Preface

Last revised on: October 30, 2009

This design guide describes a traditional H.323 video architecture using Cisco IOS Gatekeeper functionality for call control.

There are three main video call control architectures:

- H323 video using a gatekeeper with a separate dial plan and no linkage to Cisco Unified Communications Manager (Unified CM).
- H323 video using a gatekeeper with call control linkage to a Cisco Unified Communications domain such as Unified CM, each with separate dial plans.
- H323 video using Unified CM, with a gatekeeper serving as an aggregation point to assist Unified CM with registration services. In this architecture, Unified CM provides the dial plan, call control, call routing, and call admission control.

Cisco recommends the third option listed above, the Cisco Unified Communications architecture for video. This architecture is based on Cisco Unified Communications Manager (Unified CM), which provides unified call control, unified dial plan, unified policy, unified call admission control, and protocol interoperability for both voice and video.

However, some video designs might require a standalone gatekeeper-based solution, as described in the first option listed above. Using a standalone gatekeeper architecture for H323 video deployments is an interim step to a comprehensive Cisco Unified Communications architecture utilizing Unified CM.

This document explicitly addresses only the standalone gatekeeper-based video architecture (the first option above), which incorporates a distinct and separate dial plan, call control, and routing architecture handled by the gatekeeper. All scenarios presented in this document address only H323 support, but it is also possible that Unified CM or some other call control entity might be hosting video applications based on Session Initiation Protocol (SIP) or Skinny Client Control Protocol (SCCP).

The Cisco Unified Communications architecture incorporates Unified CM as a core element that ties many applications together, including video. Unified CM provides the functionality to bring desktop video, traditional room-based video, and new rich-media desktop applications sharing for meetings under one call control domain. It also provides users with dial plan flexibility and ease of use. For details on how to integrate H323 video and support for other protocols under the call control domain of Unified CM, refer to the *Cisco Unified Communications SRND Based on Cisco Unified Communications Manager*, which is available online at

http://www.cisco.com/go/ucsrnd

New or Changed Information for This Release

Note Unless stated otherwise, the information in this document applies to Cisco Unified Videoconferencing 5.7 and subsequent releases. Any differences between the various releases of Cisco Unified Videoconferencing are specifically noted in the text.

The following chapters are either new in the current release of this document, or they contain information that has changed significantly from previous releases of this document.

- Campus Infrastructure, page 3-1
- WAN QoS, page 5-1
- Dial Plan Architecture, page 6-1
- Call Routing, page 7-1
- Cisco Video Infrastructure Components, page 8-1
- Interworking with Session Initiation Protocol (SIP), page A-1

Within each chapter, new and revised information is listed in a section titled *What's New in This Chapter*.

Revision History

This document replaces the *Cisco IP Videoconferencing Solution Reference Network Design Guide*, dated July of 2002.

This document may be updated at any time without notice. You can obtain the latest version of this document online at

http://www.cisco.com/go/ucsrnd

Visit this Cisco.com website periodically and check for documentation updates by comparing the revision date on the front title page of your copy with the revision date of the online document.

The following table lists the revision history for this document.

Revision Date	Comments
October 30, 2009	Updated content as indicated in New or Changed Information for This Release, page viii.
November 15, 2007	Document was updated and published under the new title of *Cisco Unified Videoconferencing Solution Reference Network Design (SRND)*.
July, 2002	Initial release of this document under the old title of *Cisco IP Videoconferencing Solution Reference Network Design Guide*.

Scope of This Document

This document describes the products and features used to build an H.323-based Cisco Unified Videoconferencing system, and it gives recommendations on how to combine those elements into an effective solution for your enterprise. However, this document does not contain specific implementation or configuration details for the products and features. For details about a particular product or feature, refer to the specific product documentation available online at

http://www.cisco.com

Note Unless stated otherwise, the solution designs presented in this document require the minimum software releases listed in Table 1, and the information presented here applies only to those releases.

Table 1 Cisco Unified Videoconferencing Minimum Software Releases

Platform	Minimum Required Software Release
Cisco Unified Videoconferencing 3515-MCU	v5.7
Cisco Unified Videoconferencing 3522-BRI	v5.6
Cisco Unified Videoconferencing 3527-PRI	v5.6
Cisco Unified Videoconferencing 3545-MCU	v5.7
Cisco Unified Videoconferencing Manager	v5.7
Cisco Unified Border Element	Cisco IOS 12.4(22)T

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:

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