Preface

This preface describes the objectives and organization of this guide and explains how to find additional information on related products and services. This preface contains the following sections:

Guide Revision History

The Guide Revision History records technical changes to this guide. The table shows the software release number and guide revision number for the change, the date of the change, and a brief summary of the change.

Release No.	Revision	Date	Change Summary
3.8S	OL-15421-07	November 28, 2012	This guide was updated with a new feature: AMR-WB on SBC
3.1S	OL-15421-06	July 30, 2010	This guide was updated with a new feature: ETSI Ia Profile on SBC
2.6.2	OL-15421-05	July 8, 2010	This guide was updated with a new feature: H.248 Timers
2.6	OL-15421-04	February 26, 2010	This guide was updated with new features: Optional Tman Bandwidth Parameter Policing, Return Local and Remote Descriptors in H.248 Reply, and SBC End Point Switching.

2.4.1	OL-15421-03	August 25, 2009	The name of this guide was changed from *Cisco IOS XE Integrated Session Border Controller Configuration Guide for the Cisco ASR 1000 Series Aggregation Services Routers* to *Cisco Unified Border Element (SP Edition) Configuration Guide: Distributed Model.*
2.3	OL-15421-03	February 27, 2009	This guide was updated with the In-Service Provisioning of H.248 Controllers feature; RTCP maximum burst size policing parameter feature, and number of active calls audited with a huge buffer size information.
2.2	OL-15421-02	October 3, 2008	This guide was updated with new features: Full Support for Wildcard Response, H.248 Protocol—Acknowledgment Support for Three-Way Handshake, H.248 ServiceChange Handoff, Improved Media Timeout Detection, Interim Authentication Header Full Support, and IPsec Pinhole Support—Twice NAT for IPv4 and No NAT for IPv6.
2.1	OL-15421-01	May 5, 2008	This guide was first published.

Objectives

This guide describes the Cisco Unified Border Element (SP Edition) functions, features, restrictions, and configuration tasks for the Cisco ASR 1000 Series Aggregation Services Routers. It is not intended as a comprehensive guide to all of the software features that can be run using the Cisco ASR 1000 Series Routers, but only the Cisco Unified Border Element (SP Edition) software specific to these Routers.

For information on general Cisco IOS software features that are also available on the Cisco ASR 1000 Series Routers, see the feature module or the technology guide for that software feature.

Cisco Unified Border Element (SP Edition) was formerly known as Integrated Session Border Controller and may be commonly referred to in this guide as the session border controller (SBC).

Intended Audience

This guide is intended for the following people:

- Experienced service provider administrators
- Cisco telecommunications management engineers
- Customers who use and manage Cisco ASR 1000 Series Routers

Organization

This guide contains the following chapters:

Chapter	Title	Description
1	Cisco Unified Border Element (SP Edition) Distributed Model Overview	Describes general architecture, list of supported features, and deployment scenario.
2	Configuring the Cisco Unified Border Element (SP Edition) Distributed Model	Describes configuration tasks for data border element (DBE) functionality, prerequisites, restrictions, configuration examples, and the Cisco H.248 profile.
3	DTMF Interworking on the Cisco Unified Border Element (SP Edition) Distributed Model	Describes support of dual-tone multifrequency (DTMF) to interwork between two end points that do not use the same way of relaying DTMF tones.
4	Media Address Pools	Describes how to configure the DBE address by address pool, with or without port range, and define class of service for each port range.
5	Quality of Service and Bandwidth Management	Describes features the DBE has to enhance Quality of Service (QoS).
6	H.248 Packages—Signaling and Control	Describes support of standard H.248 packages.
7	H.248 Services—Signaling and Control	Describes different H.248 services and controlling functions of the DBE.
8	ETSI Ia Profile on SBC	Describes the support of ETSI Ia Profile on SBC.
9	Security in Cisco Unified Border Element (SP Edition) Distributed Model	Describes various high security features and policing of incoming data.
10	Topology Hiding	Describes the various features by which Cisco Unified Border Element (SP Edition) protects the network by hiding the network address and names for both the customer and core network sides, and properly translating the IP address and port when a user connects to the outside network.
11	High-Availability Support	Describes hardware and software redundancy support for Cisco Unified Border Element (SP Edition) on the Cisco ASR 1000 Series Routers.
12	Quality Monitoring and Statistics Gathering	Describes DBE support for monitoring events, and generation of event notification, correct billing and call usage records.

Related Documentation

This section refers you to other documentation that might also be useful as you configure your Cisco ASR 1000 Series Routers. The documentation listed below is available on Cisco.com.

Cisco ASR 1000 Series Router Documentation

For information on Cisco Unified Border Element (SP Edition) commands, see *Cisco Unified Border Element (SP Edition) Command Reference: Distributed Model* at:

http://www.cisco.com/en/US/docs/ios/sbc/command/reference/sbc_book.html

For information on the Cisco Unified Border Element (SP Edition) unified model, see:

- *Cisco Unified Border Element (SP Edition) Configuration Guide: Unified Model* at:

  http://www.cisco.com/en/US/docs/routers/asr1000/configuration/guide/sbcu/2_xe/sbcu_2_xe_book.html

- *Cisco Unified Border Element (SP Edition) Command Reference: Unified Model* at:

  http://www.cisco.com/en/US/docs/ios/sbc/command/reference/sbcu_book.html

For information on new Cisco ASR 1000 Series Router commands and commands in existing Cisco IOS features, see the Cisco IOS command reference books on Cisco.com. For information about Cisco IOS commands in general, you can also use the Command Lookup Tool at:

http://tools.cisco.com/Support/CLILookup or a Cisco IOS master commands list.

For Quick Start guides and installation documentation for the Cisco ASR 1000 Series Router, see the hardware documentation at:

http://www.cisco.com/en/US/products/ps9343/prod_installation_guides_list.html

For information on new software features, see *Cisco ASR 1000 Series Aggregation Services Routers Software Configuration Guide*, new feature module documents, and the *Cisco IOS XE release notes*.

For further information, see the Cisco ASR 1000 Series Aggregation Services Routers Documentation Roadmap at:

http://www.cisco.com/en/US/docs/routers/asr1000/roadmap/asr1000rm.html

Cisco IOS XE Release Software Publications

Documentation pertaining to Cisco IOS XE 3S configuration guides and feature modules can be found at:

http://www.cisco.com/en/US/products/ps11174/tsd_products_support_series_home.html

Documentation pertaining to Cisco IOS XE, Release 2 configuration guides and feature modules can be found at:

http://www.cisco.com/en/US/products/ps9587/tsd_products_support_configure.html

Document Conventions

This documentation uses the following conventions:

Convention	Description
^ or **Ctrl**	The ^ and **Ctrl** symbols represent the Control key. For example, the key combination **^D** or **Ctrl-D** means hold down the **Control** key while you press the **D** key. Keys are indicated in capital letters but are not case sensitive.
string	A string is a nonquoted set of characters shown in italics. For example, when setting an SNMP *community* string to *public*, do not use quotation marks around the string or the string will include the quotation marks.

Command syntax descriptions use the following conventions:

Convention	Description
bold	Bold text indicates commands and keywords that you enter exactly as shown.
italics	Italic text indicates arguments for which you supply values.
[x]	Square brackets enclose an optional element (keyword or argument).
|	A vertical line indicates a choice within an optional or required set of keywords or arguments.
[x | y]	Square brackets enclosing keywords or arguments separated by a vertical line indicate an optional choice.
{x | y}	Braces enclosing keywords or arguments separated by a vertical line indicate a required choice.

Nested sets of square brackets or braces indicate optional or required choices within optional or required elements. For example:

Convention	Description
[x {y | z}]	Braces and a vertical line within square brackets indicate a required choice within an optional element.

Examples use the following conventions:

Convention	Description
`screen`	Examples of information displayed on the screen are set in Courier font.
`bold screen`	Examples of text that you must enter are set in Courier bold font.
< >	Angle brackets enclose text that is not printed to the screen, such as passwords.
!	An exclamation point at the beginning of a line indicates a comment line. (Exclamation points are also displayed by the Cisco IOS software for certain processes.)
[ ]	Square brackets enclose default responses to system prompts.

The following conventions are used to attract the attention of the reader:

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

Note Means *reader take note*. Notes contain helpful suggestions or references to materials that may not be contained in this manual.

Tip Means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information, similar to a Timesaver.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

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