA MAJ NODE , ACTIV
IST089I QQGRAWN TYPE = SW SNA MAJ NODE , ACTIV
IST089I QQSMN1 TYPE = SW SNA MAJ NODE , ACTIV
IST089I QQPOWERS TYPE = SW SNA MAJ NODE , ACTIV
IST089I DKTCP TYPE = APPL SEGMENT , ACTIV
IST089I QQXCA0 TYPE = XCA MAJOR NODE , ACTIV
IST1454I 39 RESOURCE(S) DISPLAYED

```

2. 在路由器上，请发出**show extended channel x/y statistics**命令确认联系人的值是打算的设备的Y (200在本例中)。

```
powers# show extended channel 2/0 statistics
```

```

Path: 0110 -- ESTABLISHED
          Command          Selective System Device CU
Dev Connects Retries Cancels      Reset  Reset  Errors Busy
  00         27         5         1         0     1     0     0

          Blocks          Bytes          Dropped Blk      Memd
Dev-Lnk  Read  Write    Read  Write  Read    Write  wait Con
  00-00    8    7     216   232    0      0     0     Y

```

```

Last statistics 0 seconds old, next in 10 second
powers#

```

升级顺利地完成了。

相关信息

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