



Cisco Headset and Finesse Integration for Contact Center

First Published: May 21, 2020

Revised: June 24, 2020

Cisco Headset and Finesse Integration improves productivity of contact center agents by enabling them to change the Ready/Not Ready status from their Cisco headset. This feature is targeted to Contact Center customers whom also integrate with Cisco Unified Communications Manager.

This feature is provided as a preview feature, but is not officially supported. You can deploy the feature for internal testing and development, but it's not recommended that you deploy it in a production environment. Cisco TAC support will not be provided if you choose to deploy this solution in a production environment.

To use this feature, you must be running:

Cisco Unified Communications Manager	11.5(1)SU8
Cisco Unified Contact Center (Enterprise/Express)	11.6, 12.0
Cisco Headsets	Headset 560 series only Firmware release 2.1
Cisco IP Phone	Firmware Release 12.8
Cisco Expressway (required with MRA deployments)	X12.6

Cisco Headset and Finesse Feature Overview

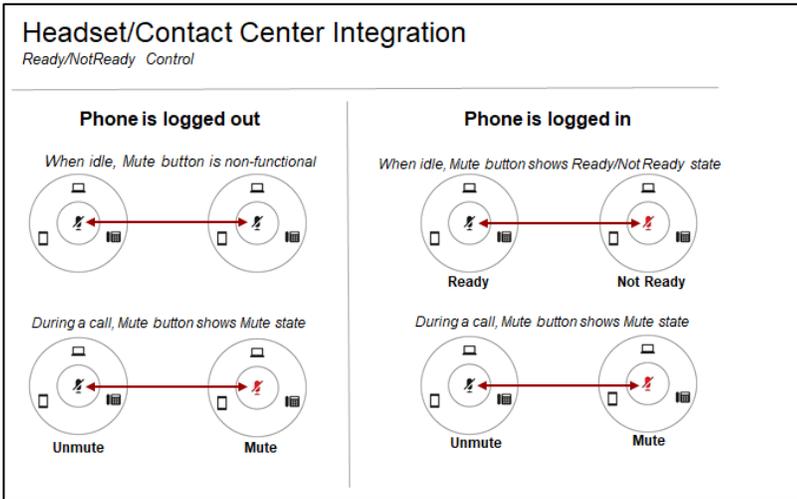
Cisco Headset and Finesse Integration makes it easy for call agents and supervisors to control their call readiness status by giving them the option to set the Ready/Not Ready status right from their Cisco headset. The feature also provides an LED display on the headset base station that alerts other agents of the agent status. When this feature is deployed, the following happens:

- Between calls, agents can toggle their status to **Ready for a call** or **Not Ready** by clicking the headset's **Mute** button, which acts as a Ready/Not Ready button while the agent is idle.
- During calls, the **Mute** button toggles the status to **Mute** or **Unmute**, maintaining current behavior during calls.
- The headset base station LED displays the agent status (for example, Ready, Not ready) so that other agents know whether the agent is active by looking at the LED.
- The Cisco headset syncs agent status information with Cisco Finesse giving agents the option to control their status from either interface.

Agent Status Change from Headset

When this feature is configured, agents and supervisors can set their Ready/Not Ready status via the Headset's **Mute** button. The following image displays the headset **Mute** button functionality when this feature is configured. This image assumes the **Finesse Desktop Integration** setting lets the agent control their status right from the headset.

Cisco Systems, Inc. www.cisco.com



Agent Status Display

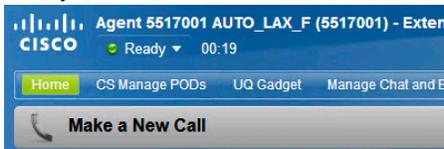
The following table shows how the base station LED displays the agent status when this feature is enabled and the agent is logged in.

Base LED Indicates	Agent Status
Green light	In a call (talking)
Red light	In a call (muted)
No light	Ready for a call
Red light	Not ready for a call

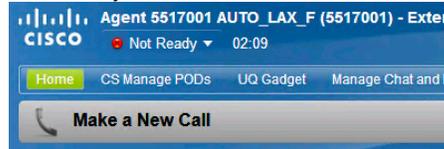
Cisco Finesse

In addition to the headset base LED, the agent status also appears, and can be controlled from, Cisco Finesse.

Ready



Not Ready



Agent Status Behavior

While configuring this feature in the Headset Finesse Configuration window of Unified Communications Manager, you must choose one of three options for **Finesse Desktop Integration**. The following table displays how the headset functions with each option:

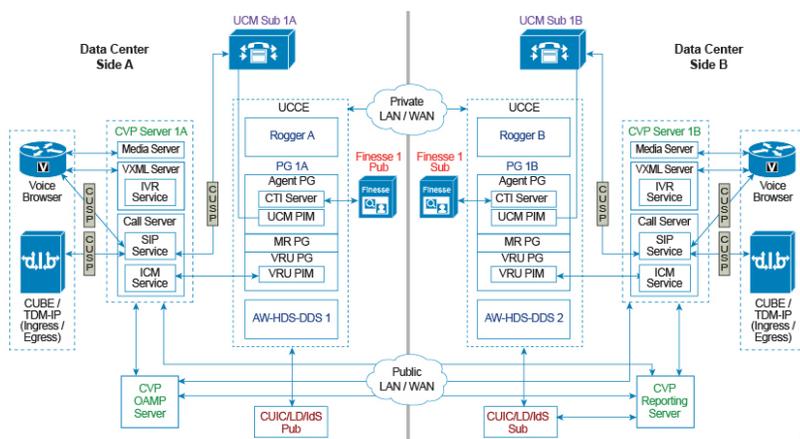
Finesse Desktop Integration	Headset Mute Button	Headset Base LED indicates	Data Sync
Disabled	Mute button = Mute/Unmute	Displays Mute/Unmute state	No data sync
Notification of agent status through Cisco Headset	Mute button = Mute/Unmute	Full agent status (In a call, Ready, Not Ready)	One-way data sync. Agent status is set in Finesse, which syncs the data to the headset so that the base LED displays the correct status.
Notification and control of agent status through Cisco Headset	During a call: Mute button = Mute/Unmute Between calls: Mute button = Ready/Not Ready	Full agent status (In a call, Ready, Not Ready)	Two-way data sync. Agent status can be set from either headset or from Finesse. Two-way sync ensures that both systems display an accurate status.

Architecture and Design

The following images provide examples of the architecture that you can deploy with Cisco Finesse Headset integration.

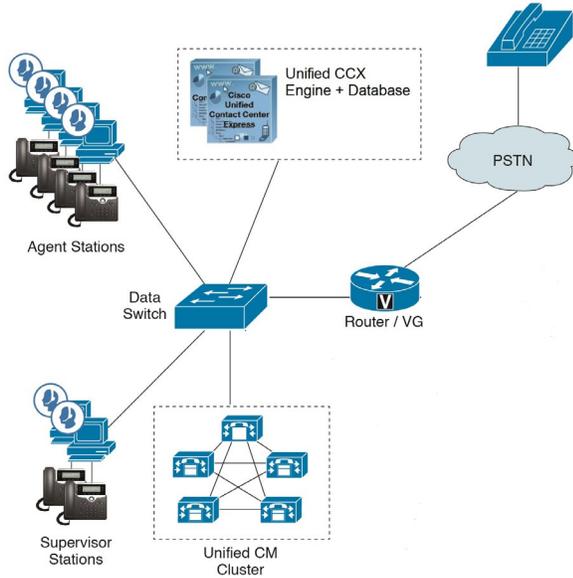
Unified Contact Center Enterprise

The following image displays the architecture for a 2000 agent integration. It's assumed that for each PG pair, the associated pair of Unified CM subscriber nodes exist within the same data center, thereby limiting the risk of network loss.



Unified Contact Center Express

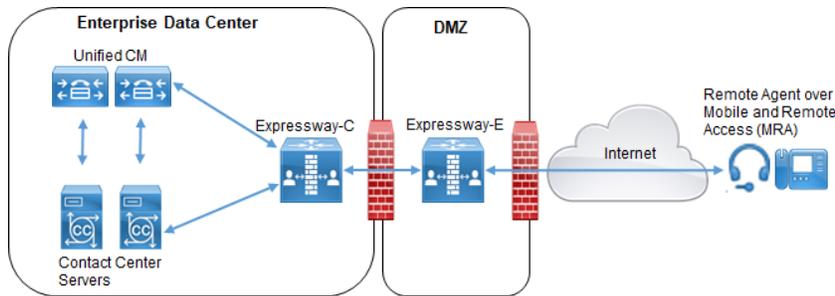
The following diagram illustrates a sample architecture for Unified Contact Center Express.



Mobile and Remote Access

Mobile and Remote Access (MRA) deployments where the contact center agent is connecting remotely over MRA, require Cisco Expressway. Expressway passes through the signaling with no specific Expressway configuration required, aside from the normal MRA configuration.

NOTE: Remote agents can use MRA to connect their phone and headset remotely to an on-premise Contact Center deployment. However, Cisco Finesse requires a VPN to connect remotely.



Headset Service Discovery via TFTP

The phone learns the Headset Finesse settings as a part of the TFTP process. During registration, the phone downloads its TFTP configuration file from the TFTP server. The configuration file contains the Headset Discovery URL:

```
<discoveryURL>https://{cucm}:9444/headset/{devicename}</discoveryURL>
```

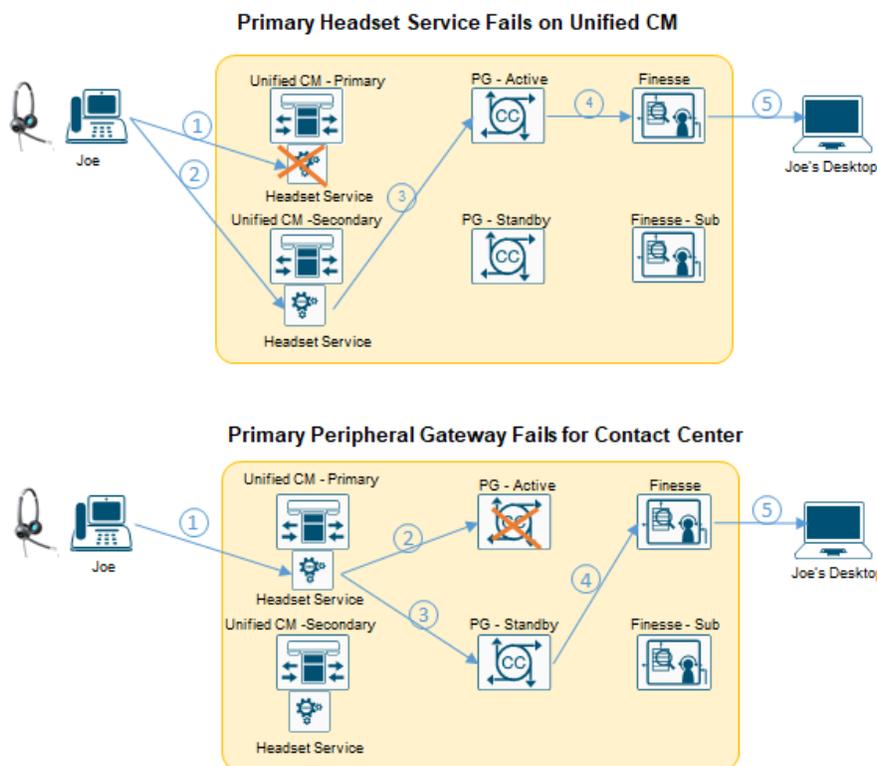
After receiving the configuration file, the phone issues a subsequent HTTP GET to the Discovery URL, which returns the Primary and Secondary Headset services along with the current status of Headset Finesse integration (Enabled/Disabled).

Failover Behavior

Both the Unified CM pair of nodes and the Contact Center Peripheral Gateway (PG) nodes use a Primary-Secondary configuration where the Primary server is the active node and the Secondary server is a standby node that takes over when the Headset service on the primary node fails.

For agent updates, the phone always sends the Agent Update to the headset service on the Primary Unified CM node. If the headset service on that node fails, the phone resends the request to the headset service on the Secondary node, which then forwards updates to the PG -Active node in the Contact Center deployment. If the connection to the Active PG fails, Unified CM resends the updates to the Standby PG, which in turn updates Cisco Finesse.

The following diagrams illustrate two failover flows when call agent Joe's phone attempts to update his Finesse desktop with an updated agent status.



NOTE: The **Cisco Headset Service** must also be running on the Unified CM device registration nodes. If the registration node fails for a phone with a connected headset, the registration fails over to one of the backup nodes in the Cisco Unified CM Group. If the headset service is stopped on the backup node, the phone cannot reach the headset service and headset service discovery fails. If the headset service is subsequently started on that node, the phone can complete headset service discovery only after a phone restart.

Cisco Headset Finesse Integration Task Flow

Complete the following tasks to configure Cisco Headset and Finesse Integration.

	Task	Purpose
Step 1	Activate Cisco Headset Service	The Cisco Headset Service must be running on the Unified CM device registration nodes as well as the Primary and Secondary nodes for Headset Finesse Integration.
Step 2	Turn on Headset Finesse Integration	The Headset Finesse settings are available only after you turn the feature on via an enterprise parameter.
Step 3	Configure Headset Finesse Integration	Configure settings for the Headset Finesse Integration.

Activate Cisco Headset Service

The **Cisco Headset Service** must be running on the Unified Communications Manager device registration nodes as well as the **Primary** and **Secondary** nodes for Headset Finesse Integration.

NOTE: Large Contact Center deployments can have up to 12 Finesse clusters that are connected to 12 Peripheral Gateway pairs. The Cisco Headset Service must be running on all Unified CM subscriber nodes that connect to PG pairs.

1. From Cisco Unified Serviceability, choose **Tools > Service Activation**.
2. From the **Server** drop-down, select a Unified CM node.
3. Under **CM Services**, make sure the **Cisco Headset Service** is **Activated**.
4. If the service is deactivated, check the adjacent check box and click **Save**.
5. Repeat this procedure for each applicable Unified CM node.

Turn On Headset Finesse Integration

To deploy Headset Finesse Integration, you must enable an enterprise parameter.

NOTE: We recommend that you complete this procedure only during a maintenance window.

1. From Cisco Unified CM Administration choose **System > Enterprise Parameters**.
2. For the **Feature Preview Enablement** parameter, enter **Headset-Finesse Integration** in the text box. If you have multiple preview features, you can separate them with a semi-colon (;). For example, **Headset-Finesse Integration; Other Preview Feature**.
NOTE: The option to enter multiple preview features, separated by a (;) is for future. At the moment, Headset-Finesse Integration is the only preview feature.
3. Click **Save**.
4. Restart the Cisco Tomcat service on all Unified CM cluster nodes via the `utils service restart Cisco Tomcat` CLI command.
5. Log out and then log back in to Cisco Unified CM Administration. The **Headset Finesse Configuration** menu is available only after you log back in.

Configure Headset Finesse Integration

After you have turned on the integration, configure settings for the Headset Finesse integration.

NOTE: For detailed field descriptions, refer to the [Cisco Headset Finesse Configuration Settings](#) topic that follows this procedure.

1. From Cisco Unified CM Administration, choose **Device > Headset > Headset Finesse Configuration**.
2. For **Finesse Desktop Integration**, choose whether you want agents to control their Ready/Not Ready state via Finesse only, or via either Finesse or the headset.
3. From the **Deployment Type** drop-down, choose the Contact Center deployment type.
4. Enter the administrator credentials for the Contact Center deployment.
 - For Express deployments, this is the RmCm user.
 - For Enterprise deployments, this is the PG user.
5. Enter the **Primary** (active) and **Secondary** (standby) server pairs for both the Unified CM and Contact Center clusters. Click the **(+)** or **(-)** to add or subtract additional pairings. You can enter up to 12 pairs.
6. Click **Save**.

Cisco Headset Finesse Configuration Settings

The **Headset Finesse Configuration** window lets you configure settings for the Headset Finesse Integration. From Cisco Unified CM Administration, use the **Device > Headset > Headset Finesse Configuration** menu path to access settings. The following table displays field descriptions for the settings in this window.

NOTE: This menu can be accessed only if Headset Finesse Integration is enabled via the **Feature Preview Enablement** enterprise parameter.

Field	Description
Finesse Desktop Integration	<p>Click one of the following three radio buttons:</p> <ul style="list-style-type: none"> • Disable—No agent status or control is available to the headset, which behaves as a phone. • Notification of agent status through Cisco Headset—Agents set the Ready/Not Ready state from the Cisco Finesse desktop, which syncs the updated status to the headset. The headset displays the agent status via the base station LED. • Notification and control of agent status through Cisco Headset—Agents set the Ready/Not Ready status from either the headset or from the Finesse desktop. While the agent is idle, the headset's Mute button acts as a Ready/Not Ready button, thereby letting the agent control the status from the headset. During calls, the Mute button acts as a Mute/Unmute button. <p>A two-way sync ensures that both systems reflect the correct status irrespective of which system is used to set the status. The headset base station LED displays the updated status.</p>
Deployment Type	Select Unified Contact Center Express or Unified Contact Center Enterprise .

Field	Description
User ID	Enter the administrator login ID for the Contact Center server: <ul style="list-style-type: none"> For Express deployments, this is the RmCm user. For Enterprise deployments, this is the PG user.
Password	Enter the password for the administrator login ID that you entered in the above field.
Connection Retry Timer	If the connection to the Contact Center server breaks, this timer specifies the number of seconds before Unified CM attempts to reconnect. The accepted range of values is 0 or 120–1800 (i.e., from 2 minutes–30 minutes). The default setting is 300 seconds (5 minutes). NOTE: If you configure 0 as the value, the system uses the default value of 300 seconds as the timer.
CallManager Server	From the drop-down, select the Unified CM servers that you want to act as Primary and Secondary servers for the Contact Center servers that you enter. NOTE: The Cisco Headset Service must be running on each selected Unified CM node as well as the nodes to which the devices register.
Contact Center Server	Input the servers for the Primary and Secondary Contact Center server pairs. <ul style="list-style-type: none"> For UCCX, use <hostname/IP address><#port> format. For example, 10.10.10.3#12028 or uccxserver#12028. For UCCE, use <hostname/IP address><#port><#peripheralid> format for the Peripheral Gateway (PG) pairs to which the Finesse clusters connect. Click (+) if you want to add another sever pair (up to 12 pairs) and (-) if you want to delete a server pair.
Save	Click this button to save settings.

Support Information

This feature is offered as a preview feature only and is not supported officially. All support requests from Cisco TAC are treated as best-effort and are assigned a severity level of 4. For additional information, contact Cisco TAC at <http://www.cisco.com/techsupport>.

Appendix

SIP Messaging for Change Notifications

The following table contains examples of the SIP tags that agent status updates use.

Change Notification	SIP Messaging
Agent State Change	<p>A SIP REFER message along with the x-cisco-remotecc-request tag is used to communicate an agent state change as per the following example:</p> <p>SIP REFER Message Header: Content-Type: application/x-cisco-remotecc-request+xml <x-cisco-remotecc-request> <agentstatusupdate> <status>Integer value for agent state</status> <reason code>Integer value as received from CC (if none received, default will be 0)</reason code> </agentstatusupdate> </x-cisco-remotecc-request></p>
Service Change	<p>A SIP NOTIFY message with the <x-cisco-remotecc-request> tag is used to communicate a service change, such as enabling or disabling the Headset Finesse Integration. Endpoints must follow the full Discovery flow:</p> <pre><x-cisco-remotecc-request> <hsintegrationservices> <serviceclass>cc</serviceclass> <status>SERVICE_CONFIG_CHANGE</status> </hsintegrationservices> </x-cisco-remotecc-request></pre>
	<p>A SIP NOTIFY message with the <x-cisco-remotecc-request> tag is used to communicate a Headset service change. Endpoints must do a GET on the configuration URL for the Contact Center service.</p> <pre><x-cisco-remotecc-request> <hsintegrationservices> <serviceclass>cc</serviceclass> <status>HS_CONFIG_CHANGE</status> </hsintegrationservices> </x-cisco-remotecc-request></pre>

Agent State and ENUM Values

The following table lists the ENUM values for the agent states that are impacted by this feature.

Agent State Event	ENUM Value
Login	0
Logout	1
Not Ready	2
Ready	3

Caveats

The following caveats exist for the Headset Finesse integration:

- [CSCvt94050](#)—Headset lost cc sync with finesse

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

All printed copies and duplicate soft copies are considered un-Controlled copies and the original on-line version should be referred to for latest version.

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco website at www.cisco.com/go/offices.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

© 2020 Cisco Systems, Inc. All rights reserved.