



Cisco Contact Center Gateway

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Cisco Contact Center Gateway Feature

The Cisco Contact Center Gateway feature uses the Unified CCE PG which connects the Unified ICM system to a Unified CCE system. Unified CCE Peripheral Gateway allows Unified CCE to appear as a traditional ACD connected to the Unified ICM system. The Unified CCE Gateway PG provides the Unified ICM system with a PG that communicates with the CTI interface of the Unified CCE System PG.

You can use the Cisco Contact Center Gateway feature for deployments with geographically distributed call centers. Each call center has remote survivability and administrative independence. You can integrate new contact centers into an existing Unified ICM environment with many TDM ACD sites. Peripherals that are legacy ACDs and gateway types can use a single minimum expected delay (MED) script node to transfer a call to the best site.

Cisco Contact Center Gateway PG provides all standard Peripheral Interface Manager (PIM) data and functionality including:

- Call event notification
- Agent State notification
- Translation Routing
- Pre- and Post-Routing
- Real-time data
- Historical data

Cisco Contact Center Gateway also provides an autoconfiguration feature, which reduces the need for repeating configuration tasks between Unified CCE and the Unified ICM systems.

Related Topics

- [Autoconfiguration with Enterprise Gateway](#)
- [Gateway Autoconfiguration, on page 2](#)

Parent/Child Deployments

The different roles of the systems in a Contact Center Gateway deployment are:

Parent

The Unified ICM system that serves as the network or enterprise routing point. The parent uses the appropriate Contact Center Gateway PGs to communicate to the CTI server on the child Unified CCE or possibly TDM PGs. The parent can route between the children.



Note A parent ICM can have TDM PGs and Gateway PGs.

Child

The Unified CCE system that is set up to function as one or more ACDs (each System PG peripheral functions as its own ACD). The Unified CCE Gateway PG on the parent communicates with the child Unified CCE PG. The child can receive calls routed from the parent, but the child is not aware of any other peripherals attached to the parent. For practical purposes, you can view the child as a standalone Automatic Call Distributor (ACD).



Note Each Unified CCE Peripheral Gateway in a child deployment can connect to only one Unified ICM parent instance. However, one Unified ICM parent instance can support multiple Unified CCE children.

When deploying the Contact Center Gateway, you first get the child system working and then integrate the child with the parent system. For reporting purposes, collocate the Unified CCE Gateway PG with the System PG on the child. Collocating the PGs helps to preserve connectivity. If the System PG and the Gateway PG lose connectivity, you can lose reporting data on call activity.

Gateway Autoconfiguration

Autoconfiguration is a Contact Center Gateway feature that automatically uploads basic configuration data from the child to populate tables on the parent Unified ICM for the corresponding gateway PG. Autoconfiguration is enabled by default. The uploaded tables contain agent, skill group, service, call type, and device information.

When autoconfiguration is enabled, the Configuration Manager on the Unified ICM parent does not permit manual configuration of agents, and skill groups, services entries.

Upon startup, the PG PIM remembers the configuration level (keys) from the last time the PIM obtained configuration information. The PIM then requests current configuration information from the child and applies any configuration changes that were made at the child, while the parent Unified ICM system was disconnected from the child CCE system. While the PIM is connected, it continues to make dynamic configuration changes and also updates the parent database to reflect the changes.

Gateway Deployment Types

This section discusses the supported Cisco Contact Center Gateway deployment models.

Multiple Parents with Single Child

This figure shows a deployment where two customers, each running a Unified ICM parent, outsource calls to a provider site running Unified CCE with System PGs. The provider site has two Unified CCE System PGs. Each System PG connects to the respective Unified CCE Gateway PG for its Unified ICM parent. By routing through separate PGS, this deployment prevents a customer from seeing the other customer's data. Each customer provides call treatment (prompting) and queuing using Cisco Unified Customer Voice Portal (Unified CVP) before routing calls to the provider site. The provider site can also queue calls using the Cisco Unified IP IVR (Unified IP IVR) that is connected to the System PG.

For this deployment, the agents are broken up into two peripherals, each on its own PG. If there is local queuing, a separate Unified IP IVR or Unified CVP is required. The provider realizes some economies over having a separate Unified CCE setup for each Unified ICM parent. The provider can use the same Unified CCE CallRouter, Logger, and AW/HDS to handle both customers.



Note You can use either Unified CVP or Unified IP IVR as the Voice Response Unit (VRU) on the child. The illustrated deployment uses Unified IP IVR.

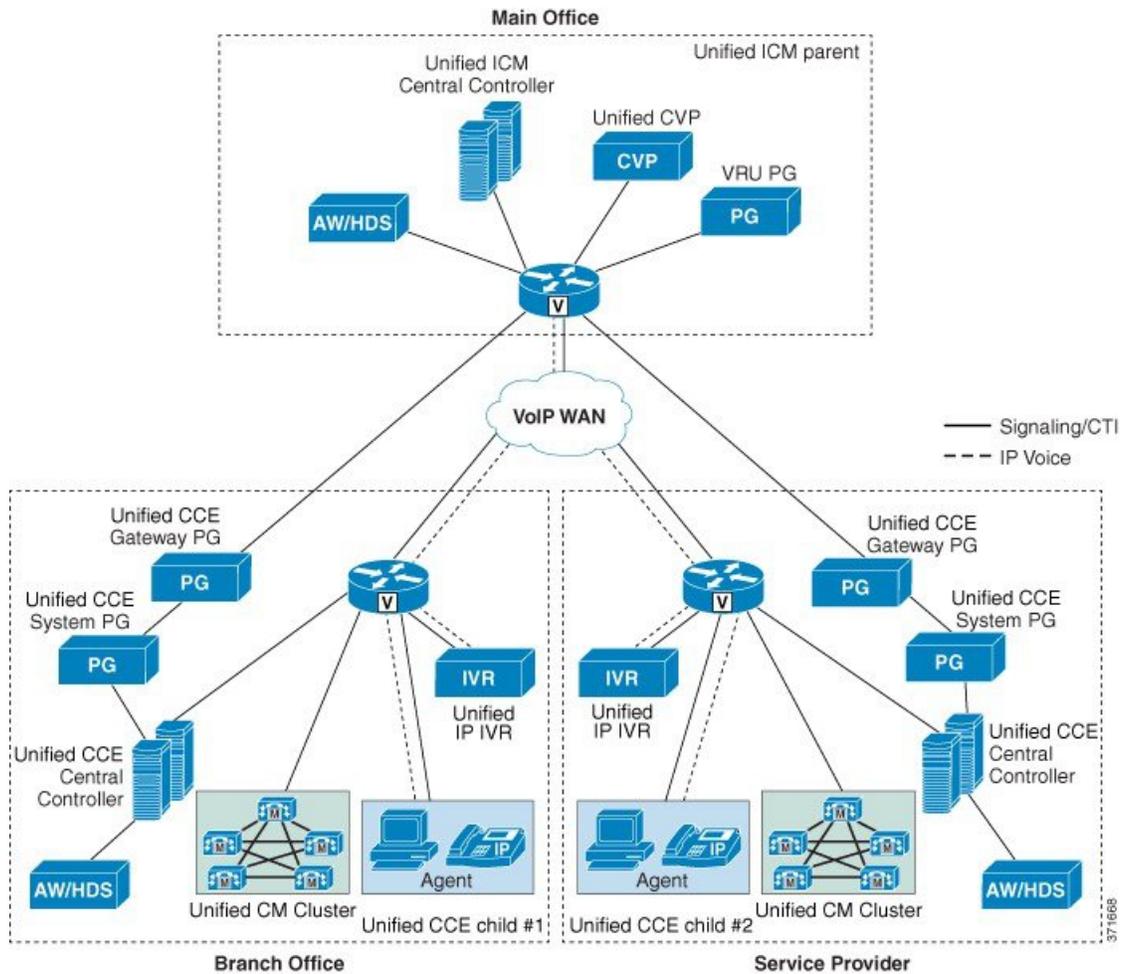


Note The Unified CCE child systems can be branch offices or service bureaus.

This deployment allows translation routing of calls from the Unified ICM parent to either of the two Unified CCE children. The parent treats each child as a separate ACD. In the example shown here, Unified CVP does the network queuing from the Unified ICM parent. This deployment model enables these possibilities:

- The child sites can route incoming calls to itself through Voice Gateways that are not related to the parent site. This local routing ensures continued operations at the call center if the WAN connection is not reliable.
- You can phase-in Unified CCE deployments alongside TDM ACDs. The option to add more Unified CCE child sites enables you to add capacity over time.
- The child sites can post-route and translation route to other child sites through the parent site. These routing options enable transfers and consults between the child sites.
- The parent site can control child sites that are either branch offices or one or more external service providers.

Figure 2: One Parent with Two Children



Parent Unified CVP Controls Multiple Child Unified CCE Sites

This figure shows a parent Unified ICM system deployed with Unified CVP and its own AW/HDS server. Each distributed site has a complete Unified CCE deployment that loads both the Central Controller and the Unified CCE System PG. There is also a local Administration & Data Server machine for the Unified CCE to perform that site's configuration, scripting, and reporting tasks. The Unified CCE Gateway PG connects the Unified CCE child to the Unified ICM parent.



Important

Unified CCE also supports CVP. But, information on queued calls at the child CVP is not available at the parent through the Unified CCE Gateway PG. That information is available when the child uses IP IVR. Because that information is not available, the parent cannot use minimum expected delay (MED) over services in its queuing when the child uses CVP.

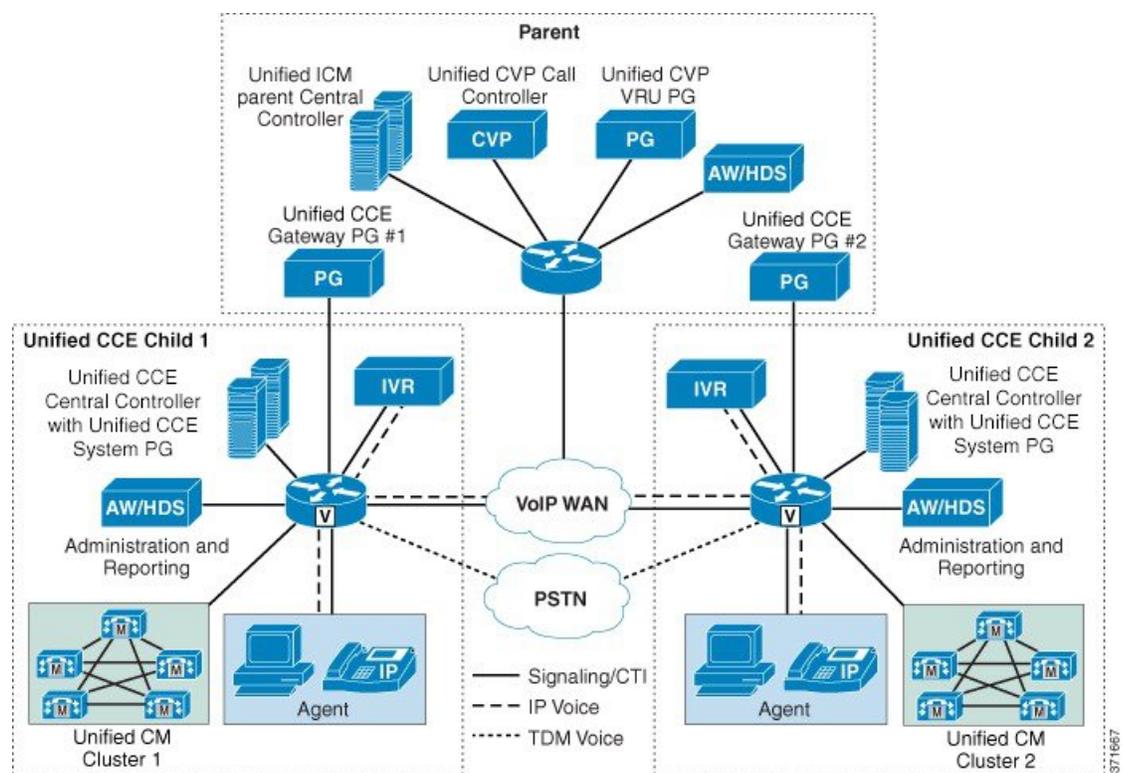
In this deployment, the distributed Unified CCE systems act as their own local IP ACDs. The child sites have no visibility to any of the other sites. Agents at Child 1 cannot see any of the calls or reports from Child 2.

CVP provides a virtual network queue across all the distributed sites controlled by the parent. The parent site has visibility into all the distributed sites and sends the call to the next available agent from the virtual queue.

The Unified CVP at the parent site controls the calls coming into the distributed sites. The parent site's CVP provides call queuing and treatment in the VoiceXML Browser in the voice gateway. If the voice gateway at a child site loses its connection to the parent CVP, the child site uses its IP IVR for a local backup. The local IP IVR also provides local queue treatment when the local agents do not answer calls. For example, the local IP IVR can handle a Reroute On No Answer (RONA) call, rather than sending the call to the CVP to be requeued. But, the child sites cannot queue such calls to another child site.

If you use Unified CVP to queue at the child, this deployment never populates `SkillGroupRealTime.CallsQueuedNow`. However, if IP-IVR is used under System PG, you can see this status. Also, the Parent cannot use any function that depends on queue statistics to operate properly. For example, MED is not accurate since it does not consider queue time on the CVP peripheral.

Figure 3: Parent Unified CVP Controls Multiple Child Unified CCE Sites



Routing in Gateway Deployments

Routing is when a routing client (a PG or NIC) queries the CallRouter for a destination to which to send a call. The different types of routing use and pass different information and target different call destinations.

Before you can route calls to a child, both the parent and child require routing scripts.

Related Topics

- [Create and Schedule Routing Scripts on Child](#)
- [Create and Schedule Routing Scripts on Parent](#)

Enterprise Gateway Routing
 Translation Routing
 Routing Configuration

Call Data Transfer Between Parent and Child

During a call flow, call data passes between the parent and child systems only during the following scenarios:

- Data passes from the child to the parent when the child sends a `ROUTE_REQUEST_EVENT` to the parent. This event happens during a Translation Route dialog or a Post-Route dialog initiated from the child. The child raises the event when the child transfers a call to a route point that the parent controls.
- Data passes from the parent to the child when the parent responds to a `ROUTE_REQUEST_EVENT` with a `ROUTE_SELECT_EVENT`. This event happens during a Translation routing dialog or a Post-Route dialog initiated from the child. This parent raises the event when the parent transfers a call at the child to a route point that the parent controls.
- Data passes from the child to the parent when the child sends a `CALL_DATA_UPDATE_EVENT` after data is updated at the child.

In the parent-to-child or child-to-parent call flow, only a subset of call variables and ECC variables are passed to the call flow. MAPVAR and MAPECC variables (if present) filter all ECC and call variable transfers.

This table lists call data that is transferred between parent and child. Any variables not mentioned here are not transferred. You can only transfer ECC variables that have the same name on both systems. The table does not account for any additional restrictions that MAPVAR and MAPECC might import.

Item	To Parent in Route Request	To Child in Route Select	To Parent from Call Data update and other events
Call Variables 1-10	Yes	Yes	Yes
ECC Variables	Yes	Yes	Yes
ANI	Yes	No	No
User To User Info	Yes	No	No
Dialed Number (DNIS)	Yes	No	No
Caller Entered Digits(CED)	Yes	No	No
Call Wrap Up Data	No	No	Yes

For more information about Unified ICM variables, see the *Configuration Guide for Cisco Unified ICM/Contact Center Enterprise* at <https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-installation-and-configuration-guides-list.html>.

Reporting in Gateway Deployments

There are two levels of reporting in Contact Center Gateway deployments:

- ACD (child)
- Enterprise (parent)

The addition of the Gateway PGs does not affect the reports on the ACD level; you can run Unified CCE reports that accurately reflect the state of the child system.

However, the data that the child system feeds to the parent does not always correlate on both systems. This lack of correlation affects the reports on the enterprise level. Discrepancies can occur due to timing period issues. Discrepancies can also occur because the Contact Center Gateway does not populate certain database fields.

The system cannot report on locally queued calls on a Unified CCE child that uses Unified CVP, so those calls are not reflected in the statistics.

For more information on reporting, see the *Cisco Unified Contact Center Enterprise Reporting User Guide* at <https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-user-guide-list.html>.

Upgrade Considerations for Gateway Deployments

You can upgrade the parent and child sites independently in a Parent/Child deployment, as long as you stay within the version compatibility bounds. If you are using Unified IP IVR, select a Unified CCE version that is compatible with the Unified Communications Manager version.

See the *Contact Center Enterprise Compatibility Matrix* at <https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-device-support-tables-list.html> to determine the correct versions to use.

Consult the following documents for upgrade information as appropriate for your Parent/Child deployment:

Component	Documents
Unified Communications Manager	https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/tsd-products-support-series-home.html
Unified ICM or Unified CCE	https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-installation-guides-list.html
Unified CVP	https://www.cisco.com/c/en/us/support/customer-collaboration/unified-customer-voice-portal/tsd-products-support-series-home.html

