



## Preface

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## Change History

This table lists the major changes made to this guide. The most recent changes appear at the top.

Changes	Section	Date
Increased configuration limit for active mobile agents with call-by-call connections per agent PG	Agent Limits PG Agent Capacity with Mobile Agents	March, 2021
Removed restriction on Cisco Business Edition use for 2000 Agents Reference Designs	2000 Agents in Unified CCE Reference Designs	March 22, 2019
Added information for Cisco UCS C240 M5SX servers.	<ul style="list-style-type: none"> <li>• Contact Center Enterprise Reference Designs</li> <li>• 2000 Agents in Unified CCE Reference Designs</li> <li>• 4000 Agents in Unified CCE Reference Designs</li> <li>• 12000 Agents in Unified CCE Reference Designs</li> </ul>	June 29, 2018
Updated bullet on Global Topology for the 2000 Agent Reference Design.	2000 Agents	January 15, 2018

Changes	Section	Date
Updated VVB sizing information.	Cisco Virtualized Voice Browser Sizing	December 18, 2017
Added Enterprise Skill Groups limit as 4000 in the table.	Precision Queue and Skill Group Limits	October 17, 2017
Added information on Application Gateway feature.	Integrated Features Design Considerations for Integrated Features	October 11, 2017
Added SAML 2.0 information under SSO.	Single Sign-On (SSO) Considerations	September 18, 2017
Initial Release of document		August 24, 2017
Changes to configuration limits	Configuration Limits and Feature Availability for Reference Designs	
Expanded Outbound Option high availability options added.	Cisco Outbound Option Cisco Outbound Option Considerations	
Added a note stating that the CUBE allocates a DSP for each outbound dialer call, whether or not the CPA is enabled.	SIP Dialer Design Considerations	
Added UCCE: 2000 Agent deployment type and updated dynamic sizing limits.	Reference Designs and Deployment Types Dynamic Limits for Skill Groups and Precision Queues Per Agent	
Added information on sizing CUBE.	Sizing Gateways for Contact Center Enterprise Solutions	
The information that the Unified CM Cross Cluster Extension Mobility feature is not supported for off-box Unified CM deployments was removed.	2000 Agents in Unified CCE Reference Designs	

## About This Guide

This guide provides design considerations and guidelines for deploying Cisco Unified Contact Center Enterprise (Unified CCE) solutions. The guide combines information for all the components that might be present in your solution. This guide assumes that you are familiar with basic contact center terms and concepts. Successful deployment of Unified CCE solutions also requires familiarity with the information presented in the *Cisco Collaboration System Solution Reference Network Designs*.

This guide focuses on the design process. Its goal is to present the necessary information to take your design from starting concept to final submission. Details of installation, configuration, and administration of your contact center enterprise solution are covered in other guides.

The first four chapters of the book give a broad perspective of the three contact center enterprise solutions:

- Packaged Contact Center Enterprise
- Cisco Hosted Collaboration Solution for Contact Center
- Unified Contact Center Enterprise

For information about design considerations and guidelines specific to Packaged CCE, see the remaining chapters.

## Audience

The first three chapters in this guide are for anyone who wants a broad overview of the contact center enterprise solutions.

The primary audience for the guide is people who design contact centers. The guide is also helpful for system administrators who want a deeper understanding of how the components in a contact center enterprise solution work together.

## Related Documents

Consult these documents for details of these subjects that are not covered in this guide.

Subject	Link
<i>Compatibility Matrix</i> for information on which versions of which products are supported for a contact center enterprise solution.	<a href="https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-device-support-tables-list.html">https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-device-support-tables-list.html</a> <a href="https://www.cisco.com/c/en/us/support/customer-collaboration/packaged-contact-center-enterprise/products-device-support-tables-list.html">https://www.cisco.com/c/en/us/support/customer-collaboration/packaged-contact-center-enterprise/products-device-support-tables-list.html</a> <a href="https://www.cisco.com/c/en/us/support/unified-communications/hosted-collaboration-solution-contact-center/products-device-support-tables-list.html">https://www.cisco.com/c/en/us/support/unified-communications/hosted-collaboration-solution-contact-center/products-device-support-tables-list.html</a>
<i>Cisco Unified Contact Center Enterprise Features Guide</i> for detailed information on the configuration and administration of integrated features in your solution.	<a href="http://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-feature-guides-list.html">http://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-feature-guides-list.html</a>
<i>Cisco Collaboration Systems Solution Reference Network Designs</i> for detailed information on the Unified Communications infrastructure on which your solution is built.	<a href="http://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-implementation-design-guides-list.html">http://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-implementation-design-guides-list.html</a>

You can find the full documentation of each of the components in the contact center enterprise solutions at these sites:

Component	Link
Cisco Packaged Contact Center Enterprise	<a href="https://www.cisco.com/c/en/us/support/customer-collaboration/packaged-contact-center-enterprise/tsd-products-support-series-home.html">https://www.cisco.com/c/en/us/support/customer-collaboration/packaged-contact-center-enterprise/tsd-products-support-series-home.html</a>
Cisco Finesse	<a href="http://www.cisco.com/c/en/us/support/customer-collaboration/finesse/tsd-products-support-series-home.html">http://www.cisco.com/c/en/us/support/customer-collaboration/finesse/tsd-products-support-series-home.html</a>
Cisco MediaSense	<a href="http://www.cisco.com/c/en/us/support/customer-collaboration/mediasense/tsd-products-support-series-home.html">http://www.cisco.com/c/en/us/support/customer-collaboration/mediasense/tsd-products-support-series-home.html</a>
Cisco Remote Expert Mobile	<a href="http://www.cisco.com/c/en/us/support/customer-collaboration/remote-expert-mobile/tsd-products-support-series-home.html">http://www.cisco.com/c/en/us/support/customer-collaboration/remote-expert-mobile/tsd-products-support-series-home.html</a>
Cisco SocialMiner	<a href="http://www.cisco.com/c/en/us/support/customer-collaboration/socialminer/tsd-products-support-series-home.html">http://www.cisco.com/c/en/us/support/customer-collaboration/socialminer/tsd-products-support-series-home.html</a>
Cisco Unified Customer Voice Portal	<a href="http://www.cisco.com/c/en/us/support/customer-collaboration/unified-customer-voice-portal/tsd-products-support-series-home.html">http://www.cisco.com/c/en/us/support/customer-collaboration/unified-customer-voice-portal/tsd-products-support-series-home.html</a>
Cisco Unified Intelligence Center	<a href="http://www.cisco.com/c/en/us/support/customer-collaboration/unified-intelligence-center/tsd-products-support-series-home.html">http://www.cisco.com/c/en/us/support/customer-collaboration/unified-intelligence-center/tsd-products-support-series-home.html</a>
Cisco Virtualized Voice Browser	<a href="http://www.cisco.com/c/en/us/support/customer-collaboration/virtualized-voice-browser/tsd-products-support-series-home.html">http://www.cisco.com/c/en/us/support/customer-collaboration/virtualized-voice-browser/tsd-products-support-series-home.html</a>

## Communications, Services, and Additional Information

- To receive timely, relevant information from Cisco, sign up at [Cisco Profile Manager](#).
- To get the business impact you're looking for with the technologies that matter, visit [Cisco Services](#).
- To submit a service request, visit [Cisco Support](#).
- To discover and browse secure, validated enterprise-class apps, products, solutions and services, visit [Cisco Marketplace](#).
- To obtain general networking, training, and certification titles, visit [Cisco Press](#).
- To find warranty information for a specific product or product family, access [Cisco Warranty Finder](#).

### Cisco Bug Search Tool

[Cisco Bug Search Tool](#) (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.

# Field Notice

Cisco publishes Field Notices to notify customers and partners about significant issues in Cisco products that typically require an upgrade, workaround, or other user action. For more information, see *Product Field Notice Summary* at <https://www.cisco.com/c/en/us/support/web/tsd-products-field-notice-summary.html>.

You can create custom subscriptions for Cisco products, series, or software to receive email alerts or consume RSS feeds when new announcements are released for the following notices:

- Cisco Security Advisories
- Field Notices
- End-of-Sale or Support Announcements
- Software Updates
- Updates to Known Bugs

For more information on creating custom subscriptions, see *My Notifications* at <https://cway.cisco.com/mynotifications>.

# Documentation Feedback

To provide comments about this document, send an email message to the following address: [contactcenterproducts\\_docfeedback@cisco.com](mailto:contactcenterproducts_docfeedback@cisco.com)

We appreciate your comments.

# Conventions

This document uses the following conventions:

Convention	Description
<b>boldface font</b>	<p>Boldface font is used to indicate commands, such as user entries, keys, buttons, folder names, and submenu names.</p> <p>For example:</p> <ul style="list-style-type: none"><li>• Choose <b>Edit</b> &gt; <b>Find</b>.</li><li>• Click <b>Finish</b>.</li></ul>

Convention	Description
<i>italic font</i>	Italic font is used to indicate the following: <ul style="list-style-type: none"><li>• To introduce a new term. Example: A <i>skill group</i> is a collection of agents who share similar skills.</li><li>• A syntax value that the user must replace. Example: IF (<i>condition, true-value, false-value</i>)</li><li>• A book title. Example: See the <i>Cisco Unified Contact Center Enterprise Installation and Upgrade Guide</i>.</li></ul>
window font	Window font, such as Courier, is used for the following: <ul style="list-style-type: none"><li>• Text as it appears in code or that the window displays. Example: <code>&lt;html&gt;&lt;title&gt;Cisco Systems, Inc. &lt;/title&gt;&lt;/html&gt;</code></li></ul>
< >	Angle brackets are used to indicate the following: <ul style="list-style-type: none"><li>• For arguments where the context does not allow italic, such as ASCII output.</li><li>• A character string that the user enters but that does not appear on the window such as a password.</li></ul>