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Unified CCMP Architecture

Unified CCMP is a multi-tier architecture consisting of a web server, application server, and database. This architecture maintains a complete data model of the contact center equipment to which it is connected, and the data model is periodically synchronized with the underlying Unified CCE equipment. The Unified CCMP data model and synchronization activity allow for resources to be provisioned either through the Unified CCMP Web interfaces or from the standard equipment-specific user interfaces (the so-called closed loop provisioning cycle).

All provisioning operations entered through the Unified CCMP Web interfaces are checked for capacity (Is there room on Unified CCE?) and concurrency (Has another user already modified or deleted the resource?) before the request is committed to Unified CCMP. Unified CCMP then executes the provisioning request through the relevant Unified CCE APIs and checks until the action has successfully passed through the Unified CCE servers (the confirmation). At all stages, the process is audited to allow the business users to run audit reports to determine who changed what and when.

Unified CCMP back-end components connect to the Unified CCE interfaces with a *preferred* connection and a backup. This applies more to the dual-sided Unified CCE than to the Unified CM cluster, but typically Unified CCMP connects to the local Administration & Data Server (the preferred connection) and switches to the backup connection if the preferred connection fails. Unified CCMP switches back to the preferred connection when its monitoring software detects the return to normal service.

Unified CCMP Interfaces

Users connect to Unified CCMP through an HTTP/S connection. This is a standard Internet Explorer 7 or Internet Explorer 8 browser connection to the Unified CCMP web server.

Unified CCMP uses three interface points with the rest of Unified CCE:

- The Configuration Management Service (CMS, or ConAPI) server, which runs on an Administration & Data Server, acts as the provisioning interface for Unified CCE. It uses the Java RMI protocol (over customer defined ports, usually TCP 2099/2098), and the CMS server option must be selected as part of the Administration & Data Server installation.
- The Administration & Data Server AWDB database catalog acts as the read-only configuration confirmation interface for Unified CCE. This is an OLE-DB protocol interface (over TCP1433) that uses either Integrated Security or SQL Server integration. Integrated Security means that either

Unified CCMP must be in the same Active Directory domain as the Administration & Data Server, or that suitable permissions between the domains must be set up.

- The Unified CM AXL interface acts as both the provisioning interface and the confirmation interface for Unified CM. This is the standard web service using HTTPS (TCP 8443) and XML SOAP protocol.

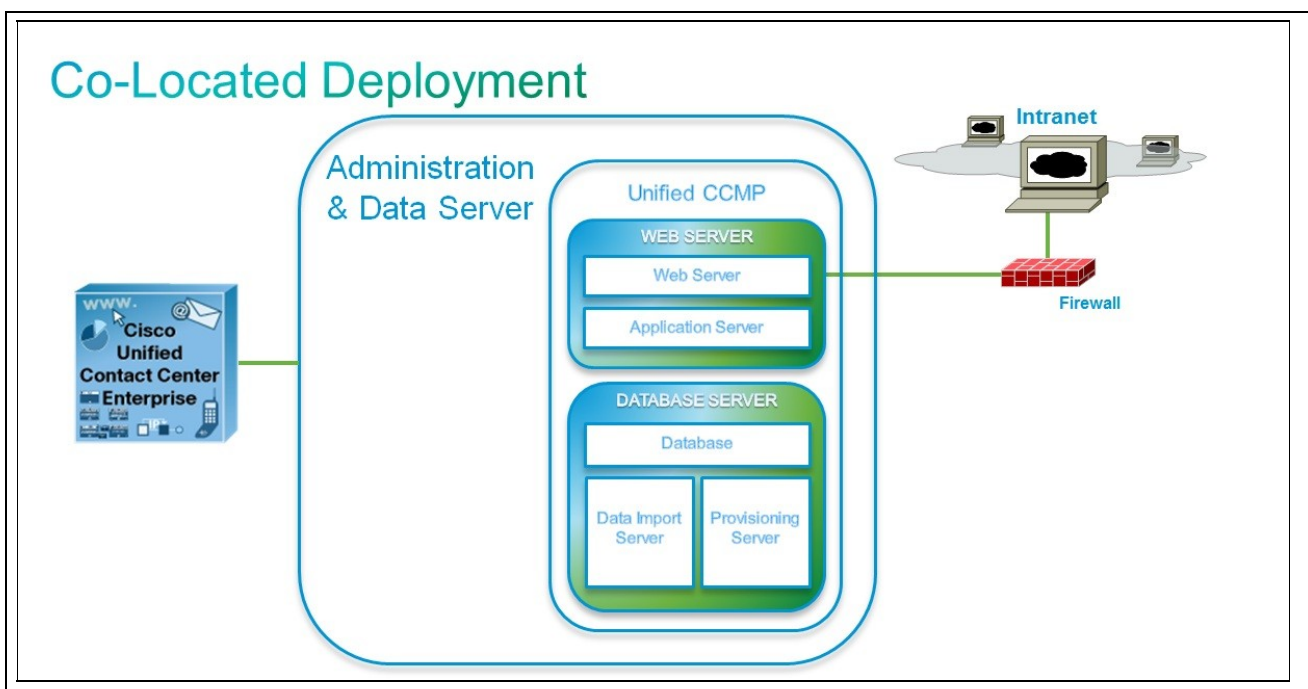
Deployment Modes

Unified CCMP supports all Unified CCE Release 8.0(x) deployment modes, including parent/child. This section explains the deployment modes and guidelines that pertain to them.

Note: For all deployments, each Unified CCE instance connected to a Unified CCMP system requires a separate Unified CCE physical server configured as an Administration & Data Server.

Lab Deployments

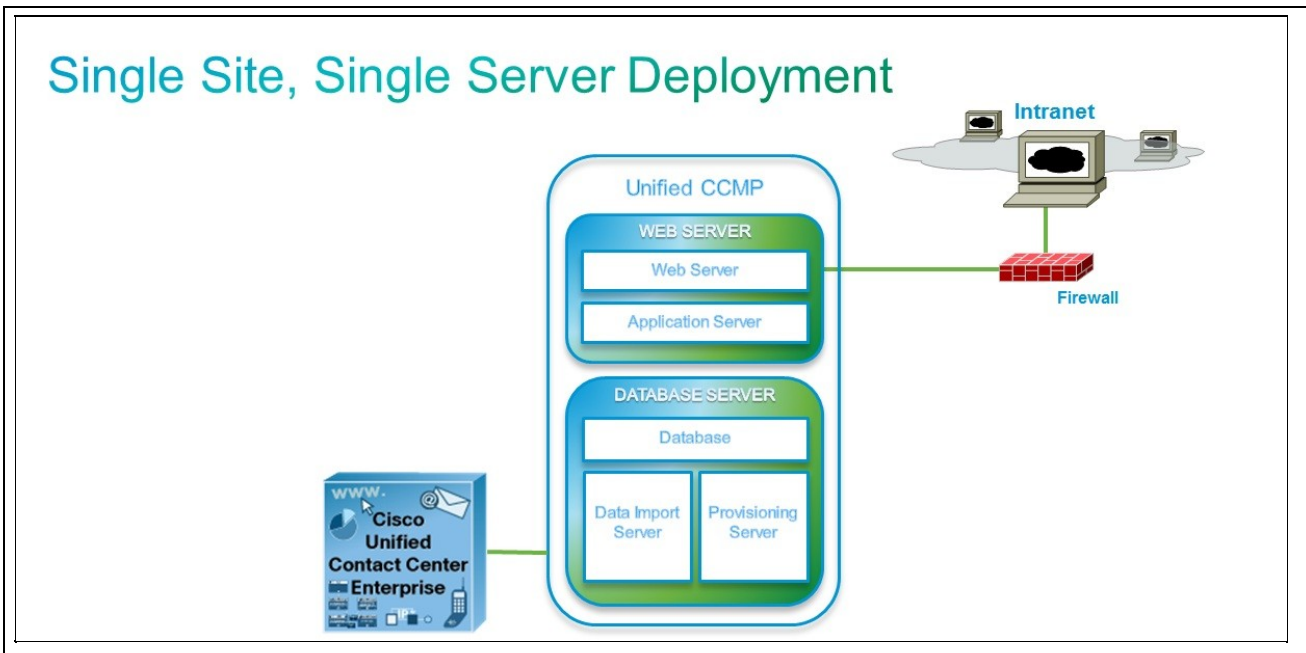
In lab environments only, Unified CCMP software can be installed on the Unified CCE Administration & Data Server. This co-located model can be used only in labs due to the high processing requirements of the Administration & Data Server and the maximum configuration of 200 Named Agents.



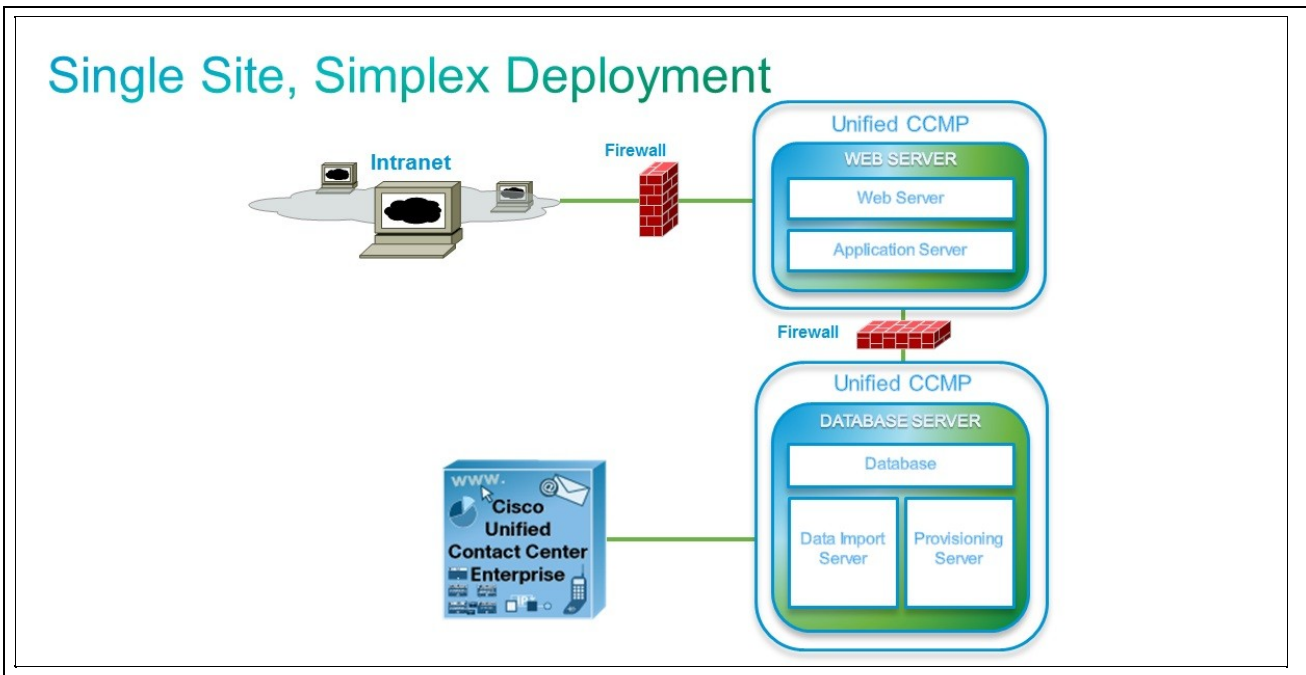
Standard Deployments

In dedicated server mode, two deployments are supported:

- **Single Server.** In this simplex mode, all Unified CCMP components are installed on a single server. Most Unified CCE customers use this deployment because it represents the lowest cost of deployment and ongoing cost of ownership. This mode supports a maximum configuration of 1500 Concurrent Agents.



- Dual Server. In this mode, the front-end Unified CCMP components are installed on one server (the Web Server) and back-end components on another (the Database Server). This allows the use of a firewall between the Web and Database Servers, which creates a DMZ for Internet connectivity and provides for higher capacity and performance throughout the system. This mode supports a maximum configuration of 8000 Concurrent Agents.



Note Both of the above deployments are non-resilient in nature. The workaround in the event of Portal failure is to revert to provisioning on Unified CCE or Unified CM until Unified CCMP is returned to service, at which time an automatic resynchronization occurs.

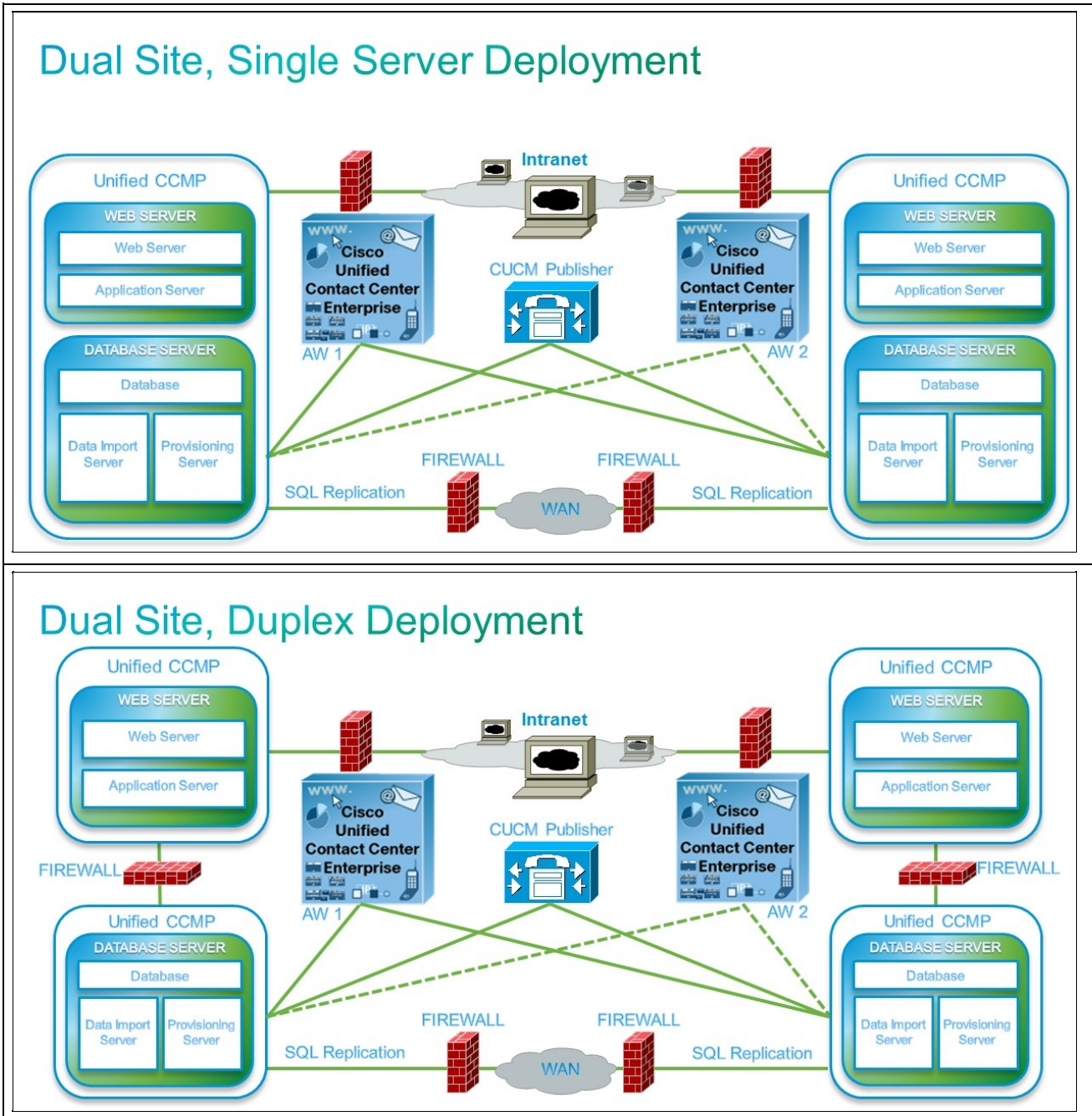
Resilient Deployments

Either of the two standard deployment modes can be enhanced to a resilient configuration using a duplicate set of hardware with Unified CCMP integrated data replication facilities to provide a geographically

dispersed solution.

Unified CCMP uses SQL Server replication to keep the two sides synchronized. Use the resilient forms of these deployments if you require fault tolerance. The system capacity limits remain unchanged from the equivalent standard deployments

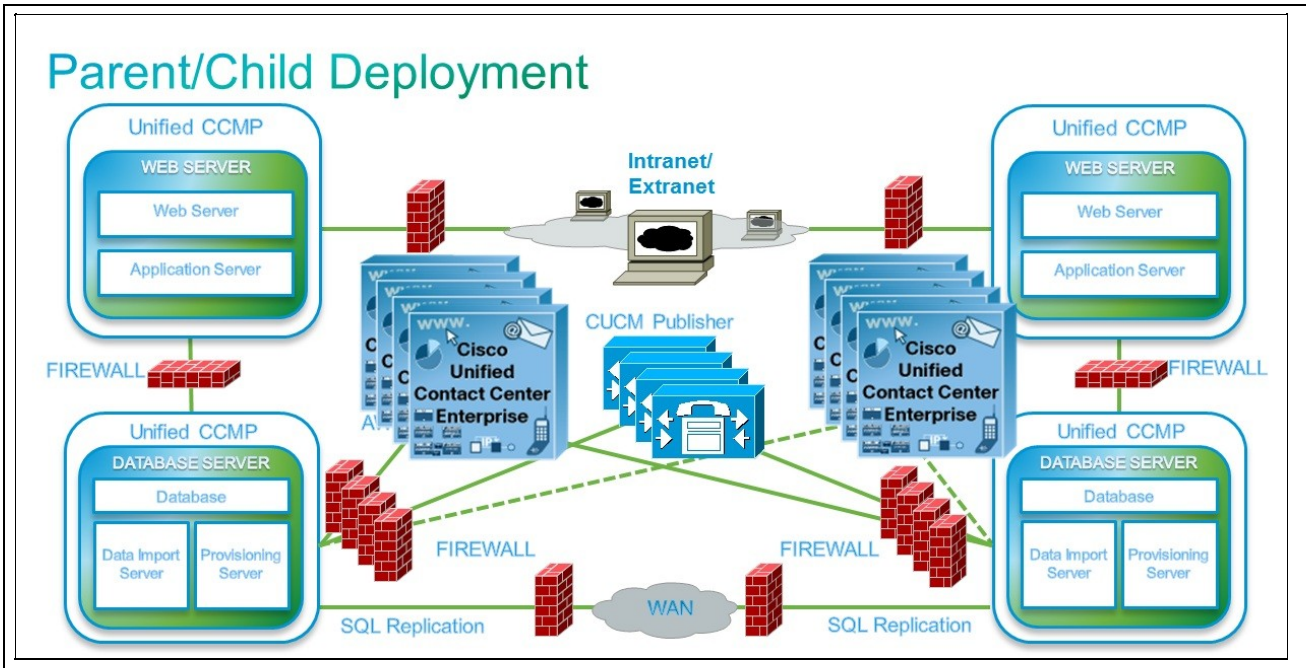
Note: If a load balancing solution is to be provided to the front end (for example, Cisco Local/Remote Director), then it must support sticky connections.



Parent/Child Deployments

In parent/child deployments, a single Unified CCMP instance connects to each of the child Unified CCE Administration & Data servers, which must be configured as physically separate Primary Administration & Data Servers. Each child instance appears as a tenant within Unified CCMP. Resources added via Unified CCMP are linked to a tenant, and the added resource is replicated from the Unified CCE child to its parent

using the standard replication process.



Unified CCMP Architecture VoD & PowerPoint Slides

We've put together a VoD of the PowerPoint slide deck I created to explain the main components in Unified CCMP. You can also download the PowerPoint slide deck from here: TBA

[Unified CCMP Architecture VoD](#)

Microsoft SQL 2005 Replication

As Unified CCMP is based on the Microsoft SQL Server platform, it is advisable to understand the types of replication that is used replicating the Portal & Reporting Database content between the two sides of a duplexed deployment. The following three pages outline the 3 types of replication available in Microsoft SQL Server, however Unified only uses Transactional Replication (bidirectional) for replicating the Portal database & Merge Replication for replicating the Microsoft Reporting data.

- [How Microsoft SQL 2005 Snapshot Replication Works](#)
- [How Microsoft SQL 2005 Merge Replication Works](#)
- [How Microsoft SQL 2005 Transactional Replication Works](#)