



Preface

- [Audience, page i](#)
- [Document Revision History, page ii](#)
- [Document Organization, page iii](#)
- [Document Conventions, page iv](#)
- [Related Documentation, page vi](#)
- [Obtaining Documentation and Submitting a Service Request, page vi](#)

Audience

This guide is intended for system administrators and support engineers who configure and maintain the Cisco uBR10012 router. Many different delivery models exist for Cisco uBR10000 series equipment:

- In smaller networks, a single service provider manages all equipment and infrastructure.
- In larger networks, multiple service operators (MSOs) and ISPs share responsibility for provisioning and managing the cable plant and IP network.

How the MSO and ISP divide responsibilities depends on the service model. In some cases, the MSO maintains and operates the cable plant and attached CMs and set-top boxes (STBs), and the ISP owns, operates, and maintains the regional network and IP infrastructure beyond the cable distribution hub. In other cases, the Cable Modem Termination System (CMTS) and RF customer premises equipment (CPE) are viewed as part of the networking infrastructure, and the ISP maintains control for provisioning and managing DOCSIS functionality.



Note

This guide considers the MSO and ISP as a single service principle with responsibility to provision and manage DOCSIS-based cable modems and STBs. This guide assumes that administrators are familiar with Cisco uBR10000 series hardware, DOCSIS requirements, and networking.

Document Revision History

Release No.	Revision	Date	Change Summary
12.2(33)SCH	OL-10707-06	May 2013	Updated document to introduce the Cisco 3 Gbps Wideband Shared Port Adapter card.
12.2(33)SCF	OL-10707-05	June 2011	Updated document to include support for the DWDM-XFP-xx.xx modules.
12.2(33)SCB	OL-10707-04	December 2008	Added information related to the following: <ul style="list-style-type: none"> • Cisco 10000 Series SPA Interface Processor-600 • 1-Port 10-Gigabit Ethernet Shared Port Adapter • 5-Port Gigabit Ethernet Shared Port Adapter • Field-programmable devices

Release No.	Revision	Date	Change Summary
12.3(23)BC	OL-10707-03	December 2007	<p>Added configuration information for the following:</p> <ul style="list-style-type: none"> • Configuring SPA RF channels for narrowband modem support. • Configuring SPA RF channels for wideband modem support. • Configuring Channel Grouping Domain. • Selecting primary downstream channels.
12.3(21a)BC3	OL-10707-02	August 2007	Added information related to the Linksys WCM300-NA, WCM300-EURO, and WCM300-JP modems.
12.3(21)BC	OL-10707-01	February 2007	First release.

Document Organization

This document is organized into the following chapters:

Chapter	Description
Chapter 1 SIP and SPA Product Overview	Provides an introduction to SPA interface processors (SIPs) and shared port adapters (SPAs).
Chapter 2 Overview of Cisco uBR10012 Router SIPs	Provides an overview of the SIPs and Management Information Base (MIB) support for the Cisco Wideband SIP and Cisco 10000 Series SPA Interface Processor-600.
Chapter 3 Configuring a SIP	Provides information about configuring the Cisco Wideband SIP or Cisco 10000 Series SPA Interface Processor-600 on the Cisco uBR10012 router.

Chapter	Description
Chapter 4 Troubleshooting the SIPs	Describes techniques that you can use to troubleshoot the operation of the Cisco Wideband SIP or Cisco 10000 Series SPA Interface Processor-600.
Chapter 5 Overview of the Cisco Wideband SPA	Provides an overview of the release history, and feature and Management Information Base (MIB) support for the Cisco Wideband SPA on the Cisco uBR10012 router.
Chapter 6 Configuring the Cisco Wideband SPA	Provides information about configuring the Cisco Wideband SPA on the Cisco uBR10012 router.
Chapter 7 Troubleshooting the Cisco Wideband SPA	Describes techniques that you can use to troubleshoot the operation of the Cisco Wideband SPA.
Chapter 8 Overview of Gigabit Ethernet SPAs	Provides an overview of the release history, supported features, Management Information Base (MIB) support, and architecture for the Gigabit Ethernet SPAs on the Cisco uBR10012 router.
Chapter 9 Configuring Gigabit Ethernet SPAs	Provides information about configuring Gigabit Ethernet SPAs on the Cisco uBR10012 router.
Chapter 10 Troubleshooting Gigabit Ethernet SPAs	Describes techniques that you can use to troubleshoot the operation of Gigabit Ethernet SPAs.
Chapter 11 Overview of the Cisco 3 Gbps Wideband Shared Port Adapter	Provides an overview of the release history, and feature and Management Information Base (MIB) support for the Cisco 3 Gbps Wideband Shared Port Adapter on the Cisco uBR10012 router.
Chapter 12 Configuring the Cisco 3 Gbps Wideband Shared Port Adapter	Provides information about configuring the Cisco 3 Gbps Wideband Shared Port Adapter on the Cisco uBR10012 router.
Chapter 13 Troubleshooting the Cisco 3 Gbps Wideband Shared Port Adapter	Describes techniques that you can use to troubleshoot the operation of the Cisco 3 Gbps Wideband Shared Port Adapter.
Chapter 14 Field-Programmable Devices	Describes how to verify image versions and perform an upgrade for SPA or SIP FPD images when incompatibilities occur.

Document Conventions

This document uses the following conventions:

Convention	Description
<code>^</code> or <code>Ctrl</code>	Both the <code>^</code> symbol and <code>Ctrl</code> represent the Control (Ctrl) key on a keyboard. For example, the key combination <code>^D</code> or <code>Ctrl-D</code> means that you hold down the Control key while you press the D key. (Keys are indicated in capital letters but are not case sensitive.)
bold font	Commands and keywords and user-entered text appear in bold font .
<i>Italic font</i>	Document titles, new or emphasized terms, and arguments for which you supply values are in <i>italic font</i> .
<code>Courier font</code>	Terminal sessions and information the system displays appear in <code>courier font</code> .
Bold Courier font	Bold Courier font indicates text that the user must enter.
[x]	Elements in square brackets are optional.
...	An ellipsis (three consecutive nonbolded periods without spaces) after a syntax element indicates that the element can be repeated.
	A vertical line, called a pipe, indicates a choice within a set of keywords or arguments.
[x y]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
{x y}	Required alternative keywords are grouped in braces and separated by vertical bars.
[x {y z}]	Nested set of square brackets or braces indicate optional or required choices within optional or required elements. Braces and a vertical bar within square brackets indicate a required choice within an optional element.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
<>	Nonprinting characters such as passwords are in angle brackets.
[]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

Reader Alert Conventions

This document uses the following conventions for reader alerts:

**Note**

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the manual.

**Tip**

Means *the following information will help you solve a problem*.

**Caution**

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

**Timesaver**

Means *the described action saves time*. You can save time by performing the action described in the paragraph.

**Warning**

Means *reader be warned*. In this situation, you might perform an action that could result in bodily injury.

Related Documentation

The following is a list of documents and URLs for the Cisco uBR10012 router:

- [Cisco uBR10012 Universal Broadband Router SIP and SPA Hardware Installation Guide](#)
- [Cisco uBR10012 Universal Broadband Router Documentation Roadmap](#)
- [Cisco uBR10012 Universal Broadband Router Hardware Installation Guide](#)
- [Regulatory Compliance and Safety Information for the Cisco uBR10012 Universal Broadband Router](#)
- [Cisco Cable Wideband Solution Design and Implementation Guide, Release 1.0](#)
- [Release Notes for Cisco Universal Broadband Routers in Cisco IOS Release 12.2SC](#)
- [Cisco IOS CMTS Cable Command Reference](#)
- [Cisco IOS CMTS Cable System Messages Guide](#)
- [Cisco CMTS Universal Broadband Router MIB Specifications Guide](#)

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see [What's New in Cisco Product Documentation](#).

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the [What's New in Cisco Product Documentation RSS feed](#). RSS feeds are a free service.