



Webex WFO and Unified CCX Integration Guide

For Deployments with New WFM

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Audience

- The integration's supported and unsupported features
- High-level architecture overview
- Configuration procedures
- Specific integration details

This integration guide is primarily designed for customers as well as official Cisco partners who typically install and configure Webex WFO for customers. Additionally, Cisco implementation engineers, support engineers, sales engineers, development, and marketing can find helpful information in this guide.

Introduction

Webex WFO is a unified workforce optimization (WFO) software suite that integrates with Cisco Unified Contact Center Express (Cisco Unified CCX) to provide call recording, quality management, workforce management, voice-of-the-customer (VoC) analytics, and reporting. The details on the supported integration are listed below.

Quality Management (QM)

Quality Management is the heart of the Workforce Optimization suite. It is the beginning of the data trail which leads to the voice of the customer. Take serving your customer to the next level with a focus on quality, and engage your agents to drive retention.

Available Features

Feature	Available	Currently Unavailable
Webex WFO records audio	x	
Webex WFO imports audio recording		x
Webex WFO storage required for storing audio in the Cloud	x	
	S3 bucket	
Webex WFO screen recording	x	
Audio pause/resume	x	
Screen recording pause/resume	x	
Webex WFO initiates audio pause and resume (manual and automatic)	x	
Webex WFO ingests audio pause and resume		x

Feature	Available	Currently Unavailable
Webex WFO initiates screen recording pause and resume (manual and automatic)	x	
Webex WFO ingests screen recording pause and resume		x
Agent web recording controls and recording controls API	x	
Recordings encrypted	x	
Stereo recording	x	
Live voice monitoring	x	
Live screen monitoring	x	
Sync	x	
	(Users, Teams, and Queues)	
Contact metadata imported	x	
Supports multichannel integration	*, **	
CRM Integration	**	

*Import via API

** Open product integration review

Edge Components

Component	Required	Not Required
Data Server	x	
Smart Desktop for screen recording, live screen monitoring, and desktop analytics features	x	

Component	Required	Not Required
Smart Desktop on Windows OS	(available)	
Smart Desktop on Mac OS		(unavailable)

Workforce Management (WFM)

WFM synchronizes data for configuration purposes and historical data association. It synchronizes historical and real-time data for use with scheduling and forecasting of the workforce.

Available Features

Feature	Available	Currently Unavailable
Real-time adherence data feed (voice, chat, email)	X	
Real-time adherence data feed (omni-channel)		X
Historical data feed - queue statistics	X	
Historical data feed - agent statistics	X	
Historical data feed - agent queue statistics	X	
Forecasting (voice)	X	
Forecasting (chat)		X
Forecasting (email)	X	
	via SocialMiner if configured	

Cisco Analytics

Cisco Analytics features a repository of ready-made advanced analytics applications to help you create a big impact without the learning curve. Unlock the goldmine of intelligence buried in your contact center and transform every customer and agent contact into actionable insights.

Available Features

Feature	Available	Currently Unavailable
Speech Analytics (Speech-to-Text)	x	
Desktop Analytics	x	
Text Analytics	x	
Dashboards with drill-down	x	
Predictive Evaluation Score	x	
Predictive NPS	x	
Sentiment Analysis	x	
Agent Smart Benchmarking	x	
Advanced Speech Search	x	

Insights

Insights is an AI-powered BI solution that is a core part of the Webex WFO suite. Insights provides blended, non-siloed reporting that enables you to seamlessly combine all of your workforce engagement management and customer interaction data from across Webex WFO. Insights empowers you to visualize your Webex WFO data through actionable reports and dashboards. You need an Insights license for access to the listed features. See [How licenses work](#) and [Manage roles and permissions](#) for more information.

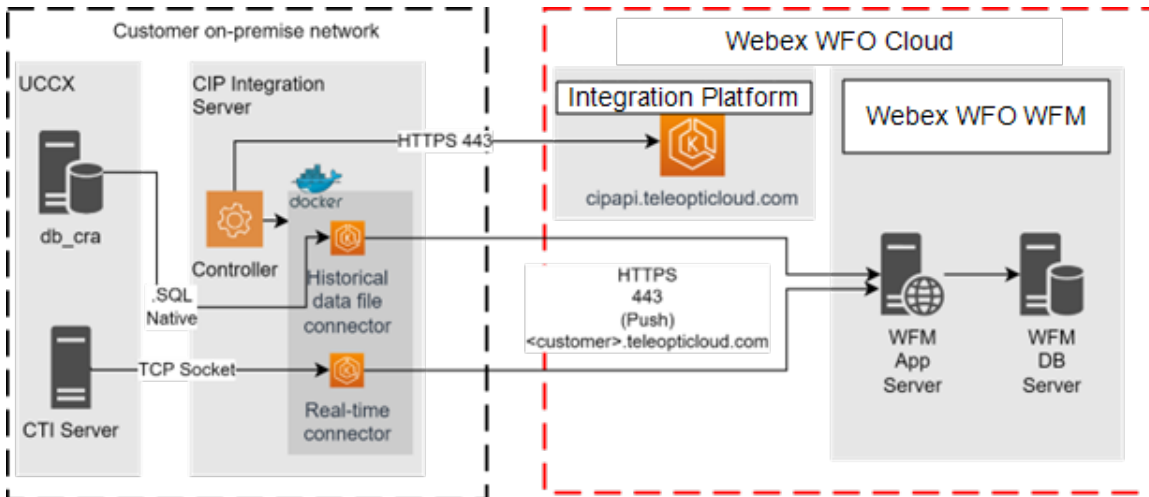
Available Features

Feature	Supported	Currently Unsupported
Pre-built dashboards	X	
Machine learning powered analysis	X	
Custom themes	X	

Feature	Supported	Currently Unsupported
Autograph (automated data visualization)	X	
Visual options (custom data visualization)	X	
Dashboard sharing	X	

Webex WFO and Cisco Unified CCX Architecture for WFM

The architecture diagram below shows the connection between Cisco Unified CCX and Webex WFO WFM only.



Configure a Cisco Unified CCX ACD in Webex WFO

Follow the steps detailed below to set up and configure a Cisco Unified Contact Center Express (Cisco Unified CCX) ACD in Webex WFO.

- [Step 1: Configure a Data Server](#)
- [Step 2: Add Cisco Unified CCX as an ACD](#)
- [Step 3: Customize Your Configuration](#)

Step 1: Configure a Data Server

See [Understanding Synchronization](#) for more on the types of data that are synchronized from your Cisco Unified CCX ACD to Webex WFO.

Prerequisites

- An installed Webex WFO Data Server. See “Installing Webex WFO Data Server” in the *Webex WFO Installation Guide for cloud deployments* or *on-premises deployments* for more information.

Page Location

Application Management > Global > System Configuration > Data Server Configuration

Procedures

Configure the Data Server

1. Select the Data Server you want to use from the **Select Data Server Configuration** drop-down list.
2. Configure the fields as described.

Display Name — Enter the display name of the Data Server you selected.

Regional Data Server ACD Sync Settings — Select the **Enable Sync** check box and then move the Cisco Unified CCX ACD you configured from **Available** to **Assigned**.

3. Configure the remaining fields as desired. See the “Configure the Data Server” topic in the *Webex WFO User Guide* for more on the available fields.
4. Click **Test Connection** to ensure your entries are correct and the Data Server is properly configured.
5. Click **Save**.

Step 2: Add Cisco Unified CCX as an ACD

Prerequisites

- (System administrator only) The Administer ACD permission
- (System administrator only) A System Administrator license
- (System administrator only) Customers need to provide their Cisco Unified CCX database servers information and credentials for a user with permissions to query the database tables mentioned in [Integration Details](#)
- (System administrator only) Customers need to provide their CTI servers information

Page Location

Webex WFO > Application Management > Global > System Configuration > ACD Configuration

Procedures

Add Cisco Unified Contact Center Express as an ACD

1. Click **Add**.
2. Select **Cisco Unified CC Express** from the **Select ACD** drop-down list. Cisco Unified CCX appears as **Cisco Unified CC Express** in the ACD drop-down list.
3. Enter a unique name for the Cisco Unified CCX ACD in the **Name** field.
4. Click **OK**.
5. Configure the fields. See Field Descriptions below for more on the available fields.

6. (Optional) Click **Test Connection** to ensure your entries are correct and Webex WFO is connected to the ACD. A Data Server must be installed for the connection test to succeed.
7. Click **Save**.

Field Descriptions

The following fields appear when you select Cisco Unified CCX as your ACD.

Section	Description
ACD Filtering	Use an ACD filter to limit the users who are synced from the ACD. For example, you might configure a Team Name filter that allows you to sync users who belong to a team that matches a certain naming pattern. You can configure multiple ACD filters. IMPORTANT If you only select the Service Name in the Prefix Type drop-down list, no teams or agents sync over. Any teams or agents already synced over are deactivated. If you change a filter that uses the Service Name in the Prefix Type drop-down list, all previously synced service queues stay active, even if they are not captured by the changed filter. NOTE If you only select the Team Name in the Prefix Type drop-down list, related service queues still sync over. If you change a filter that uses the Team Name in the Prefix Type drop-down list, any agents or teams no longer captured by the filter are deactivated.
IP Configuration	Primary IP Address or Hostname—The IP address or host name of the primary Unified CCX server. Primary Instance Name—The name of the primary database for the Unified CCX database instance. Secondary IP Address or Hostname—The IP address or host name of the secondary Unified CCX server. Secondary Instance Name—The name of the secondary database for the Unified CCX database instance. The primary and secondary instance names are in the following format:

Section	Description
	<hostname>_uccx Where the host name is the name of the Unified CCX database server. IMPORTANT You must complete the IP Configuration fields for the following features: ■ WFM—Historical Data Capture and Sync ■ QM—Reconciliation and Sync
Authentication	Username—The user name of a user with access to the Unified CCX database. Password—The password of a user with access to the Unified CCX database. Client Locale—The client locale that is configured in Unified CCX. The locale for US English appears by default in this field. If the client locale is changed in Unified CCX, then you must also manually change it here. Server Locale—The server locale that is configured in Unified CCX. The locale for US English appears by default in this field. If the server locale is changed in Unified CCX, then you must also manually change it here. IMPORTANT You must complete the Authentication fields for all QM and WFM features.
CTI Servers	Primary CTI IP Address or Hostname—The IP address or host name of the primary CTI server associated with Cisco Unified CCX. Primary CTI Port—The port of the primary CTI server associated with Cisco Unified CCX. Secondary CTI IP Address or Hostname—The IP address or host name of the secondary CTI server associated with Cisco Unified CCX. Secondary CTI Port—The port of the secondary CTI server associated with Cisco Unified CCX. IMPORTANT You must complete the CTI Servers fields for

Section	Description
	 WFM Real-Time Adherence.
CDR Reconciliation Configuration	Webex WFO creates a directory with an ACD-specific subdirectory that contains the cdrBase and uploadDir directories when the Regional Data Server Reconciliation Settings feature is enabled on a Data Server, and the ACD is assigned to that feature. The base directory path that you enter along with the ACD unique identifier are displayed below the field. The ACD-specific directory is named with a unique ACD server ID number. Because users can configure multiple ACD servers to use the same directory, a folder with a unique identifier is needed to make sure CDR files are uploaded to the correct ACD. The ACD-specific directory contains the cdrBase and the uploadDir directories. (Read only) CDR Base—The path to the Unified CCX Call Detail Record (CDR) directory. The path you specify must be local to the Data Server. UNC paths are not supported. For example: cdrBase Webex WFO creates a directory with an ACD-specific subdirectory that contains the cdrBase and uploadDir directories when the Regional Data Server Reconciliation Settings feature is enabled on a Data Server, and the Unified CCX ACD is assigned to that feature. This generates the following path for the base directory: C:\cdr\<acd_id>< p=""> CDR Directory—The path to the Call Detail Record (CDR) directory. This is where incoming CDRs from the Unified CM billing service resides. The path you specify must be local to the Data Server. When configuring the Unified CM Billing Application Server, you must use the following name for the Directory Path parameter: /cdr/. UNC paths are not supported. For example: cdrDirectory Upload Directory—The path to the upload directory. This is where reconciled CDR and Unified CCE or Unified CCX data resides until </acd_id><>

Section	Description
	uploaded. The path you specify must be local to the Data Server. UNC paths are not supported. For example: uploadDir IMPORTANT You must complete the CDR Reconciliation Configuration fields for QM Reconciliation.
Synchronization Interval	Interval (Minutes)—The length of the interval that the ACD is synchronized with the Data Server.
Capture Settings	ACD Capture Delay—Select the amount of time WFM waits before pulling ACD statistics after an interval ends. The default delay is 15 minutes. Enable Data Recapture—Select the check box to recapture data from the entire previous day. If you routinely handle calls that last more than the maximum default delay, you can opt to recapture the entire previous day's data from midnight to midnight. The recaptured data overwrites what was captured during the day. This ensures that your statistics are correct and that the data for very long calls is in the correct interval. Recapture Time—Select the time to recapture the previous day's data from the ACD. The default is set to 03:00. IMPORTANT You must complete the Capture Settings fields for WFM Historical Data Capture.

Step 3: Customize Your Configuration

After completing steps one and two, data has successfully synced from your Cisco Unified CCX ACD to Webex WFO. You can do much more to use Webex WFO to its fullest potential. The topics listed below can be found in their entirety in the *Webex WFO User Guide*. The same information in the *Webex WFO User Guide* is available in Webex WFO online help. Click the **Help** button in the top right corner of any of the pages listed below (for example, Location: Application Management > QM > QM Configuration > Metadata Manager).

Quality Management

- **Manage Associations with ACD Devices** — (Location: Application Management > QM > QM Configuration > Device Associations) After you sync devices through the Data Server, you can use the **Device Associations** page to associate devices from your ACD with Webex WFO users, recording groups, and recording types.
- **Configure Telephony Groups** — (Location: Application Management > QM > QM Configuration > Telephony Groups) Telephony Groups provide the structure used to create the recording infrastructure. Telephony groups consist of at least one signaling source, one signaling group, one signaling server, one recording group, and your contact center devices. Learn more about telephony groups and their configuration procedures on this page.
 - **Configure Cisco Unified Communication Manager (Unified CM)** — You can configure SOAP Administrative XML Layer (AXL) users and JTAPI users. The CTI service makes use of the users to log in to Unified CM. A CTI Signaling service from your Webex WFO Signaling server is used for edge server recording environments to track start and stop events and capture CTI metadata for call recordings. A Unified CM cluster is composed of a set of Unified CM servers that share the same database and resources and have one or more CTI Managers.

Analytics

- **Text Search** — (Location: Interactions > Text Search filter) Use the Text Search filter to mine data in your transcribed calls for phrases and specific terms in calls using search queries and result filters .
- **Predictive Evaluation Scores** — (Location: Application Management > Analytics > Task Manager) Allows you to use a variety of factors to determine a likely evaluation score for a contact.
- **Predictive Net Promoter Scores** — (Location: Application Management > Analytics > Task Manager) Creates a model using customer contacts, agent performance, and other factors to determine a likely Net Promoter Score for a contact .

Users

- **Manage Users** — (Location: Application Management > Global > User Configuration) See this section to learn more about editing and configuring users and teams after they have been synced from your ACD. When users are synced from the ACD, Webex WFO creates a new user and associates an ACD user profile with that user. Users must have one or more roles assigned to them and each role can have various permissions enabled. A role is a collection of permissions, and a permission controls which applications and actions are available to a user who has been assigned a role.

Webex WFO WFM Prerequisites

This section explains, at a high level, the prerequisites for configuring Webex WFO WFM. Once all prerequisites are met, you can then configure the Calabrio Integration Platform services.

During the implementation project's technical discovery sessions, the professional services team presents the intended solution and distribution of the components included in the Webex WFO WFM delivery. At this stage, a decision on the location of the integration services is to be agreed upon by your organization and the professional services team. The server hosting the integration services is referred to as the "integration server."

CIP Integration Server

The Webex WFO WFM integration requires the integration server to be hosted in your organization's network. This prevents Webex WFO WFM related internet traffic from hitting resources on your organization's local network.

Historical Data Prerequisites

Historical data is synced from the Cisco ICM database (db_cra) every fifteen minutes. This connection should be set up to use the secondary/subscriber database in Cisco Unified CCX because a connection to the primary/publisher database affects Cisco Unified CCX performance. Once historical data syncs to Webex WFO WFM, the data is transformed by the historical data connector into a generic standard Webex WFO WFM format.

You must provide Cisco Professional Services with the following information.

- An hr user with read-only permissions in the Cisco Unified CCX database
- The hr user's password
- The instance name of the secondary/subscriber database
- The Datasource Host or IP address of the database server
- The service port (default 1504)
- The database name (default db_cra)
- The time zone for the historical reports
- The charset (character set) on which the data is encoded

You, the customer, must ensure that the user account is set up correctly by testing the database connectivity from the integration server. If the integration server's database connectivity is not working, it is likely that network ports need to be configured or opened in the firewall.

Real-Time Data Prerequisites

The Cisco Unified CCX CTI fetches real-time agent statuses and event changes. You must configure the Cisco Unified CCX CTI and Resource Manager - Contact Manager (RMCM) subsystem as follows.

- The Cisco Unified CCX CTI must be configured to send Unsolicited Messages. Unsolicited Messages are messages sent by Cisco Unified CCX that are uninitiated and do not require confirmation.
- The server name and port for the Unified CCX CTI servers must both have a primary/publisher and secondary/subscriber - TCP socket connection. The default port for real-time data feeds is 12028.

NOTE The integration server is set up in bridge mode to receive all unsolicited messages.

Understanding Synchronization

NOTE This section does not apply to WFM.

ACD Synchronization

The Data Server periodically polls the Cisco Unified CCX ACD and automatically extracts the following information from the Cisco Unified CCX ACD and loads it into Webex WFO as the following.

- Agents
- Teams
- Supervisors
- Relationships between agents and teams
- Devices (if Device Sync is enabled in the Data Server Configuration page). See “Manage Associations with ACD Devices” in the *Webex WFO User Guide* for more.

Once this information and historical data is loaded into Webex WFO, you can configure Webex WFO to generate distributions, forecasts, and schedules for service queues.

NOTE Any teams, agents, relationships, or service queues you create in Webex WFO are not synced back to the ACD. They are maintained only in Webex WFO.

NOTE Relationships between agents and contact service queues in Cisco Unified CCX do not automatically sync to Webex WFO. Those relationships must be synced manually.

Agent and Supervisor Data Synchronization

When someone changes agent or supervisor data in the ACD, the Data Server detects this change when the Data Server polls the Cisco Unified CCX database, and the Data Server then makes several changes in Webex WFO. The following table summarizes these changes.

Change in the ACD	Resulting Change in Webex WFO
New agent is added	New user is added. Specifically, Webex WFO: ■ Applies the ACD agent first and last name to the Webex WFO user's first and last name. ■ Applies the agent/supervisor unique primary key (Resource.resourceLoginId) as the user's Webex WFO ACD ID. ■ Creates a user profile associated with the user with the user display ID (Resource.resourceLoginId) as the External User ID. ■ Sets the Webex WFO start dates for the company and department to the current date. ■ Assigns an agent role to the user. ■ Assigns the corresponding team to the agent as the agent's team. NOTE If the ACD does not have a team assigned to the agent, you can manually assign a team to the agent in Webex WFO.
Agent's first or last name is changed	Agent's first or last name is changed.
Agent is deleted	Agent status is set to Inactive.
New supervisor is added or supervisor data is changed	Specifically, Webex WFO: ■ Assigns supervisor role to the associated user ■ Assigns the supervisor's team to the associated user

Team Data Synchronization

When team data is changed in the ACD, the Data Server detects it when the Data Server polls the Cisco Unified CCX database and makes several changes in Webex WFO. The following table summarizes these changes.

Change in the ACD	Resulting Change in Webex WFO
New team is added	New team is added with the same name. Makes any agent who is a member of the team in the ACD a member of the team in Webex WFO.
Team name is changed	Team name is changed.
New agent is added to the team	New agent is added to the team.
Team is changed	No change.
Agent is removed from a team	No change.

You can create new teams in Webex WFO and assign agents to them, but these new teams are not synchronized back to the ACD.

An agent can belong to only one team. If you move an agent from one team to another in Webex WFO, you do not affect that agent's team assignment in the ACD.

NOTE Teams that are synced from the ACD cannot be deactivated in Webex WFO.