



# IM and Presence Service Planning Requirements

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## Multinode Hardware Recommendations

When configuring the multinode feature, consider the following:

- Cisco recommends turning on High Availability in your deployment.
- Cisco only supports virtualized deployments of IM and Presence Service on Cisco Unified Computing System servers or on a Cisco-approved third-party server configuration. Cisco does not support deployments of IM and Presence on Cisco Media Convergence Server (MCS) servers. For more information about the deployment of IM and Presence Service in a virtualized environment, see [http://docwiki.cisco.com/wiki/Unified\\_Communications\\_in\\_a\\_Virtualized\\_Environment](http://docwiki.cisco.com/wiki/Unified_Communications_in_a_Virtualized_Environment).
- Minimize your deployment, for example, instead of using five virtual machines that support a total of two thousand users, choose two virtual machines that can support a total of five thousand users.
- Use the same generation of server hardware.
- Use similar hardware for all nodes in your deployment. If you must mix generations of similar hardware, put the same generations of older hardware together in a presence redundancy group and put fewer users on this presence redundancy group than on the more powerful presence redundancy group. Note that we do not recommend this deployment practice.



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**Note** For multinode deployments using mixed hardware (for example, UCS, MCS, or VMware), it is highly recommended that the IM and Presence Service subscriber and database publisher nodes in the same subcluster have similar database size. If a significant difference in database size exists between the two nodes, you will receive an error during installation of the subscriber node.

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**Note** For multinode deployments, instead of using mixed virtual machine deployment sizes, it is highly recommended that the IM and Presence Service subscriber and database publisher nodes in the same presence redundancy group have similar database size. If a significant difference in database size exists between the two nodes, you will receive an error during installation of the subscriber node.

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For a list of the supported hardware for the multinode feature, and hardware user assignment guidelines for the multinode feature, see the IM and Presence Service compatibility matrices at this URL:

[http://www.cisco.com/en/US/products/sw/voicesw/ps556/products\\_device\\_support\\_tables\\_list.html](http://www.cisco.com/en/US/products/sw/voicesw/ps556/products_device_support_tables_list.html)

## Intercluster Hardware Recommendations

When planning an intercluster deployment, it is recommended that similar deployments be used on all IM and Presence Service clusters in the Enterprise to allow for syncing of all user data between clusters. For example, if a virtual server supporting a 5000 user deployment is used in Cluster A, then a 5000 user virtual server deployment should be used in Cluster B even if only 500 users are needed in Cluster B .

## Supported End Points

The multinode scalability feature supports the following end points:

- Cisco Unified Communications Manager (desk phone)
- Cisco Jabber
- Third-Party XMPP clients
- Cisco Unified Mobile Communicator
- Microsoft Office Communicator (Microsoft soft client)
- Lotus Sametime (Lotus soft client)



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**Note** Lotus clients are used on the Microsoft server that is integrated with IM and Presence Service for remote call control.

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- Third-Party Interface clients
- Lync 2010 and 2013 Clients (Microsoft Office Communicator)

Only third party clients support the Directory URI IM address scheme. All other clients should use the *UserID@Default\_Domain* IM address scheme. See topics related to the IM and Presence Service IM address schemes for more information.

# LDAP Directory Servers Supported

IM and Presence Service integrates with these LDAP directory servers:

- Microsoft Active Directory 2000, 2003, 2008
- Netscape Directory Server
- Sun ONE Directory Server 5.2
- OpenLDAP

## Related Topics

<http://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-release-notes-list.html>

<http://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>

# WAN Bandwidth Requirements

At a minimum, you must dedicate 5 Mbps of bandwidth for each IM and Presence Service presence redundancy group, with no more than an 80 millisecond round-trip latency. These bandwidth recommendations apply to both intracluster and intercluster WAN deployments. Any bandwidth less than this recommendation can adversely impact performance.



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**Note** Each IM and Presence Service presence redundancy group that you add to your Clustering over WAN deployment requires an additional (dedicated) 5 Mbps of bandwidth.

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# WAN Bandwidth Considerations

When you calculate 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 the IM and Presence Service 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 Jabber user, and the size of user profiles on IM and Presence Service. See the IM and Presence Service SRND for recommendations regarding the size of a contact list when you deploy IM and Presence over WAN. Note also that the maximum contact list size on IM and Presence Service is 200, so you need to factor this in to your bandwidth considerations for systems with large numbers of users.

For additional information, see the *IM and Presence Service 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)

# Multinode Scalability and Performance

## Multinode Scalability Requirements

IM and Presence Service supports multinode scalability:

- Six nodes per cluster
- 45,000 users per cluster with a maximum of 15,000 users per node in a full Unified Communication (UC) mode deployment
- 15,000 users per cluster in a presence redundancy group, and 45,000 users per cluster in a deployment with High Availability.
- Administrable customer-defined limit on the maximum contacts per user (default unlimited)
- The IM and Presence Service continues to support intercluster deployments with the multinode feature.

Scalability depends on the number of clusters in your deployment. For detailed VM configuration requirements and OVA templates, see *Virtualization for Unified CM IM and Presence* at the following url: [http://docwiki.cisco.com/wiki/Virtualization\\_for\\_Unified\\_CM\\_IM\\_and\\_Presence](http://docwiki.cisco.com/wiki/Virtualization_for_Unified_CM_IM_and_Presence)

## Multinode Performance Recommendations

You can achieve optimum performance with the multinode feature when:

- The resources on all IM and Presence Service nodes are equivalent in terms of memory, disk size, and age. Mixing virtual server hardware classes results in nodes that are under-powered, therefore resulting in poor performance.
- You deploy virtual server hardware that complies with the hardware recommendations.
- You configure a Balanced Mode deployment model. In this case, the total number of users is equally divided across all nodes in all presence redundancy groups. The IM and Presence Service defaults to Balanced Mode user assignment to achieve optimum performance.

### Related Topics

[Multinode Hardware Recommendations](#), on page 1

[Balanced User Assignment Redundant High Availability Deployment](#)

## User License Requirements

IM and Availability functionality does not require a node license or software version license. However, you must assign IM and Availability functionality to each IM and Presence Service user.

You can assign IM and Availability on a per user basis, regardless of the number of clients you associate with each user. When you assign IM and Availability to a user, this enables the user to send and receive IMs and also to send and receive availability updates. If the user is not enabled for IM and Availability, no availability updates are allowed for that user.

You can enable a user for IM and Presence Service functionality in the **End User Configuration** window in Cisco Unified Communications Manager. See the *Cisco Unified Communications Manager Administration Guide* for more information.

IM and Availability functionality is included within both User Connect Licensing (UCL) and Cisco Unified Workspace Licensing (CUWL). Refer to the *Cisco Unified Communications Manager Enterprise License Manager User Guide* for more information.

## DNS Domain and Default Domain Requirements

The following DNS domain and IM and Presence Service default domain conditions apply. To resolve any domain-related deployment issues, Cisco recommends that you set all IM and Presence Service node names in the cluster to the FQDN or IP address rather than the hostname.

- For inter-cluster IM and Presence Service deployments, it is required that each IM and Presence Service cluster shares the same underlying DNS domain.
- The DNS domain associated with any client devices should map to the IM and Presence Service DNS domain.
- Ensure that the DNS domain aligns with the IM and Presence Service default domain.

The IM and Presence Service default domain value is set to the DNS domain by default during installation. You can not change the IM and Presence Service default domain during installation. To change the default domain to a value that is different from the DNS domain, you must use the Cisco Unified CM IM and Presence Administration GUI.



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**Caution**

Failure to set all IM and Presence Service node names in the cluster to the FQDN or IP address rather than the hostname can result in communications failure between nodes in a cluster. Affected functions include SIP and XMPP-based inter-cluster communications, High Availability, client sign-in, and SIP-based list subscriptions.

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