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**Desktops**

**Cisco Finesse**

**Introduction**

Cisco Finesse is a next-generation agent and supervisor desktop designed to provide a collaborative experience for the various communities that interact with your customer service organization.

Cisco Finesse provides:

- A browser-based administration console and a browser-based desktop for agents and supervisors; no client-side installations are required.
- A single, customizable cockpit or interface, that gives customer care providers quick and easy access to multiple assets and information sources.
- REST APIs that simplify the development and integration of value-added applications and minimize the need for detailed desktop development expertise.

The following table lists the availability of the Cisco Finesse service in the Unified CCX packages.
Table 1: Cisco Finesse service availability by license packages

<table>
<thead>
<tr>
<th>Service</th>
<th>Unified CCX Premium</th>
<th>Unified CCX Enhanced</th>
<th>Unified CCX Standard</th>
<th>Unified IP IVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco Finesse</td>
<td>Available</td>
<td>Available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Cisco Finesse functionalities

Cisco Finesse supports the following functionalities:

- Basic call control—Answer, hold, retrieve, end, and make calls.
- Advanced call control—Make a consultation call and transfer or conference the call after the consultation.
- Not Ready and Sign Out reason codes—Reasons that agents can select when they change their state to Not Ready.
- Wrap-up codes—Reasons that agents can apply to calls.
- Phone books—List of contacts from which agents can select one to call.
- Live Data gadgets—Display current state of agents, teams and CSQs in the contact center.

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Note

Unified CCX 10.6 does not support Email Live Data gadgets. Voice and Chat Live Data gadgets are only supported.

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- Customizable third-party gadgets
- Cisco Communications Manager-based recording using MediaSense
- Scheduled call back—Request a callback at a specific callback phone number and also specify the time or date of the callback.
- Reclassify—Reclassify a direct preview outbound call as busy, answering machine, fax, invalid number, or voice.
- Outbound agent—Supports outbound dialing including progressive, predictive, and direct preview modes, allowing agents to handle both inbound and outbound dialing tasks.
- Multisession webchat—Allows agents to work on multiple chat sessions at the same time for increased agent resource usage.
- Multisession email—Allows agents to work on multiple email sessions at the same time for increased agent resource usage.
- Multiline—Provides multiple lines on agent phones.
- Extension mobility—Allows users to temporarily access their Cisco Unified IP Phone configuration such as line appearances, services, and speed dials from other Cisco Unified IP Phones.
Team composition changes in Cisco Finesse are not updated dynamically. Log in again or refresh the browser session to see the changes.

Transition to Logout state is possible only from Not Ready state.

Limit the team that accesses Live Data reports to a maximum of 50 agents.

Cisco Finesse is an alternative to Cisco Agent Desktop, Cisco Supervisor Desktop, and Cisco Desktop Administrator.

Unified CCX does not support concurrent use of Cisco Finesse Desktop and Cisco Agent or Supervisor Desktop. Deactivate Finesse when you want to use Cisco Agent Desktop or Cisco Supervisor Desktop. For more details, see the Cisco Finesse Agent and Supervisor Desktop User Guide for Cisco Unified Contact Center Express, located at http://www.cisco.com/en/US/products/sw/custcosw/ps1846/products_user_guide_list.html.

For comparison of Cisco Agent Desktop or Cisco Supervisor Desktop with Finessedesktops, see http://www.cisco.com/en/US/partner/products/ps11324/prod_white_papers_list.html.

Migration tools are not available to migrate configurations between Cisco Agent Desktop or Cisco Supervisor Desktop and Finessedesktops. When you migrate, manually recreate configurations such as reason codes, wrap-up codes, workflows, contacts, and phone books.

You can configure the Cisco Finesse Agent and Supervisor Desktops to use Cisco gadgets and third-party gadgets through a layout management method. You can customize the Cisco Finesse Agent and Supervisor Desktops through the Cisco Finesse administration console. The administrators can define the tab names that appear on the desktops and configure which gadgets appear on each tab. Cisco Finesse is deactivated by default. To activate Finesses, see the Cisco Unified Contact Center Express Operations Guide, located at http://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-express/products-maintenance-guides-list.html.

For information about supported browsers and operating systems, see the Cisco Unified Contact Center Express Software and Hardware Compatibility Guide at http://docwiki.cisco.com/wiki/Compatibility_Matrix_for_Unified_CCX.

Cisco Finesse supports Cisco Jabber for Windows as a contact center voice endpoint. Finesses supports the following Jabber functionality:

- Call control
- Built-In Bridge (BIB) for silent monitoring
- IM and Presence

Finesse does not support video on Jabber endpoints.

Finesse Desktop latency

Finessed is not supported in the Unified CCX environment. The round-trip time between the Unified CCX server and the agent desktop must not exceed 200 ms.
Bandwidth requirement for Cisco Finesse client to server

The agent and supervisor login operation involves loading web pages, and includes the CTI login and the display of the initial agent state. After the desktop web page loads, the required bandwidth is significantly less.

Because Cisco Finesse is a web application, caching can significantly impact the required bandwidth. For example, the first time an agent logs in, the number of bytes transmitted is approximately 2 megabytes. If caching is enabled in the browser, during subsequent logins, the number of bytes transmitted is 0.134 megabytes.

Because of additional gadgets on the supervisor desktop, this number is higher for a supervisor login (approximately 2.5 megabytes without caching and 0.325 megabytes with caching). To minimize the amount of bandwidth required for login, make sure that caching is enabled in the browser.

To help you with the bandwidth calculation, Cisco Finesse provides a bandwidth calculator to estimate the bandwidth required to accommodate the client login time.

Note that during failover, agents are redirected to the alternate server and are logged in automatically. For example, if you configure your bandwidth so that login takes 5 minutes and a client failover event occurs, agents will take 5 minutes to successfully log in to the alternate server.

The Cisco Finesse bandwidth calculator does not include the bandwidth required for any third-party gadgets in the Cisco Finesse container or any other applications running on the agent desktop client.

The bandwidth listed in the bandwidth calculator must be available for Cisco Finesse after you account for the bandwidth used by other applications, including voice traffic that may share this bandwidth. The performance of the Cisco Finesse interface, and potentially the quality of voice sharing this bandwidth, may degrade if sufficient bandwidth is not continuously available.

Administration

The administrator can access the Cisco Finesse administration web user interface in read and write mode from the Unified CCX publisher node. From the Unified CCX subscriber node, access is read-only.

Finesse REST API

Cisco Finesse provides a REST API that allows client applications to access the supported features. The REST API uses secure HTTP (HTTPS) as the transport with XML payloads.

Cisco Finesse provides a JavaScript library and sample gadget code that can help expedite third-party integration. You can find developer documentation for the REST API, the JavaScript library, and sample gadgets at this location: http://developer.cisco.com/web/finesse/docs.

Silent monitoring

The supervisors can monitor agents calls using Unified Communications Manager-based silent monitoring with Cisco Finesse.

Cisco Finesse does not support SPAN port-based monitoring and desktop monitoring to silent monitor the agent.

Recording

Cisco Finesse workflows can be used to record agent calls using Cisco Unified Communications Manager with Cisco MediaSense or Cisco Workforce Optimization.
The agent phone must have built-in-bridge (BIB) support enabled for Cisco Unified Communications Manager-based call recording and monitoring to work with Cisco Finesse.

For information about the phones that have built-in-bridge support, see the Software and Hardware Compatibility Guide for Cisco Unified CCX and Cisco Unified IP IVR at this location: http://docwiki.cisco.com/wiki/Compatibility_Matrix_for_Unified_CCX.

For information about recording APIs, see the Cisco Finesse Web Service Developer Guide at http://developer.cisco.com/web/finesse/docs.

Cisco MediaSense Search and Play Gadget

The Search and Play gadget available on the Supervisor desktop allows you to access all recordings stored in MediaSense.

Recording Tag

Recordings initiated by Unified CCX and stored in Cisco MediaSense are tagged with semantic, contextual metadata. If participants of the call that is being recorded change, there is no change in tags for that call. These tags are prefixed by CCX: and contain the following parameters:

- agent = <agent ID> of each logged-in Unified CCX agent who participated in the recording.
- team = <team name> of all those teams whose agents have participated in the recording.
- CSQ = <CSQ name> of that CSQ where the call being recorded was queued and processed.

For example, Tag: CCX:agent=abc,team=Default,CSQ=Auto_CSQ.

These tags enable supervisors and agents to filter and search recordings in Cisco MediaSense Search and Play Gadget based on one or a combination of the parameters.

Multiline support

Finesse supports the use of multiple lines on agent phones. You can configure one or more secondary lines on an agent phone. The agent’s ACD line must be in button positions 1 - 4. Any calls on the observed lines are reported in the historical reports. However, Finesse blocks any events that are sent by the CTI server as a result of call activity on an agent’s non-primary/non-ACD line (lines other than the one the agent is logged into). These events are not published to Finesse clients. No information about calls that are handled on non-primary/non ACD line appears on the Finesse desktop.

For example, if Agent A uses his non-ACD line to call Agent B (on Agent B's primary/ACD extension), the call does not appear on Agent A's desktop. The call appears on Agent B's desktop because Agent B received the call on the primary/ACD extension.

Direct Transfer Across Line (DTAL) and Join Across Line (JAL) are not supported.

NAT support

Cisco Finesse does not support NAT.

IPv6 support

Cisco Finesse provides support for IPv6 with Unified CCX.
E.164 support

Unified CCX agents and supervisors can log into Finesse with ‘+’ (plus sign) as prefix. Finesse also supports E.164 for the following:

- Enterprise Data
- Phone Book Contacts
- Workflow Rules or Conditions

Cisco Agent Desktop

Cisco Agent Desktop Integration with Cisco IM and Presence

CAD agents and supervisors communicate with each other through the chat services built into the desktop applications. If you have deployed Cisco IM and Presence in their environments, agents and supervisors can use these same desktop applications to see the presence status of SMEs as well as other critical members of the enterprise, and to initiate chat sessions with them. The SMEs use the Cisco Unified Personal Communicator to initiate chat sessions with agents who are configured as Cisco IM and Presence users and respond to the chat requests from them. SMEs can also use Microsoft Office Communicator. The Cisco IM and Presence integration feature is available in the Standard, Enhanced, and Premium packages.

For example, a customer calls a Cisco Unified Contact Center that has integrated Cisco IM and Presence with CAD. The customer's call is routed to an available agent. If the agent requires assistance in addressing the caller's needs, the agent can launch the contact selection window from the Agent Desktop toolbar. The contact selection window will display the presence status of other agents, supervisors, and SMEs who are assigned to the agent's work flow group. The agent can then select a contact who is available and initiate a chat session with the contact. If appropriate, the agent can also use the contact selection window to conference a contact into the call, or even transfer the customer's call to the contact.

This figure and the description that follows describe how various components of Cisco Agent Desktop and Cisco IM and Presence interface with each other.
Figure 1: Interface Between Cisco Agent Desktop and Cisco IM and Presence

1. Cisco Desktop Administrator retrieves the LDAP configuration profile through the SOAP Interface.

2. Cisco Desktop Administrator binds to the LDAP server for SME searches and information, such as name and telephone number.

3. Administrator places SMEs in logical groups called contact lists and then assigns them to specific workflow groups. Administrators can segment contact lists and ensure that only those agents assigned to a specific workflow group have visibility to the appropriate contact list. This configuration is saved in CAD's LDAP so that each agent or supervisor does not have to access the Unified Presence's LDAP server which might have limitations on number of connections. Administrators can also control the supervisor's ability to see the agent's present state.

4. CAD retrieves the contact list associated with the agent's workflow group.

5. CAD retrieves various configuration profiles through the SOAP interface, for example, Unified Presence server information.

6. CAD sends a SIP REGISTER to register with Cisco IM and Presence, followed by individual SIP SUBSCRIBE messages for each user in its contact list. CAD also sends a SIP SUBSCRIBE for “user-contacts” for contacts configured on Cisco IM and Presence. A SIP NOTIFY is received whenever a contact in the contact list changes state. CAD does not allow agents to change their presence states. It only sends a single SIP PUBLISH message to Cisco IM and Presence when an agent logs in.
Call Control is done through the existing CAD main window using CTI. All SIP traffic and presence information sent between CAD and Cisco IM and Presence is not encrypted and is done through TCP or UDP.

Cisco IM and Presence can assign the users registered with it across all nodes within the Cisco IM and Presence cluster. If the user attempts to connect to a node that is not assigned to him, CAD will connect to the SOAP and Presence servers specified in redirect messages from the publisher.

All communication between CAD agents and supervisor is through Cisco IM and Presence server and is not routed through any CAD server. Refer to the chapter on Cisco IM and Presence in the Cisco Unified Communications SRND for deployment guidelines.

Inbound Voice

- Integrated IVR, call queuing, and routing
- Out-of-the-box support for scripting the business logic
- Enterprise database and document manipulation using scripting tool
- Real-time statistics to make run-time decisions
- Full scale automated speech recognition, text to speech and Voice XML scripting
- Context Service integration to provide interaction history and run-time decisions.

Codec Support

Unified CCX supports the following codecs:

- G.711 a-law and μ-law
- G.729

Unified CCX Outbound Dialer

Unified CCX supports the following outbound dialers:

Unified CCX Outbound Preview Dialer—Allows agents to participate in outbound campaigns in addition to handling inbound calls, which maintains a high level of agent productivity.

Agents can log in using Cisco Agent Desktop (CAD) or Cisco Finesse agent desktop.

Unified CCX Outbound IVR Dialer (Progressive and Predictive)—Allows for outbound calls to be placed to contacts in a campaign and subsequently for live contacts to be serviced by an IVR application. Call Progress Analysis (CPA) capabilities of the SIP Voice gateway are used to filter non-live contacts (which could be fax and no answer). Live calls are transferred to a CTI route point to be serviced by an associated IVR application. If the live call is answered by an answering machine the call is either routed to an IVR application or the call can be ended. An outbound IVR call that is answered by a customer contact but cannot be serviced due to unavailability of an IVR port is said to be abandoned.

Unified CCX Outbound Agent Dialer (Progressive and Predictive)—Allows for outbound calls to be placed to contacts in a campaign and subsequently for live contacts to be serviced by agents. Call Progress Analysis (CPA) capabilities of the SIP Voice gateway are used to filter non-live contacts (such as fax and no
answer). Calls that are answered by a customer are transferred to an agent. An outbound call that is answered by a contact but cannot be serviced due to unavailability of an agent can be transferred to a CTI route point to be serviced by an associated IVR application.

---

**Note**

Unified CCX dialer will dial outbound contacts only when the **Cisco Unified CCX Database** service on publisher node is up and running.

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### Functional Description

There are three types of dialing modes in outbound: Direct Preview, Progressive, and Predictive.

#### Direct Preview

The direct preview dialing mode uses a three-stage process to make an outbound call. The first stage is to find an available agent and retrieve the customer information for making the outbound call. The second stage is the reservation call, which reserves an agent and sends customer data to the agent desktop. During this stage, the agent is reserved and the data appears on the desktop so that the agent can review the data and decide whether to accept the call by pressing the corresponding button on Cisco Agent Desktop or Cisco Finesse. If the agent does not accept the call, the call is handled by other outbound agents or closed for the campaign. If the agent does accept the call, direct preview outbound kicks in the last stage where Communications Manager is instructed to place the outbound call using the agent's phone. When the outbound call is answered, direct preview outbound updates the customer contact in the database with the call status and call result.

When the outbound call connects with the customer, the agent can perform all call control operations that are normally supported on inbound calls (transfer, conference, hold, retrieve, and so on). The agent can also reclassify a direct preview outbound call as busy, answering machine, fax, invalid number, or voice. By default, a call is classified as voice.

#### Progressive and Predictive

The Outbound feature supports two types of dialing modes progressive and predictive for IVR and agent-based campaigns. Each dialer dials an appropriate number of contacts to make efficient use of the available system resources (IVR ports and agents). Both progressive and predictive algorithms use Lines Per Port (LPP) to determine the number of outbound calls to place per available IVR port for IVR-based campaigns and Lines Per Agent (LPA) to determine the number of outbound calls to place per available agent for agent-based campaigns.

#### Progressive Dialing Mode

**For IVR**

Progressive algorithm uses the LPP value that is configured by the administrator through Unified CCX Administration. The outbound dialer uses the SIP gateway to place outbound calls, and uses the Call Progress Analysis (CPA) capability of the SIP gateway to filter outbound calls. The SIP gateway filters out non-live contacts such as fax, invalid number, and no answer and forwards only the live calls answered by a customer contact to an IVR port.

For example, if the Number of Lines Per Port is 3 and x number of dedicated ports are available, then the outbound dialer dials 3x outbound calls.
Depending on the number of calls that get abandoned due to the shortage of dedicated ports, you can adjust the LPP value manually to make the calls efficiently.

An abandoned call occurs when a customer answers the phone, but no port is available to serve the customer. The abandoned call rate must be set to comply with the applicable government regulations.

**For Agent**

Progressive algorithm uses the LPA value that is configured by the administrator through Unified CCX Administration. The outbound dialer uses the SIP gateway to place outbound calls and uses the Call Progress Analysis (CPA) capability of the SIP gateway to filter outbound calls. The SIP gateway filters out non-live contacts such as fax, invalid number, and no answer and forwards only the live calls answered by a customer contact to an agent.

For example, if the Number of Lines Per Agent is 3 and x number of agents are available, then the outbound dialer dials 3X outbound calls.

Depending on the number of calls that get abandoned due to the shortage of agents, you can adjust the LPA value manually to make the calls efficiently.

An abandoned call occurs when a customer answers the phone, but no agent is available to serve the customer. The abandoned call rate must be set to comply with the applicable government regulations.

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**Note**

CUBE is supported with the Outbound Predictive and Progressive dialers for agent and IVR with CPA (Call Progress Analysis).

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**Progressive Dialing Description**

The Outbound subsystem checks the licensing information to determine the number of available ports and agents for the campaign.

**For IVR**

The dialer multiplies the available ports for the campaign with the LPP value configured by the administrator. Based on this output and the number of contacts, the contacts are dialed out. For instance, if 50 ports are available for a campaign and if you have configured the LPP as 2 through Unified CCX Application Administration web interface or REST API, then the dialer can dial 100 contacts.

The SIP gateway performs call progressive analysis of the call and informs the outcome of the call to Unified CCX. All of the dialed contacts, which turn out to be live voice, are connected to the CTI port that plays an IVR script and remaining calls are disconnected.

**Dialer Action for the Following IVR-Based Call Scenarios:**

- If the dialer detects more contacts with live voice than the available ports, then the dialer drops these calls as abandoned calls. If the dialer detects fewer contacts with live voice, then the dialer will connect those calls to the CTI port, and the remaining CTI ports are freed.

- If the dialer detects an answering machine, then it connects to the CTI port that plays the IVR script or abandons the call, depending on the option selected in the Answering Machine Treatment field in the Campaign Configuration web page.

- If the dialer detects a fax, modem, or an invalid number, then the dialer abandons the call.
If the dialer detects a call as low volume, then it considers the call to be live voice. The dialer connects the call to the CTI port that plays the IVR script or abandons the call depending on the option selected in the Handle Low Volume as Voice field in the Campaign Configuration web page.

For Agent

The dialer multiplies the reserved agents for the campaign with the LPA value configured by the administrator. For instance, if 50 agents are available for a campaign and if you have configured the LPA as 2 through Unified CCX Application Administration web interface or REST API, then the dialer can dial 100 contacts.

The SIP gateway performs call progressive analysis of the call and informs the outcome of the call to Unified CCX. All the dialed contacts, which turn out to be live voice, are connected to an agent and the remaining calls are disconnected.

Dialer Action for the Following Agent-Based Call Scenarios:

- If the dialer detects more contacts with live voice than the reserved agents, then the dialer connects to the CTI port that plays the IVR script or abandons the call, depending on the option selected in the Abandoned Call Treatment field in the Campaign Configuration web page. If the dialer detects fewer contacts with live voice, then the dialer connects those calls to the agents in Reserve state, and the remaining agents in Reserve state are moved to Ready state.

- If the dialer detects an answering machine, then it connects to the CTI port that plays the IVR script or abandons the call, depending on the option selected in the Answering Machine Treatment field in the Campaign Configuration web page.

- If the dialer detects a fax, modem, or an invalid number, then the dialer drops the call.

- If the dialer detects a call as low volume, then it considers the call as live voice and connects the call to an available agent or abandons the call depending on the options selected in the Handle Low Volume as Voice field in the Campaign Configuration web page.

In a LAN deployment:

- For IVR-based campaigns, the call is connected to an IVR port within two seconds.

- For agent-based campaigns:
  
  - The call is connected to an agent within two seconds. If agents are not available to handle the call, then the call is connected to an IVR port within two seconds.

  - If Agent AutoAnswer is enabled in the Configure General Outbound Properties web page and the dialer detects the outbound call to be live voice, then the call is connected to the agent within two seconds.

Predictive Dialing Mode

For IVR

Predictive algorithm dynamically varies the LPP between a minimum value of one and maximum value that is configured to ensure that the abandon rate does not exceed the threshold configured through Unified CCX.
Administration (abandon rate is the percentage of live calls that had to be dropped due to the unavailability of an IVR port). The abandon rate is corrected over a period of time.

For Agent
Predictive algorithm dynamically varies the LPA between a minimum value of one and maximum value that is configured to ensure that the abandon rate does not exceed the threshold configured through Unified CCX Administration (abandon rate is the percentage of live calls that had to be dropped due to the unavailability of an agent). The abandon rate is corrected over a period of time.

Predictive Dialing Description
The Outbound feature in predictive dialing works by keeping outbound dialing at a level where the abandoned rate is below the maximum allowed abandon rate. For example, each campaign is configured with a maximum allowed abandon rate.

For IVR
The dialer continuously increments the number of lines being dialed per port until the abandon rate rises to the preconfigured maximum abandon rate. At this point, the dialer begins lowering the lines per port until the abandon rate goes below the preconfigured maximum. The dialer stays just below the preconfigured maximum abandon rate.

Under ideal circumstances, the dialer internally targets an abandon rate of 85 percent of the preconfigured maximum abandon rate. Due to the random nature of outbound dialing, the actual attainable abandon rate at any point in time may vary for your dialer.

When a campaign starts for the first time, the predictive algorithm uses the seed value of LPP configured through the AppAdmin web interface. For subsequent start of the campaign, the predictive algorithm uses the last corrected LPP value.

The frequency of correction and amount of correction is determined by the Predictive Correction Pace and the Predictive Gain configured.

The Predictive Correction Pace determines the pace at which the correction occurs. The correction occurs in iterations where each iteration size is 25 percent (Predictive Correction Pace/4) of live voice calls that are successfully transferred to the IVR port. The correction factor determines the amount of correction that has to be applied. After every iteration, the predictive algorithm calculates the correction factor and multiples it with the Predictive Gain to determine the final amount of correction to apply.

Note
We advise not changing the Predictive Correction Pace and Predictive Gain values unless there is an immediate requirement to control the output of the predictive algorithm. For example, in situations where a campaign runs for a very short time and the LPP needs to be corrected at a faster pace, you can reduce the Predictive Correction Pace and ensure that the value in the Predictive Gain field is 1.0, which is the maximum value.

Dialer Action for the Following IVR-Based Call Scenarios:

• If the dialer detects an answering machine, then it connects to the CTI port that plays the IVR script or abandons the call, depending on the option selected in the Answering Machine Treatment field in the Campaign Configuration web page.

• If no IVR ports are available to handle the call, then the dialer abandons the call.
For Agent

The dialer continuously increments the number of lines being dialed per agent until the abandon rate rises to the preconfigured maximum abandon rate. At this point, the dialer begins lowering the lines per agent until the abandon rate goes below the preconfigured maximum. The dialer stays just below the preconfigured maximum abandon rate.

Under ideal circumstances, the dialer internally targets an abandon rate of 85 percent of the preconfigured maximum abandon rate. Due to the random nature of outbound dialing, the actual attainable abandon rate at any point in time may vary for your dialer.

When a campaign starts for the first time, the predictive algorithm uses the seed value of LPA configured through the AppAdmin web interface. For subsequent start of the campaign, the predictive algorithm uses the last corrected LPA value.

The frequency of correction and amount of correction is determined by the Predictive Correction Pace and the Predictive Gain configured.

The Predictive Correction Pace determines the pace at which the correction occurs. The correction occurs in iterations where each iteration size is 25 percent (Predictive Correction Pace/4) of live voice calls that are successfully transferred to the agent. The correction factor determines the amount of correction that has to be applied. After every iteration, the predictive algorithm calculates the correction factor and multiples it with the Predictive Gain to determine the final amount of correction to apply.

---

We advise not changing the Predictive Correction Pace and Predictive Gain values unless there is an immediate requirement to control the output of the predictive algorithm. For example, in situations where a campaign runs for a very short time and the LPA needs to be corrected at a faster pace, you can reduce the Predictive Correction Pace and ensure that the value in the Predictive Gain field is 1.0, which is the maximum value.

---

Dialer Action for the Following Agent-Based Call Scenarios:

- If the dialer detects an answering machine, then it connects to the CTI port that plays the IVR script or abandons the call, depending on the option selected in the Answering Machine Treatment field in the Campaign Configuration web page.

- If no agents are available to handle the call, then the dialer connects to the CTI port that plays the IVR script or abandons the call, depending on the option selected in the Abandoned Call Treatment field in the Campaign Configuration web page.

---

Note

In a LAN deployment:

- For IVR-based campaigns, the call is connected to an IVR port within two seconds.

- For agent-based campaigns:
  - The call is connected to the agent within two seconds. If agents are not available to handle the call, then the call is connected to an IVR port within two seconds.
  - If Agent AutoAnswer is enabled in the Configure General Outbound Properties web page and the dialer detects the outbound call to be live voice, then the call is connected to the agent within two seconds.
High Level Components

This figure describes the components deployed in Cisco Unified Outbound:

Figure 2: Cisco Unified Outbound Components

Gateway Requirements

To make outbound calls using the gateway, ensure the following is completed:

- CPA (Call Progress Analysis) is enabled on the gateway.
- Dial peer is configured for Unified CCX trigger DN (Directory Number) and for agent extension. For more details on dial peers, refer to the “Dial Peer Configuration for Outbound” section of the Unified CCX Administration Guide.

Note

If Unified CCX detects that CPA is disabled on the gateway, then the contact that is dialed out for outbound is marked as failed. The same contact is retried after the configured Dialer Abandoned Delay.

Detect CPA State

To detect if CPA is disabled, Unified CCX depends on the provisional message (180 ringing /183 session progress) that is sent by the gateway as a response to the SIP invite.

If the provisional message contains the string “event = disabled,” then Unified CCX detects the CPA as disabled. In all other scenarios, including when the gateway does not send a provisional message, Unified CCX assumes that CPA is enabled.

Note

If gateway does not send the provisional 18X messages and CPA is disabled on the gateway, then Unified CCX waits for a maximum of 10 seconds after the call is answered or until the customer disconnects the call (whichever is earlier) and marks the contact as failed. The same contact is retried after the configured Dialer Abandon Delay.

**Scalability**

These capacities and limits are supported for outbound:

- Preview outbound supports a maximum of 150 agents.
- Progressive and predictive agent-based outbound supports a maximum of 150 agents.
- Progressive and predictive IVR-based outbound supports a maximum of 150 IVR ports. The number of active outbound IVR ports is limited by the maximum number of outbound IVR ports that are supported for a given platform. Because IVR for inbound and outbound compete for the same set of IVR ports, the actual number of active IVR ports in use for inbound and outbound depends on multiple parameters:
  - Number of licensed inbound ports
  - Number of licensed outbound ports
  - Sum of the number of ports dedicated across outbound IVR campaigns

Refer to the “Configuring Unified CCX Dialer” chapter of the *Unified CCX Administration Guide* for details on how the numbers of active IVR ports for inbound and outbound are determined by these parameters.

**Call Flow Description**

**Direct Preview Mode**

In the direct preview mode, the agent hears the ring-out on the agent phone. The direct preview call flow functions as illustrated in this figure and in the description that follows.

*Figure 3: Call Flow for Direct Preview Mode*

1. Import contacts for a direct preview campaign.
2. The dialer reserves an available agent and sends a reservation call to the agent desktop. At the same time, a screen pops that contains the customer information and is presented to the agent. The agent reviews the customer data and decides whether to take the call.

3. Agents can choose to accept or reject the reservation call. If the agent chooses to accept it, the agent clicks the Accept button on the desktop.

Note

- Agents using CAD have the option to skip or cancel the reservation call.
- Agents using Cisco Finesse agent desktop have the option to decline or close the reservation call.

4. Once agent accepts the call, the dialer instructs Cisco Unified Communications Manager (CUCM) to place an outbound call from the agent phone. Because this call is a direct preview call, the agent immediately hears the ringback of the customer phone.

5. When the call is answered, the dialer closes the contact, classifies it as a voice call. The agent can reclassify a call as an answering machine, fax, or an invalid number from the desktop accordingly.

Progressive and Predictive IVR Mode

The call flow description for outbound IVR is illustrated in this figure and in the description that follows.

Figure 4: Call Flow for IVR Mode

1. Import the contacts for an IVR-based progressive or predictive campaign.

2. Outbound dialer determines the number of contacts to dial as per the configured algorithm (progressive or predictive) and places outbound calls using SIP through the voice gateway. The voice gateway detects live contact through its CPA capabilities and sends status of live contact to the dialer.

3. The dialer uses this to update contact status information in the configuration database and also sends a SIP refer message to the SIP gateway which then transfers the call to the Cisco Unified CM Trigger associated with the campaign.

4. The call is established between the IVR port and the customer.
Progressive and Predictive Agent Mode

The call flow description for agent outbound is illustrated in this figure and the description that follows.

Figure 5: Call Flow for Agent Mode

1. Import the contacts for an agent-based progressive or predictive campaign.
2. The dialer requests the Resource Manager to reserve the agent. The Resource Manager reserves the agent by moving the agent to Reserved state.
3. Outbound dialer determines the number of contacts to dial as per the configured algorithm (progressive or predictive) and places outbound calls using SIP through the voice gateway. The voice gateway detects live contact through its CPA capabilities and sends status of live contact to the dialer.
4. The dialer uses this information to update contact status information in the configuration database and also sends a SIP refer message to the SIP gateway, which then transfers the call to the Cisco Unified CM. Cisco Unified CM transfers the call to the reserved agent on Cisco Unified CCX server.
5. The Outbound subsystem then associates the call to the reserved agent.

Agent Allocation

The Outbound subsystem allocates agents for outbound calls by:

- Pulling a batch of contacts from the db_cra database
- Assigning a Ready agent to each by-reserving the agents for outbound calls
- Presenting them with the outbound calls

Note

CAD agents are presented with direct preview outbound calls. Finesse agents are presented with direct preview, progressive, and predictive outbound calls.

Agent Allocation for Direct Preview Campaigns

Agents are chosen from the CSQ using the same criteria configured in Unified CCX Administration GUI for inbound calls. If an agent accepts a direct preview outbound call, the Outbound subsystem initiates a call on
the agent's behalf. If the agent rejects the contact, the agent reservation is cancelled and the agent becomes Ready again and may be presented with either an outbound call or an inbound call. The contact that was rejected is assigned to another agent. If the agent decides to skip the contact, the agent reservation is not cancelled. Instead, the skipped contact gets assigned to another (or the same) agent.

The agent's response such as accept, skip, and reject is saved in the database for each contact presented during a campaign. If the agent does not respond within the timeout configured on the General page of the Outbound subsystem configuration in Unified CCX Administration GUI, the Outbound subsystem moves the agent to Not Ready state (similar to an inbound Not Ready state) and assigns the contact to another agent. The status of the contact (for example, the contact can be closed or needs to be dialed again) and the call result (for example, the contact was reached successfully or contact was not at home) is recorded in the database and this data is presented in the real-time and historical reports.

Agent Allocation for Progressive and Predictive Campaigns

Agents are chosen from the CSQ using the same criteria configured in Unified CCX Administration GUI for inbound calls. If an agent accepts a progressive or predictive outbound call, agent is reserved for an outbound call. The outbound dialer uses the SIP gateway to place outbound calls. The SIP gateway filters out non-live contacts such as fax, invalid number, and no answer and forwards only the live calls answered by a customer contact to an agent. It is recommended to enable Agent Autoanswer so that the call presented to the agent is automatically answered. A beep tone notifies the agent that the call has been answered.

If Agent AutoAnswer is not enabled and the agent does not answer the call, then the call is abandoned and agent moves to Ready or Not Ready depending on the option selected for the Agent State after Ring No Answer field in System Parameters Configuration web page. The status of the contact (for example, the contact can be closed or needs to be dialed again) and the call result (for example, the contact was reached successfully or contact was busy) is recorded in the database and this data is presented in the real-time and historical reports.

Note

Calls made by the Outbound subsystem will not be displayed in the Contacts Summary Real-Time Report.

Deployment Guidelines

The following guidelines should be followed when deploying outbound:

- Outbound supports a maximum of 15 active campaigns and a maximum of 1 million active outbound records for each campaign.
- Outbound does not come preinstalled with any US National Do Not Call lists. The system administrator should manually filter the contact list against the Do Not Call list prior to importing contacts.

The following guidelines are specific to outbound:

- Outbound supports a maximum of 10 CSQs for each campaign.
- Finesse and CAD agents (only for direct preview outbound) are supported. IPPA agents are not supported.
- Direct preview outbound cannot detect an answering machine, fax, or modem. The agent should manually reclassify the call to “answer machine” or “fax” from the desktop. The contact will be called again using the same number (in the case of “answer machine”) or using an alternate number (in the case of “fax”).
- For direct preview outbound, agents should not transfer or conference the outbound call if the call is answered by the media other than a person, such as an answering machine or fax machine.
- For progressive and predictive outbound, the SIP gateway performs call progressive analysis which determines whether the outcome of a call is an answering machine, live voice, fax, or beep tone and presents only the live voice calls to the agents. The contact will be called again using the same number in case of no answer and busy tone or using an alternate number in case of a fax, modem or an invalid number.

The following guidelines are specific to IVR and agent-based progressive and predictive outbound:

- It is possible to only have a single instance of the SIP gateway in the deployment.
- Install the SIP gateway on the same site (that is, the same campus LAN) as the Unified CCX primary engine. However, if the SIP gateway is installed over the WAN from the Unified CCX primary engine, it is still supported but not recommended.

Note
The primary engine is always the first node that was installed in the Unified CCX cluster and cannot be changed.

- No redundancy of the SIP gateway or usage of any SIP Proxy is supported.
- The protocol supported between the SIP Gateway and Unified CM for transferring the outbound call to an IVR application or to an available agent includes SIP and H323.
- It is possible to use the same gateway for both inbound and outbound voice.

**Home Agent with Extend and Connect**

**Definitions**

- **CTI Remote Device** — New device type that represents the user’s off-cluster phones, which the users plan to use with Cisco Unified Communications applications. The device type is configured with one or more lines (for example, Directory Numbers) and one or more remote destinations.
- **Remote Destinations** — A numerical address that represents the user’s other phones (for example, home office line and other PBX phone). The phone can be any off-cluster device such as DVO-R (Dial-via-Office-Reverse).

**Introduction**

The Extend and Connect feature can be configured for agents and supervisors on remote devices to accept inbound and outbound calls. This feature works with Cisco Jabber in Extended mode and the new CTI Remote Device type and enables applications to have limited call control capability over third-party devices of an user. Configure all third-party devices or end points of an user as remote destinations on a virtual CTI Remote Device. You can configure third-party devices or end points of an user from Cisco Unified Communications Manager administration console.

If there is an active remote destination set for a remote device, a call to that device is placed only to the active remote destination.
Feature Availability by License Package

The following table lists the availability of Extend and Connect feature in the Unified CCX packages.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Unified CCX Premium</th>
<th>Unified CCX Enhanced</th>
<th>Unified CCX Standard</th>
<th>Unified IP IVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extend and Connect</td>
<td>Available</td>
<td>Available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Persistent Connection Call

Persistent connection allows an agent to maintain a dedicated connection with an active remote destination. Persistent connection is supported from Cisco Unified Communications Manager. This connection saves connection establishment time for each call.

A persistent connection call is made to the active remote destination during agent login. The agent answers the persistent connection call only from a configured remote destination. ICD calls are placed over persistent connection. The agent moves to Ready state after answering the persistent connection call. Unified CCX plays an announcement upon answering persistent connection call provided that announcement is configured with the identifier as “UCCX Persistent Connection Prompt”.

After the persistent connection is established for incoming calls, Unified CCX plays an announcement on persistent connection provided that announcement is configured with identifier as "UCCX Customer Call Prompt". The agent’s remote device displays the caller ID during the ICD call provided that the remote device has a provision to display caller information. The caller ID name is displayed as EC Mode. The caller information remains displayed until the next call is placed on the persistent connection call. By default, Unified CCX makes a maximum of three attempts to establish a persistent connection call.

The default call duration for a persistent connection is 12 hours. You can change the persistent connection duration using the Maximum Call Duration Timer field in Cisco Unified Communications Manager.

When a persistent connection call is not answered, the agent is moved to Not Ready state and is not allowed to move to Ready state until the persistent connection call is established. The persistent connection call is dropped after the agent logs out.

The following figure shows the persistent connection call flow:
The following figure shows a persistent connection incoming call:

*Figure 7: Persistent Connection Incoming Call*

For remote phones that have persistent connection, the following features are not supported:

- Call Hold/Resume is not supported for a persistent connection call.
- Intercept/Barge-In is supported for persistent connection with Cisco Supervisor Desktop (CSD); however, is not supported with Cisco Finesse.
- Live Data and Historical reports do not distinguish the remote agents from the enterprise agents.
- The supervisors cannot initiate recording for remote agents using Cisco MediaSense directly. For more information about Cisco MediaSense, see the *Cisco Unified CCX Administration guide, Release 10.5*(1) at:

- The supervisors cannot initiate recording for remote agents using Cisco MediaSense directly, but recording can be achieved using Gateway forking. For more information about Cisco MediaSense, see the at:

- The maximum number of supported remote agents is 100.

- Extend and Connect is not supported on shared lines.

**Signaling Flow**

The following figure shows the signaling flow chart:

*Figure 8: Signaling Flow*

**Agent and Device Configuration**

To use this feature, perform the following configuration:


**Call by Call Mode**

Unified CCX administrator can switch off persistent connection using Unified CCX Administration page to enable Call by Call mode. In this mode, every call will be routed independently to the Home Agent as if the
Remote Agent Over Broadband

Unified CCX supports remote agents (for example, at-home agents) using Cisco Unified IP Phone over a broadband internet connection. The Cisco Voice and Video Enabled IPSec VPN (V3PN) ADSL or Cable connection can use a Cisco 800 Series router as an edge router to the broadband network. The Cisco routers can provide the remote agent with V3PN, Encryption, Network Address Translation (NAT), Firewall, Cisco IOS Intrusion Detection System (IDS), and QoS on the broadband network link to the Unified CCX campus. Remote agent V3PN aggregation on the campus is provided via LAN to LAN VPN routers.

The following are the features for remote agent over broadband:

- Quality of Service (QoS) with Low-Latency Queuing (LLQ) and Class-Based Weighted Fair Queuing (CBWFQ) support
- Managed Switch
- Power over Ethernet (optional)

Cisco does not support using the Cisco 850 and 860 Series routers for this application because they have limited QoS feature support.

The Cisco VPN Client feature available in select Cisco Unified IP Phones provides another option for remote agents to connect their IP Phones to the enterprise.

The enterprise will need to deploy and set up a Cisco ASA 5500 series Adaptive Security Appliance which supports SSL VPN connectivity as detailed in the following link:


The VPN feature needs to be configured on the Cisco Unified Communication Manager as per the Cisco Unified Communications Manager Security Guide.

The Cisco Unified IP Phone should then be configured within the enterprise as detailed in the Cisco Unified IP Phone Administration Guide for Cisco Unified Communications Manager. This guide can be accessed at the following location:

http://www.cisco.com/en/US/docs/voice_ip_comm/cuipph/790g_7961g_7961g-eo_7962g_7941g_7941g-ge/8_0/english/administration/guide/62adm80.html

This guide also has the list of Cisco Unified IP Phones that support the VPN Client feature.

After the IP Phone has been configured in the enterprise, the agent can then take it home and connect it to a regular broadband router to obtain VPN connectivity to the enterprise. The agent will then be able to use the configured extension for receiving and placing calls from home.

Unified CCX Web Chat

Web Chat is supported with both Cisco Agent Desktop-based deployment and Finesse-based deployment. Multisession is supported only with Cisco Finesse. As part of the Premium offering, Unified CCX agents can service incoming customer chat requests either by using the Agent Web Chat Application from the Cisco Agent Desktop or by using Cisco Finesse. For information about the available features, see Web Chat Contact Distribution.
The administrator must add the Finesse agent layout. For more information, see the “Cisco Finesse” section of the *Cisco Unified CCX Administration Guide*, located at:


This feature requires a Cisco SocialMiner deployment to accept and relay the contact requests from a customer website. One SocialMiner deployment can serve only one Unified CCX deployment (single node or high availability deployment).

If SocialMiner is exposed to external traffic from the internet then SocialMiner must be within the DMZ.

**Deployment Scenario 1: Customer Web Site in Demilitarized Zone (DMZ)**

*Figure 9: Customer Web Site in DMZ*

The Cisco Unified CCX is deployed inside the enterprise firewall and SocialMiner is deployed inside company premises in the DMZ along with the customer website. The DMZ is open to all HTTP/HTTPS traffic from the Internet. The Unified CCX is shielded from all outside traffic except the traffic coming from the DMZ zone. Even from the DMZ, the Unified CCX only responds on HTTP/HTTPS and BOSH (7443/7071) ports.
One variation of the preceding scenario can be an addition of a proxy server that can intercept and relay all calls going to SocialMiner.

Note

SocialMiner should only need to access a proxy server if it sits behind a corporate network firewall and has to use an http or https proxy server for accessing an outside network. You should not need to give SocialMiner a private NAT address, and doing so is not currently supported.

Unified CCX Agent Email

Unified CCX Agent Email is supported with both Finesse-based deployment and Cisco Agent Desktop-based deployment.

For information about Finesse Agent Email, see Unified CCX Finesse Agent Email, on page 26.

For information about CAD Agent Email, see Unified CCX CAD Agent Email, on page 29.
Unified CCX Finesse Agent Email

As part of the Unified CCX Premium offering, Unified CCX supports agent email with Finesse.

For information about Cisco Agent Desktop-based email, see Unified CCX CAD Agent Email, on page 29.

Note

The administrator must configure the Finesse Desktop Layout for agents and supervisors.

For more information, see “Cisco Finesse” section in the Cisco Unified CCX Administration Guide, Release 10.6 at:


Finesse Agent Email requires the deployment of Cisco SocialMiner to handle the email and relay the contact requests from a mail server. One SocialMiner deployment can serve only one Unified CCX deployment (single-node or high-availability deployment), and vice versa.

The Finesse Agent Email feature requires the use of an external mail server (Microsoft Exchange 2010 and 2013 are supported). This mail server is not provided, installed, or configured as part of the Unified CCX installation. To communicate with the Exchange Server, SocialMiner uses secure IMAP (for message retrieval) and secure SMTP (for message sending). On the Exchange Server, enable IMAP (SMTP is enabled by default).

For more information about enabling IMAP, see section “Mail Server Configuration” in Cisco Unified CCX Administration Guide, Release 10.6 at:


Unified CCX allows email contacts to be routed to agents based on the email addresses to which they are sent by the customers. Finesse Agent Email feature uses skill-based routing and last-agent email routing.

Separate CSQs are required for Email. You must associate each Email CSQ with a separate email account on the mail server. This account must be dedicated to the Finesse Agent Email feature and must not be used for other purposes. Agent association with Email CSQs is configured in the same manner as Voice CSQs by assigning skills and competency levels to the CSQ.

For information about Email Contact Distribution Features, see Finesse Agent Email Contact Distribution.

Cisco Finesse provides a common chat and email state, separate from voice state. Blending ensures that agents can handle voice, email, and chat contacts from the same desktop. Emails are routed only to agents that are assigned to at least one Email CSQ.

When an agent replies to the customer's email, the reply email address depends on the information in the customer's email. If the customer's email contains the Reply-to header field, the agent's reply email is sent to the email address in the Reply-to header. If the Reply-to header is missing in the customer's email, the agent's reply email is sent to the From address in the customer's email. The sender address of agent's email is the email account associated with the Email CSQ on which the reply is being sent. Upon requeue, Unified CCX ensures that the response is sent with the email address of the requeued CSQ as the From address.

Last Agent Email Routing

Last Agent Email Routing is a mechanism to route an email message to the agent who handled the last leg of the email conversation.
Unified CCX makes an attempt to present the email to the last agent for a configurable amount of time. If the agent does not become available within the configured time, Unified CCX queues the email back to the intended CSQ to be routed to any other available agent.

The email allocation is lost in the following conditions:

1. If the customer changes the subject line before sending the reply, the email is no longer identified with the last agent.
2. If the agent requeues the email and another agent responds to the customer, this email is now identified with second agent thereafter.

**Requeue**

Finesse Email agents can requeue emails to a different CSQ. A drop-down list of Email CSQs is available on the Finesse Agent Desktop and the agent can choose to requeue to another CSQ.

**SocialMiner in DMZ**

Unified CCX is deployed inside the enterprise firewall. SocialMiner can be deployed inside the firewall or inside the company premises in the DMZ depending on whether it needs access to the Internet. Use Proxy or Firewall to limit all HTTP/HTTPS traffic to SocialMiner. All email traffic from the Internet can also be similarly limited.

If SocialMiner is deployed in the DMZ, it needs access to the Exchange Server.

---

**Note**

If SocialMiner is in the DMZ and the mail server is inside the enterprise firewall, the customers email messages flow from the mail server inside the enterprise firewall to the SocialMiner in the DMZ and back to the agent inside the enterprise firewall.

Unified CCX is shielded from all outside traffic except the traffic coming from the DMZ. Even from the DMZ, Unified CCX responds only on HTTP/HTTPS and BOSH (7443/7071) ports.

**Note**

Unified CCX supports only Microsoft Exchange Server 2010 and 2013.
The following steps describe how an email is routed using the Finesse Agent Email feature:

1. SocialMiner connects to the mail server (IMAP) on startup for each configured email feed.
2. An email-capable agent in the Email CSQ logs in using the Finesse Agent Desktop.
3. The agent enters the Ready for Chat and Email state.
4. An end customer sends an email message to, for example, sales@companyname.com.
5. SocialMiner polls the configured email account based on the poll interval settings, fetches any unread email messages, and notifies Unified CCX about the incoming email contact (sends metadata about the email).
6. Unified CCX internally queues the email contact in the email CSQ and waits for an email agent associated with the queue to become available.
7. Unified CCX assigns the email contact to the agent and informs the email control gadget on the Finesse Agent Desktop about the email contact.
8. The email control gadget automatically accepts the email contact.
9. When the agent selects the particular email tab on the Reply gadget, the email is fetched from the mail server and presented to the agent.
10. The agent writes a response and presses the **Send** button. Email drafts are automatically saved every three minutes. When email messages are requeued, saved drafts are presented to the new agent. When an agent logs out with unhandled email messages, these email messages are requeued to the same queue along with the associated drafts.
11. SocialMiner uses secure SMTP to send the response email message.
12. After it sends the response, the media gadget closes the email tab. Unified CCX closes the email contact and writes historical records.

**Email Deployment Considerations**

*Table 2: Email path when SocialMiner is deployed in DMZ and the Exchange Server is in the enterprise LAN.*

<table>
<thead>
<tr>
<th>Email Origin</th>
<th>Email Path</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>External to Enterprise</td>
<td>Email arrives at Exchange Server through DMZ and is sent back to SocialMiner located in the DMZ.</td>
<td>Communication between SocialMiner and Exchange Server is encrypted.</td>
</tr>
<tr>
<td>Internal to Enterprise</td>
<td>Email is sent from Exchange Server to SocialMiner located in the DMZ.</td>
<td></td>
</tr>
</tbody>
</table>

Security considerations to be taken care of on the Exchange Server:

- Implement Enterprise Security mechanisms to prevent attacks such as malware, Spam, Denial of Service attacks/Email flood.
- Train agents to recognize and prevent phishing attacks.
- There are external third-party solutions that detect phishing attacks.

For details of ports that are used in Unified CCX, see Appendix B “Port Utilization” in *Cisco Unified Contact Center Express Operations Guide* at:


**Unified CCX CAD Agent Email**

As part of the Premium offering, Unified CCX agents can service customer emails using the CAD interface. CSD includes real-time displays and information that enable supervisors to manage email CSQs and their email capable agents. When creating a CSQ in Unified CCX Administration, you designate the CSQ as either email or voice. A single CSQ cannot be both an email CSQ and a voice CSQ. Agent association with email CSQs is done in the same manner as voice CSQs.

The agent states READY and NOT READY for email and voice are independent of each other. An agent can handle both emails and voice calls simultaneously. An agent can receive emails only if he manually moves himself to email READY state. Only agents that have been assigned to at least one email CSQ will see the email functionality in CAD. Only supervisors that service at least one email capable team or at least one email capable agent will see email functionality in CSD.

The Agent email feature requires the use of an external mail store (Microsoft Exchange is supported). This mail store is not provided, installed, or configured as part of the CAD installation.

Agent email uses the IMAPv4 (for message retrieval) and SMTP protocols (for message sending). These protocol types must be enabled in the mail server and host/IP information must be specified using Cisco Desktop Administrator. These protocol types are not typically enabled by default. CAD and the Cisco Desktop Agent email Service make IMAP connections to the mail store. Cisco Desktop Agent Email Service also
makes an SMTP connection to the mail store. Agent Email supports both secure and plain text connections to the mail store.

CAD components (Cisco Agent Desktop and Cisco Desktop Agent Email Service) will connect to the mail store using a single dedicated mail store account. This account must be created by the mail store administrator. CAD must be configured to use this account through Cisco Desktop Administrator. This account should be a dedicated account, and not used for purposes other than the Agent Email feature.

While CAD uses a single email account, it can, and typically will, have multiple distribution list addresses associated with that user. This email account and corresponding distribution lists must be configured manually by the mail store administrator. Routing information for the distribution list addresses can then be specified using Cisco Desktop Administrator.

Review CSQs can be associated with normal email contact CSQs. Emails sent from a Contact CSQ associated with a Review CSQ will be transferred to the Review CSQ. Members of a Review CSQ who receive emails transferred in this manner will be able to perform all of the normal email operations on the message, including editing the draft, and transferring, requeuing, and sending the message.

Messages sent from a review CSQ will be sent using the configured email address of the original CSQ, which the message was sent from.

---

**Note**

An additional restriction is imposed on the Transfer feature for normal CSQs which prevents transfer to Review CSQs.

---

**Note**

In addition to the CSQ setting, an agent must belong to a workflow group that has been configured to be reviewed. This configuration provides flexibility in configuring which agents should be reviewed, and to what CSQ the reviewed messages are sent.

---

**Note**

Microsoft Exchange allows you to associate multiple email addresses with an email account. Administrators may be tempted to use this feature instead of distribution lists. However, Microsoft Exchange may rewrite the To: address in the incoming email to the primary address of the account, which then causes the Agent Email feature to be unable to properly route emails to agents.

---

**Note**

Agent Email supports secure IMAP and SMTP connections to the mail store. For more details on the specific security settings that are supported, see the *Cisco CAD Installation Guide.*
The following steps describe how an email is routed using the Agent Email feature:

1. The Cisco Desktop Agent Email Service on the Unified CCX server connects to the mail store (IMAP and SMTP) on startup.

2. An email-capable agent in the email CSQ logs in using CAD. CAD connects to the Cisco Desktop Agent Email Service and to the mail store (IMAP).

3. The agent goes to an email ready state. CAD requests an email from the Cisco Desktop Agent Email Service.

4. A customer sends an email to, for example, sales@companyname.com.

5. The website sales@companyname.com is a distribution list with the Agent Email account as the only member. Microsoft Exchange presents the email to that account’s inbox.

6. The Cisco Desktop Agent Email Service has been monitoring the Agent Email account inbox, and sees the new email. Based on the routing rules specified in Cisco Desktop Administrator, it sees that emails to sales@companyname.com are associated with the email CSQ and that an agent in the email CSQ is in the Ready state. The service then assigns the email to the agent and notifies the agent.

7. CAD receives notification of the assignment and retrieves the email from the mail store directly.

8. The agent is presented with the email from the customer.

9. The agent authors a response and presses the Send button.

10. If review CSQs are enabled, the message is routed to the review CSQ before final approval is sent out.

11. The agent’s response is saved to the outbox folder on the mail store using IMAP commands.

12. The Cisco Desktop Agent Email Service periodically checks the outbox folder and sends all messages in it.

Table 3: Integration with Cisco Unified Communications Manager IM and Presence Server with Unified CCX Seat License Features Available in Each Unified CCX Package

<table>
<thead>
<tr>
<th>Feature</th>
<th>Premium</th>
<th>Enhanced</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integration with IM and Presence Server with Cisco Unified Contact Center Express Seat License</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feature</td>
<td>Premium</td>
<td>Enhanced</td>
<td>Standard</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Support for IM and Presence Server</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Support for IM and Presence Server fault tolerance</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Support for intercluster and foreign domains as supported by IM and Presence Server</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Contact (“buddy”) lists under administrator control; contact lists are assigned to workflow groups; agents have visibility to appropriate contacts only</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Persistent, independent presence popup window is continuously updated with agent state and subject-matter-expert presence state</td>
<td>Included</td>
<td>Included</td>
<td>Not available with Cisco Unified IP Phone Agent (Agent can use nonintegrated Cisco IP Phone Messenger only)</td>
</tr>
</tbody>
</table>

This table applies to CAD only.

**Reporting**

**Unified Intelligence Center**

Unified Intelligence Center is the reporting solution for Unified CCX that provides access Historical reports and Live Data reports.
• Historical Reporting Client (HRC) is no longer available with Unified CCX.

• Co-resident CUI on UCCX does not provide the capability to customize reports or to restrict value list collections without implementing custom report definitions. Implementing custom report definitions requires the system to be integrated with a Standalone CUI Premium server.

• Standalone CUI on premise server doesn't provide the access to view Live Data Reports.

• During a manual or nightly Unified CCX synchronization with Unified Intelligence Center, the collections that are manually added to the default stock value lists (UCCX_AgentID, UCCX_AgentName, UCCX_TeamNames, UCCX_CSQ Names, UCCX_Voice_CSQ, UCCX_Email_CSQ, UCCX_Chart_CSQ_List) are deleted.

**Unified Intelligence Center Historical Reports**

The following table presents the Historical reports that are available for each license package:

<table>
<thead>
<tr>
<th>Historical reports</th>
<th>Premium</th>
<th>Enhanced</th>
<th>Standard</th>
<th>IP-IVR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chat reports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chat Agent Detail Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Chat Agent Summary Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Chat CSQ Activity Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Chat CSQ Agent Summary Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Chat Traffic Analysis Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Email reports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email Agent Activity Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Email Contact Service Queue Activity Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Email Contact Service Queue Agent Activity Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Email Inbox Traffic Analysis Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Email Resolution Detail Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Email Response Detail Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Finesse Email reports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email Agent Activity Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Email Contact Detail Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Email CSQ Activity Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Historical reports</td>
<td>Premium</td>
<td>Enhanced</td>
<td>Standard</td>
<td>IP-IVR</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------</td>
<td>----------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>Email Traffic Analysis Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Inbound reports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abandoned Call Detail Activity Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Aborted Rejected Call Detail Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Agent Call Summary Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Agent Detail Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Agent Login Logout Activity Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Agent Not Ready Reason Code Summary Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Agent State Detail Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Agent State Summary by Agent Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Agent State Summary by Interval Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Agent Summary Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Agent Wrap-up Data Summary Report</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Agent Wrap-up Data Detail Report</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Call Custom Variables Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Called Number Summary Activity Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Common Skill CSQ Activity report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Contact Service Queue Activity by CSQ Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Contact Service Queue Activity Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Contact Service Queue Activity Report by Interval</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Contact Service Queue Call Distribution Summary</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Contact Service Queue Priority Summary</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Contact Service Queue Service Level Priority Summary Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>CSQ Agent Summary Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Detailed Call by Call CCDR Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Detailed Call CSQ Agent Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Priority Summary Activity Report</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Traffic Analysis Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Historical reports

<table>
<thead>
<tr>
<th>Outbound reports ¹</th>
<th>Premium</th>
<th>Enhanced</th>
<th>Standard</th>
<th>IP-IVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent Outbound Campaign Summary Report</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Agent Outbound CCDR Report</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Agent Outbound Half Hourly Report</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>IVR Outbound Campaign Summary Report</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>IVR Outbound CCDR Report</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>IVR Outbound Half Hourly Report</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Outbound Agent Detail Performance Report</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Preview Outbound Agent Detail Performance Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Preview Outbound Campaign Summary Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### System reports

<table>
<thead>
<tr>
<th>System reports</th>
<th>Premium</th>
<th>Enhanced</th>
<th>Standard</th>
<th>IP-IVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Performance Analysis Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Application Summary Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>License Utilization Hourly Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Remote Monitoring Detail Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

¹ Obtain Outbound license that is optional with the Premium license to access IVR and Agent-Outbound reports.

---

### Unified Intelligence Center Live Data Reports

The following table presents the Live Data reports that are available for each license package:

<table>
<thead>
<tr>
<th>Live Data reports</th>
<th>Premium</th>
<th>Enhanced</th>
<th>Standard</th>
<th>IP-IVR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agent reports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agent CSQ Statistics Report</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Agent State Log Report</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Agent Statistics Report</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Agent Team Summary Report</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Supervisor reports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agent Outbound Team Summary Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Chat Agent Statistics Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
### Real-Time Reports

Unified CCX real-time reporting provides real-time reports you can use to monitor Unified CCX system activity. You can run the reports using the Unified CCX Administration web interface. The following table briefly describes each of these reports.

<table>
<thead>
<tr>
<th>Report</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Tasks</td>
<td>Provides information about currently active applications.</td>
</tr>
<tr>
<td>Application Tasks Summary</td>
<td>Provides a summary of specific application activity.</td>
</tr>
</tbody>
</table>

### Real-Time Reports

#### Live Data reports

<table>
<thead>
<tr>
<th>Live Data reports</th>
<th>Premium</th>
<th>Enhanced</th>
<th>Standard</th>
<th>IP-IVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chat CSQ Summary Report</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Team State Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Team Summary Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Voice CSQ Agent Detail Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Voice CSQ Summary Report</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

- The team that accesses Live Data reports can have a maximum limit of 50 logged in agents at any particular time.
- All the Live Data reports are available as gadgets. For more information to configure gadgets, see the, located at [http://www.cisco.com/en/US/products/sw/custcosw/ps1846/products_installation_and_configuration_guides_list.html](http://www.cisco.com/en/US/products/sw/custcosw/ps1846/products_installation_and_configuration_guides_list.html).
- Live Data counters in the Unified Intelligence Center reports and the Cisco Finesse gadgets are reset in the following scenarios:
  - Manual reset—Administrator resets the real-time report counters from the Application Administration interface.
  - Automatic reset—Daily purge resets the real-time report counters at midnight (in the local Unified CCX server time zone).

If there are active calls at the time of reset, the Contact Service Queue (CSQ) reports display data for the calls, and the agent report counters are set to zero.

- Live Data reports are not updated dynamically if configuration changes are made to CSQ, team, or agents. Refresh the report to see the latest changes.
- Live Data reports do not support team names and CSQ names that have multi-byte characters. Such team names and CSQ names are not synced from Unified CCX to Unified Intelligence Center, but user names are synced.

### Note

- The team that accesses Live Data reports can have a maximum limit of 50 logged in agents at any particular time.
- All the Live Data reports are available as gadgets. For more information to configure gadgets, see the, located at [http://www.cisco.com/en/US/products/sw/custcosw/ps1846/products_installation_and_configuration_guides_list.html](http://www.cisco.com/en/US/products/sw/custcosw/ps1846/products_installation_and_configuration_guides_list.html).
- Live Data counters in the Unified Intelligence Center reports and the Cisco Finesse gadgets are reset in the following scenarios:
  - Manual reset—Administrator resets the real-time report counters from the Application Administration interface.
  - Automatic reset—Daily purge resets the real-time report counters at midnight (in the local Unified CCX server time zone).

If there are active calls at the time of reset, the Contact Service Queue (CSQ) reports display data for the calls, and the agent report counters are set to zero.

- Live Data reports are not updated dynamically if configuration changes are made to CSQ, team, or agents. Refresh the report to see the latest changes.
- Live Data reports do not support team names and CSQ names that have multi-byte characters. Such team names and CSQ names are not synced from Unified CCX to Unified Intelligence Center, but user names are synced.
### Report Description

<table>
<thead>
<tr>
<th>Report</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications</td>
<td>Provides a list of all applications loaded on the Unified CCX server.</td>
</tr>
<tr>
<td>Contacts Summary</td>
<td>Provides information for call contacts, email contacts, and HTTP contacts. Also provides the total number of contacts.</td>
</tr>
<tr>
<td>CallsmadebytheOutboundsubsystemwillnotbedisplayedintheContactsSummaryReal-TimeReport.</td>
<td></td>
</tr>
<tr>
<td>Contacts</td>
<td>Provides information about currently active contacts.</td>
</tr>
<tr>
<td>Chat CSQ Cisco Unified Contact Center Express Stats</td>
<td>Provides information about Chat CSQ activity.</td>
</tr>
<tr>
<td>Chat Resource Cisco Unified Contact Center Express Stats</td>
<td>Provides information about Chat Unified CCX resources activity.</td>
</tr>
<tr>
<td>CSQ Cisco Unified Contact Center Express Stats</td>
<td>Provides information about CSQ activity.</td>
</tr>
<tr>
<td>Data Source Usage</td>
<td>Provides information about configured data source names (DSNs).</td>
</tr>
<tr>
<td>Engine Tasks</td>
<td>Provides information about currently active Engine tasks.</td>
</tr>
<tr>
<td>Preview Outbound Campaign Cisco Unified Contact Center Express Stats</td>
<td>Provides information about real-time Unified CCX information for the Outbound preview dialer.</td>
</tr>
<tr>
<td>Outbound Campaign Stats</td>
<td>Provides real-time statistics on IVR and agent based progressive and predictive Outbound campaigns since the statistics were last reset.</td>
</tr>
<tr>
<td>Note</td>
<td>This report will be available only if you have an Outbound license on top of the Unified CCX premium license in your Unified CCX.</td>
</tr>
<tr>
<td>Overall Outbound Stats</td>
<td>Provides real-time statistics across all IVR and agent based progressive and predictive Outbound campaigns since the statistics were last reset.</td>
</tr>
<tr>
<td>Note</td>
<td>This report will be available only if you have an Outbound license on top of the Unified CCX premium license in your Unified CCX.</td>
</tr>
<tr>
<td>Overall Chat Cisco Unified Contact Center Express Stats</td>
<td>Provides information about Chat Unified CCX resources and contact information.</td>
</tr>
<tr>
<td>Overall Cisco Unified Contact Center Express Stats</td>
<td>Provides information about Unified CCX resources and calls.</td>
</tr>
<tr>
<td>Report</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>Resource Cisco Unified Contact Center Express Stats</td>
<td>Provides information about Unified CCX resources activity.</td>
</tr>
<tr>
<td>Sessions</td>
<td>Provides information on all active sessions.</td>
</tr>
</tbody>
</table>

**Finesse Reports**

Agents and supervisors can access Live Data reports that are configured to be displayed as gadgets in the desktops. The following are the default reports that are configured:

<table>
<thead>
<tr>
<th>Users</th>
<th>Reports</th>
<th>Report View</th>
<th>Is the Report Available in Default Layout ?</th>
<th>Tab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent</td>
<td>Agent CSQ Statistics Report</td>
<td>Agent CSQ Statistics Report</td>
<td>Yes</td>
<td>Home</td>
</tr>
<tr>
<td>Agent</td>
<td>Agent State Log Report</td>
<td>Agent State Log Report</td>
<td>Yes</td>
<td>My Statistics</td>
</tr>
<tr>
<td>Agent</td>
<td>Agent Statistics Report</td>
<td>Agent Statistics Report</td>
<td>Yes</td>
<td>My Statistics</td>
</tr>
<tr>
<td>Agent</td>
<td>Agent Team Summary Report</td>
<td>Agent Team Summary Report</td>
<td>Yes</td>
<td>Home</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Agent Outbound Team Summary Report</td>
<td>Since Midnight</td>
<td>No</td>
<td>Team Data</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Agent Outbound Team Summary Report</td>
<td>Short and Long Term Average</td>
<td>No</td>
<td>Team Data</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Chat Agent Statistics Report</td>
<td>Chat Agent Statistics Report</td>
<td>No</td>
<td>Team Data</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Chat CSQ Summary Report</td>
<td>Chat CSQ Summary Report</td>
<td>No</td>
<td>Queue Data</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Team State Report</td>
<td>Team State Report</td>
<td>No</td>
<td>—</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Team Summary Report</td>
<td>Since Midnight</td>
<td>Yes</td>
<td>Team Data</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Team Summary Report</td>
<td>Short and Long Term Average</td>
<td>Yes</td>
<td>Team Data</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Voice CSQ Summary Report</td>
<td>Voice CSQ Agent Detail Report</td>
<td>Yes</td>
<td>Queue Data</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Voice CSQ Summary Report</td>
<td>Snapshot</td>
<td>Yes</td>
<td>Queue Data</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Voice CSQ Summary Report</td>
<td>Short and Long Term Average</td>
<td>Yes</td>
<td>Queue Data</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Voice CSQ Summary Report</td>
<td>Since Midnight</td>
<td>Yes</td>
<td>Queue Data</td>
</tr>
</tbody>
</table>
Wallboards

Unified CCX supports wallboard reporting. Obtain the wallboard from a Cisco-approved vendor from Cisco Marketplace:

https://marketplace.cisco.com

Video

Video Collaboration with Jabber Guest

Cisco Jabber Guest is a consumer-to-business (C2B) solution that enables a customers to have video calls with contact center agents. Customers browsing through the company web site or retail web site can request for a video call. For more information on Jabber Guest, see:


Customer initiates the video call request by clicking on the Jabber guest link embedded in the web site. The Jabber Guest plugin installation on the browser is prompted to the customer. After successful installation of the plugin, the customer is required to provide permission for the Jabber Guest plugin to use the Microphone and Camera. On clicking the call button in the Jabber Guest call window, the video call is placed and the call is automatically placed to the contact center. Initially you can configure to treat the call with IVR and then route it as a video call. The video call then gets queued and routed to an available Agent. While the interaction with the Agent is video based, video can also be played out while the call is in queue.

Note

- The initial IVR of the call will be only in audio.
- Barge-in, intercept, silent monitoring and recording is supported and will only be in audio.
- Reports of this video call will indicate the originator as “JabberGuest”, without any called ID or number.

Deployment

The following diagram depicts the Unified CCX deployment to enable video using Jabber Guest:
Configuration

To enable video collaboration using Jabber Guest, the following configurations are required:

1. Install Jabber Guest and configure settings on Communications Manager by using the procedures in *Cisco Jabber Guest Server 10.0 Installation and Configuration Guide*, available here:


   Insert the configured link in your website to place the video call.

2. Set the domain used for the Jabber Guest video link by using the procedure "Set Domain Used for Links" in *Cisco Jabber Guest Server 10.0 Installation and Configuration Guide*, available here:


3. Configure Video on Hold (VoH) to play a video file when the call is queued using Communications Manager and Cisco MediaSense. See:

   http://docwiki.cisco.com/wiki/Mediasense_Video_on_Hold_for_Release_10.0

   Configure the icd.aef script in the Unified CCX Script Editor by adding a “Call Hold” step to place the call on hold in the "Select Resource -> Queued" step. See, “The Select Resource Step” section in *Cisco Unified Contact Center Express Getting Started with Scripts* available here:


**Note**

VoH feature is available in Enhanced and Premium license packages.

Configuration APIs

The Cisco Unified Contact Center Express Application Programming Interface (UCCXAPI) provides a platform to integrate provisioning applications similar to what is provided by the Unified CCX Application Administration interface. Cisco Unified CCX exposes sophisticated control of the contact center application management with its Configuration REST APIs. For more information on supported APIs, see *Cisco Unified Contact Center Express Developer Guide* available here:

https://developer.cisco.com/site/collaboration/contact-center/uccxapi/overview/

Security

SSL HTTPS Connection

The certificates uploaded using the Cisco Unified OS Administration interface to the Tomcat trust store is available to secure all HTTP connections made during script execution. The following can be secured:

- Document steps
Enhanced Security API (ESAPI)

A new security filter is added to the Application Administration component. This filter identifies malicious user input and protects the application against XSS attacks.

If the Application Administration users find any user activity that was allowed earlier is now blocked by the security filter, then disable the security filter using a CLI command. For more information, see the Cisco Unified Contact Center Express Operations Guide, located at http://www.cisco.com/en/US/products/sw/custcosw/ps1846/prod_maintenance_guides_list.html.

Caller ID Support

Caller ID feature displays the caller's number instead of the CTI port number on the agent's IP phone. Caller ID (CLID) is disabled by default. To enable CLID using a CLI command, see the Cisco Unified Contact Center Express Operations Guide, located at http://www.cisco.com/en/US/products/sw/custcosw/ps1846/prod_maintenance_guides_list.html.

- CLID is not supported with Jabber.
- When the CLID screen pops up on the phone screen, the Answer key is hidden below the CLID screen. You see two soft keys: Update and Exit. Press Exit to see the Answer key.

E.164 Support

Unified CCX supports E.164 numbering plan for route point directory numbers, and Finesse agent and supervisor extensions. E.164 is supported for the following components:

- CTI port directory numbers
- Contact phone numbers for outbound calls
- Cisco Finesse
- Trigger directory numbers
- Agent extensions
- Display of Incoming calls
- Phonebook and keypad
- Route points
- Configuration APIs for route points
- Script editor
Note

E.164 is not supported in Cisco Agent Desktop.

Note

For CTI port directory numbers:

- Unified CCX doesn't completely support E.164 numbering plan for CTI route point directory numbers (DN).

- This limitation is because of the Unified CM limit on device name length set as 15 characters. The system automatically adds "_" between the device name prefix and the DN. So, a maximum of 13 characters in the DN is supported as device name prefix (which includes the "+" sign) is mandatory and hence at least one character is needed there. For example, (Device name prefix) + '_' + (length of DN) = 15 ===> [(1 + 13) = 15]

For Finesse Agent and Supervisor extensions:

- Unified CCX E.164 numbers support a total of 15 characters. When using the plus sign (+) dialing, the plus sign (+) is followed by up to 14 characters that consist of numerals and the special characters—alphabet X, hash(#), square brackets ([ ]), hyphen (-), and asterisk (*).