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Cisco Unified Presence supports Clustering over WAN for intracluster and intercluster deployments.

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## WAN Bandwidth requirements

At a minimum, you must dedicate five megabits per second of bandwidth for each Cisco Unified Presence subcluster, with no more than an eighty millisecond round-trip latency. This bandwidth recommendation applies to both intracluster and intercluster WAN deployments. Any bandwidth less than this recommendation can adversely impact performance.

**Note:** Each Cisco Unified Presence subcluster that you add to your Clustering over WAN deployment requires an additional (dedicated) five megabits per second bandwidth.

## Remote Failover

Cisco Unified Presence supports intracenter deployments over WAN, using the bandwidth recommendations provided in this module. Cisco Unified Presence supports a single subcluster geographically split over WAN, where one node in the subcluster is in one geographic site and the second node in the subcluster is in another geographic location.

This model can provide geographical redundancy and remote failover, for example failover to a backup Cisco Unified Presence node on a remote site. With this model, the Cisco Unified Presence server does not need to be colocated with the Cisco Unified Communications Manager publisher server. The Cisco Unified Personal Communicator client can be either local or remote to the Cisco Unified Presence server.

This model also supports high-availability for the Cisco Unified Personal Communicator clients, where the clients fail over to the remote peer Cisco Unified Presence node if the services or hardware fails on the home Cisco Unified Presence node. When the failed node comes online again, the clients automatically reconnect to the home Cisco Unified Presence node.

When you deploy Cisco Unified Presence over WAN with remote failover, note the following restrictions :

- ◇ This model only supports high-availability at the system level. Certain Cisco Unified Presence components may still have a single point of failure. These components are the Cisco UP Sync Agent, Cisco Intercluster Sync Agent, and Cisco Unified Presence Administration interface.
- ◇ This model only supports high-availability for the Cisco Unified Personal Communicator client.

Cisco Unified Presence also supports multiple subclusters in a Clustering over WAN deployment. For information on scale for a Clustering over WAN deployment, see the Cisco Unified Presence SRND.

### Related Topics

- Cisco Unified Presence Solution Reference Network Design (SRND):

[http://www.cisco.com/en/US/docs/voice\\_ip\\_comm/cucm/srnd/7x/uc7\\_0.html](http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/srnd/7x/uc7_0.html)

## Local Failover

You can also deploy Cisco Unified Presence over WAN where one subcluster is located in one geographic site, and a second subcluster is located in another geographic site. The subcluster can contain a single node, or a dual node for high-availability between the local nodes. This model provides no failover between geographic sites.

## Subcluster Failure Detection

Cisco Unified Presence supports a failure detection mechanism for a subcluster. Each node in the subcluster monitors the status, or heartbeat, of the peer node. You can configure the heartbeat connection and heartbeat intervals on Cisco Unified Presence by selecting **Cisco Unified Presence Administration > System >**

**Service Parameters > Cisco UP Config Agent** (service). In the section **General Cisco UP Config Agent Parameters (Clusterwide)**, configure the following parameters:

- **Heart Beat Interval:** This parameter specifies how often in seconds the Cisco UP Config Agent sends a heartbeat message to the peer Cisco UP Config Agent in the same subcluster. The heartbeat is used to determine network availability. The default value is 60 seconds.
- **Connect Timeout:** This parameter specifies how long in seconds the Cisco UP Config Agent waits to receive a response from a connection request to the peer Cisco UP Config Agent. The default value is 30 seconds.

**Note:** We recommend that you configure these parameters with the default values.

## Method Event Routing

When you deploy Cisco Unified Presence over WAN we recommend that you configure TCP method event routing on Cisco Unified Presence. You configure method event routes by selecting **Cisco Unified Presence Administration > Presence > Routing > Method/Event Routing**.

## Multi-Node Configuration for Deployment over WAN

When you configure the Cisco Unified Presence multi-node feature for an intracluster deployment over WAN, configure the Cisco Unified Presence subcluster, nodes and user assignment as described in the multi-node section, but note the following recommendations:

- For optimum performance, we recommend that you assign the majority of your users to the home Cisco Unified Presence node. This deployment model decreases the volume of messages sent to the remote Cisco Unified Presence server over WAN, however the failover time to the secondary node depends on the number of users failing over.
- If you wish to configure a high availability deployment model over WAN, you can configure a subcluster-wide DNS SRV address. In this case Cisco Unified Presence sends the initial PUBLISH request message to the node specified by DNS SRV and the response message indicates the host node for the user. Cisco Unified Presence then sends all subsequent PUBLISH messages for that user to the host node. Before configuring this high-availability deployment model, you must consider if you have sufficient bandwidth for the potential volume of messages that may be sent over the WAN.

### Related Topics

- [Intracluster Deployments over WAN](#)
- [Performing a Cisco Unified Presence Multi-node Deployment](#)
- Cisco Unified Presence Solution Reference Network Design (SRND):

[http://www.cisco.com/en/US/docs/voice\\_ip\\_comm/cucm/srnd/7x/uc7\\_0.html](http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/srnd/7x/uc7_0.html)

## Bandwidth Considerations

When calculating the bandwidth requirements for your Clustering over WAN deployment, consider the following:

- In your bandwidth considerations, you must include the normal bandwidth consumption of a Cisco Unified Communications Manager cluster. If you configure multiple nodes, Cisco Unified Communications Manager uses a round-robin mechanism to load balance SIP/SIMPLE messages, which consumes more bandwidth. To improve performance and decrease traffic, you could provision a single dedicated Cisco Unified Communications Manager node for all SIP/SIMPLE messages sent between Cisco Unified Presence and Cisco Unified Communications Manager.
- In your bandwidth considerations, we also recommend that you consider the number of contacts in the contact list for a Cisco Unified Personal Communicator user, and the size of user profiles on Cisco Unified Presence. See the Cisco Unified Presence SRND for recommendations regarding the size of a contact list when deploying Cisco Unified Presence over WAN.

## Intercluster Deployments over WAN

Cisco Unified Presence supports intercluster deployments over WAN, using the bandwidth recommendations provided in this module.

### Related Topics

- [WAN Bandwidth requirements](#)
- [Configuring a Cisco Unified Presence Intercluster Deployment](#)