uBR10012启动顺序

目录

简介

本文档介绍从性能路由引擎(PRE)到射频(RF)、LAN、WAN以及Timing、Communications和Control Plus(TCC+)卡的Cisco uBR10000系列通用宽带路由器的启动顺序。

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：

- 基本的思科路由器架构
- Cisco IOS®软件命令行界面

使用的组件

本文档中的信息基于以下软件和硬件版本：

- Cisco ucBr10012 通用宽带路由器
- 用于uBR10000系列(UBR10K-P6-M)的思科IOS软件

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

有关文件规则的更多信息请参见“ Cisco技术提示规则”。

PRE启动顺序

PRE的启动顺序有以下不同步骤：

1. 加载引导助手。
   `c10k-eboot-mz.120-16.6.ST1`
   这不支持任何线卡；只有PRE上的快速以太网(FE)接口可用。
2. 加载主映像。
   `ubr10k-p6-mz.122-1.XF`
   `ubr10k-k8p6-mz.122-1.XF`

   每种类型的线卡轮询PRE以获取固件：电缆线卡TCC+烤面包机千兆以太网光载波12(OC-12)加电服务(POS)

此输出显示实际实时启动序列及其日志消息：

```
System Bootstrap, Version 12.0(9r)SL2, RELEASE SOFTWARE (fc1)
!--- Bootstrap version. Copyright (c) 2000 by cisco Systems, Inc. Reset Reason Register =
RESET_REASON_RESET_REG (0x76) !--- Reason for reload: RESET. C10000 platform with 524288 Kbytes
of main memory Self decompressing the image : ##################################################
################################################## Self decompressing the image :
##################################################
################################################## Self decompressing the image :
##################################################
################################################## Self decompressing the image :
##################################################
################################################## Self decompressing the image :
##################################################
################################################## Self decompressing the image :
################################################## ##### [OK] Restricted Rights Legend Use,
duplication, or disclosure by the Government is subject to restrictions as set forth in
subparagraph (c) of the Commercial Computer Software - Restricted Rights clause at FAR sec.
52.227-19 and subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software
clause at DFARS sec. 252.227-7013. cisco Systems, Inc. 170 West Tasman Drive San Jose,
California 95134-1706 Cisco Internetwork Operating System Software IOS (tm) 10000 Software
(UBR10K-P6-M), Version 12.2(1)XF, EARLY DEPLOYMENT RELEASE SOFTWARE (fc1) !--- Main image. TAC
Support: http://www.cisco.com/cgi-bin/ibld/view.pl?i=support Copyright (c) 1986-2001 by cisco
Systems, Inc. Compiled Fri 18-May-01 16:15 by ccai Image text-base: 0x60008960, data-base:
0x612E0000 cisco uBR10000 (PRE-RP) processor with 393215K/131072K bytes of memory. !---
Processor type. Processor board ID TBA05100542 R7000 CPU at 262Mhz, Implementation 39, Rev 2.1,
256KB L2, 2048KB L3 Cache Backplane version 1.0, 8 slot Last reset from register reset Toaster
processor tmc0 is running. Toaster processor tmc1 is running. 1 Ethernet/IEEE 802.3 interface(s)
1 FastEthernet/IEEE 802.3 interface(s) 509K bytes of non-volatile configuration memory. 46976K
bytes of ATA PCMCIA card at slot 0 (Sector size 512 bytes). 32768K bytes of Flash internal SIMM
(Sector size 256KB). 00:00:15: Downloading Microcode: file=system:pxf/c10k102-3.ucode,
version=102.3(40.4), description=Experimental Software created Wed 31-Jan-01 16:22 by clauer in
view clauer-omega_dev !--- Microcode for Parallel eXpress Forwarding (PXF) engine. 00:00:16:
%SYS-7-NV_BLOCK_INIT: Initalized the geometry of nvram 00:00:22: %LINK-3-UPDOWN: Interface
Ethernet0/0/0, changed state to up !--- 10Base2 interface. 00:00:22: %LINK-5-CHANGED: Interface
FastEthernet0/0/0, changed state to reset !--- Management FE interface. !--- Each of these lines
of output appear on one line: 00:00:23: %UBR10000-5-USFREQCHG: Interface Cable6/1/0 Port U0,
frequency changed to 34.992 MHz 00:00:23: %UBR10000-5-UPDOWN: Interface Cable6/1/0 Port U0,
changed state to down 00:00:23: %UBR10000-5-UPDOWN: Interface Cable6/1/0 Port U1, changed state
to down 00:00:23: %UBR10000-5-UPDOWN: Interface Cable6/1/0 Port U2, changed state to down
00:00:23: %UBR10000-5-UPDOWN: Interface Cable6/1/0 Port U3, changed state to down 00:00:24:
%LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/0/0, changed state to up 00:00:24:
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0/0, changed state to down
00:00:25: %LINK-5-CHANGED: Interface POS2/0/0, changed state to administratively down 00:00:25:
%LINK-5-CHANGED: Interface GigabitEthernet4/0/0, changed state to administratively down
```

```
00:00:26: %LINEPROTO-5-UPDOWN: Line protocol on Interface POS2/0/0, changed state to down
00:00:26: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet4/0/0, changed state to
down 00:00:29: !!pxf clients started, forwarding code operational!! !--- The PFX engine
microcode is decompressed and executed. 00:00:30: %SYS-5-RESTART: System restarted -- Cisco
Internetwork Operating System Software IOS (tm) 10000 Software (UBR10K-P6-M), Version 12.2(1)XF,
EARLY DEPLOYMENT RELEASE SOFTWARE (fc1) TAC Support: http://www.cisco.com/cgi-
bin/ibld/view.pl?i=support Copyright (c) 1986-2001 by cisco Systems, Inc. Compiled Fri 18-May-01
16:15 by ccai 00:00:30: %SYS-6-BOOTTIME: Time taken to reboot after reload = 349 seconds !---
The time taken to boot after the reload initiated. 00:00:31: %LINK-3-UPDOWN: Interface
FastEthernet0/0/0, changed state to up 00:00:32: %LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/0/0, changed state to up 00:00:34: %IPCOIR-5-CARD_DETECTED: Card type 2cable-mc28
(0x254) in slot 6/1 !--- RF card registration request received. 00:00:34: %IPCOIR-5-
CARD_DETECTED: Card type 2cable-mc28 (0x254) in slot 7/0 !--- RF card registration request
received. 00:00:34: %IPCOIR-5-CARD_LOADING: Loading card in slot 6/1 !--- TFTP is used to
transfer the RF card microcode. 00:00:34: %IPCOIR-5-CARD_LOADING: Loading card in slot 7/0 !---
TFTP is used to transfer the RF card microcode. 00:00:34: %IPCOIR-5-CARD_DETECTED: Card type
2cable-tccplus (0x2AF) in slot 1/1 !--- TCC+ registration request received. 00:00:34: %IPCOIR-5-
CARD_DETECTED: Card type 1oc12pos-1 (0x164) in slot 2/0 !--- LAN to WAN registration received.
00:00:34: %IPCOIR-5-CARD_DETECTED: Card type 1gigethernet-1 (0x166) in slot 4/0 !--- LAN to WAN
registration received. 00:00:34: %IPCOIR-2-CARD_UP_DOWN: Card in slot 1/1 is up. Notifying
2cable-tccplus driver. 00:00:34: %IPCOIR-2-CARD_UP_DOWN: Card in slot 2/0 is up. Notifying
1oc12pos-1 driver. 00:00:34: %UBR10KTCC-2-ACTIVE_TCC: TCCplus card 1/1 is active with Local
oscillator as clock reference 00:00:35: %IPCOIR-2-CARD_UP_DOWN: Card in slot 4/0 is up.
Notifying 1gigethernet-1 driver. 00:00:35: %C10KGE-6-GBIC_OK: Interface GigabitEthernet4/0/0,
1000BASE-SX Gigabit Interface Converter (GBIC) inserted
```

RF线卡启动顺序

RF线卡的启动顺序有以下不同步骤：

1. ROM Monitor(ROMmon)在线卡中加载引导助手。
2. 引导助手发送软件版本号和卡类型。
3. PRE下载与卡类型对应的映像。
4. Cisco IOS软件映像将解压并执行。
5. 设置Ba接口，以便数据可以传送到PRE。

```
brubeck# debug ipc events

Special Events debugging is on
*Aug  1 05:12:10.596: IPC: Registration request for seat 'clc_6_1'
!--- The RF line card requests registration with the software version !--- number and the line
card type. *Aug 1 05:12:10.604: IPC: Got an open port request for port 0x10008 *Aug 1
05:12:10.604: IPC: Got an open port request for port 0x10009 1w1d: %IPCOIR-5-CARD_DETECTED: Card
type 2cable-mc28 (0x254) in slot 6/1 !--- The card type is detected. 1w1d: %IPCOIR-2-
CARD_UP_DOWN: Card in slot 6/1 is up. Notifying 2cable-mc28 driver. !--- Microcode for the RF
line card. SLOT 6/1: 00:00:16: %IPCGRP-6-UCODEVER: Reported microcode version, 990227862. SLOT
6/1: 00:00:16: %IPCGRP-6-INTENBDISAB: Interface disabled <REMOVED> !--- The main image is
downloaded, decompressed, and executed. SLOT 6/1: 00:00:19: %IPCGRP-6-BARENBDISAB: Barium
interface enabled !--- Enable Barium interface. 1w1d: %LINK-3-UPDOWN: Interface Cable6/1/1,
changed state to up SLOT 6/1: 00:00:20: %LINK-3-UPDOWN: Interface Cable6/1/1, changed state to
up SLOT 6/1: 00:00:20: %LINK-3-UPDOWN: Interface Barium3/0, changed state to up !--- The Barium
interface is set to up.

1w1d: %LINEPROTO-5-UPDOWN: Line protocol on Interface Cable6/1/1,
                           changed state to up
1w1d: %LINEPROTO-5-UPDOWN: Line protocol on Interface Cable6/1/0,
                           changed state to up
SLOT 6/1: 00:00:21: %LINEPROTO-5-UPDOWN: Line protocol on Interface Barium3/0,
                                         changed state to up
!--- The Barium line protocol is up and can now pass data to the PRE.
```

引导帮助程序继续将软件版本号和卡类型作为keepalive发送。如果在PRE上升级微码，则会下载新的微码并自动进行升级。

LAN或WAN卡引导顺序

LAN或WAN卡的启动顺序有以下不同步骤：

1. 线路卡使用软件版本号和卡类型请求注册。
2. PRE下载与卡类型对应的映像。
3. Cisco IOS软件映像将解压并执行。

```
brubeck# debug ipc events

Special Events debugging is on
*Aug  1 05:08:01.496: IPC: Registration request for seat
                          'C10K Line Card slot 2/0'
!--- The LAN or WAN card requests registration with the software !--- version and the card type.
*Aug 1 05:08:01.500: IPC: Got an open port request for port 0x10008 1w1d: %IPCOIR-5-
CARD_DETECTED: Card type 1oc12pos-1 (0x164) in slot 2/0 !--- The card type is detected. 1w1d:
%IPCOIR-5-CARD_LOADING: Loading card in slot 2/0 !--- TFTP is used to transfer the microcode to
the line card. 1w1d: %C10K-5-LC_NOTICE: Slot[2/0] 1oc12pos-1 Image Downloaded...Booting... !---
The image is decompressed and the code is executed.
```

TCC+卡启动顺序

TCC+卡的启动顺序有以下不同步骤：

1. TCC+卡使用软件版本号和卡类型请求注册。
2. PRE下载与卡类型对应的映像。
3. Cisco IOS软件映像解压并执行

```
brubeck# debug ipc events

Special Events debugging is on
*Aug  1 07:00:40.751: IPC: Registration request for seat
                          'C10K Line Card slot 1/1'
!--- The TCC+ card requests registration. *Aug 1 07:00:40.755: IPC: Got an open port request for
port 0x10008 1w1d: %IPCOIR-5-CARD_DETECTED: Card type 2cable-tccplus (0x2AF) in slot 1/1 !---
The card type is detected. 1w1d: %IPCOIR-5-CARD_LOADING: Loading card in slot 1/1 !--- TFTP is
used to transfer the microcode to the TCC+ card. 1w1d: %C10K-5-LC_NOTICE: Slot[1/1] utility-card
Image Downloaded...Booting... !--- The image is decompressed and the code is executed. 1w1d:
%IPCOIR-5-CARD_DETECTED: Card type 2cable-tccplus (0x2AF) in slot 1/1 1w1d: %IPCOIR-2-
CARD_UP_DOWN: Card in slot 1/1 is up. Notifying 2cable-tccplus driver. 1w1d: %UBR10KTCC-2-
ACTIVE_TCC: TCCplus card 1/1 is active with Local oscillator as clock reference !--- The card is
active and reports its clock source.
```

相关信息

- 宽带有线支持
- Cisco ucBr10012 通用宽带路由器
- 思科uBR10000系列通用宽带路由器版本说明

- 技术支持 - Cisco Systems