Sequência de inicialização uBR10012

Contents

Introduction

Este documento descreve a sequência de inicialização do Cisco uBR10000 Series Universal Broadband Router das placas Performance Routing Engine (PRE) para radiofreqüência (RF), LAN, WAN e Timing, Communications e Control Plus (TCC+).

Prerequisites

Requirements

Os leitores deste documento devem estar cientes destes tópicos:

- Arquitetura básica do roteador Cisco
- Interface de linha de comando do Cisco IOS® Software

Componentes Utilizados

As informações neste documento são baseadas nestas versões de software e hardware:

- Cisco uBR10012 Universal Broadband Router
- Software Cisco IOS para a série uBR10000 (UBR10K-P6-M)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

Sequência de inicialização PRE

A sequência de inicialização do PRE tem estes passos distintos:

1. Carregue o auxiliar de inicialização.
   `c10k-eboot-mz.120-16.6.ST1`
   Isso não suporta placas de linha; somente a interface Fast Ethernet (FE) no PRE é utilizável.
2. Carregue a imagem principal.
   `ubr10k-p6-mz.122-1.XF`
   `ubr10k-k8p6-mz.122-1.XF`

   Cada um destes tipos de placas de linha procura o PRE para o firmware:Placa de linha de caboTCC+ToasterGigabit EthernetPOS (Power-On Serving, serviço de ligação) da portadora óptica 12 (OC-12)

Esta saída mostra a sequência de inicialização real e suas mensagens de log:

```
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 :
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################################################## Self decompressing the image :
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################################################## Self decompressing the image :
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################################################## Self decompressing the image :
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################################################## Self decompressing the image :
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################################################## ##### [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
```

Sequência de inicialização da placa de linha RF

A sequência de inicialização da placa de linha RF tem estes passos distintos:

1. O ROM Monitor (ROMmon) carrega o auxiliar de inicialização na placa de linha.
2. O auxiliar de inicialização envia o número da versão do software e o tipo de placa.
3. O PRE faz o download da imagem que corresponde ao tipo de placa.
4. A imagem do Cisco IOS Software é descompactada e executada.
5. A interface do Bário é configurada para que os dados possam passar para o 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.
```

O auxiliar de inicialização continua a enviar o número da versão do software e o tipo de placa como um keepalive. Se o microcódigo for atualizado no PRE, o novo microcódigo será baixado e a atualização ocorrerá automaticamente.

Sequência de inicialização da placa de LAN ou WAN

A sequência de inicialização de uma placa de LAN ou WAN tem estes passos distintos:

1. A placa de linha solicita o registro usando o número da versão do software e o tipo de placa.
2. O PRE faz o download da imagem que corresponde ao tipo de placa.
3. A imagem do Cisco IOS Software é descompactada e executada.

```
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.
```

Sequência de inicialização da placa TCC+

A sequência de inicialização de uma placa TCC+ tem estes passos distintos:

1. A placa TCC+ solicita o registro usando o número da versão do software e o tipo de placa.
2. O PRE faz o download da imagem que corresponde ao tipo de placa.
3. A imagem do Cisco IOS Software é descompactada e executada

```
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.
```

Informações Relacionadas

- Suporte para tecnologia de cabo de banda larga
- Cisco uBR10012 Universal Broadband Router
- Notas da versão do Cisco uBR1000 Series Universal Broadband Router
- Suporte Técnico - Cisco Systems