



## Configure Ad Hoc and Persistent Chat

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### Group Chat Rooms Overview

Group chat is an instant messaging session between more than two users. IM and Presence Service supports group chat in either ad hoc chat rooms or persistent chat rooms. Support for ad hoc chat rooms is enabled by default once you enable instant messaging, but you must configure the system to support persistent chat rooms.

#### Ad Hoc Chat Rooms

Ad hoc chat rooms are group chat sessions that remain in existence only as long as one person is still connected to the chat room. Ad hoc chat rooms are deleted from the system when the last user leaves the room. Records of the instant message conversation are not maintained permanently. Once instant messaging is enabled, ad hoc chat rooms are enabled by default.

Ad hoc chat rooms are public rooms by default, but can be reconfigured to be private. However, how users can join public or private ad hoc rooms depends on the type of XMPP client in use.

- Cisco Jabber users must be invited in order to join any ad hoc chat room (public or private)
- Users on third-party XMPP clients can be invited in order to join any ad hoc chat room (public or private), or they can search for public-only ad hoc rooms to join via room discovery service.

#### Persistent Chat Rooms

Persistent chat rooms are group chat sessions that remain in existence even after all users have left the room. Users are expected to return to the same room over time to continue the discussion.

Persistent chat rooms are created so that users can collaborate and share knowledge on a specific topic, search through archives of what was said on that topic (if this feature is enabled on IM and Presence Service), and then participate in the discussion of that topic in real-time.

You must configure the system for Persistent Chat Rooms. In addition, persistent chat requires that you deploy an external database

Persistent chat rooms are supported by both desktop and mobile Jabber clients, including both IOS and Android clients. For mobile clients, you must be running a minimum Jabber release of 12.1(0).

## Group Chat Prerequisites

### Ad Hoc Chat Prerequisites

If you are deploying ad hoc chat rooms, make sure that instant messaging is enabled. For details, see [Enable Instant Messaging](#).

### Persistent Chat Prerequisites

If you are deploying persistent chat rooms:

- Make sure that instant messaging is enabled. For details, see [Enable Instant Messaging](#).
- You must deploy an external database. For database setup and support information, see the *Database Setup Guide for IM and Presence Service* at <http://www.cisco.com/c/en/us/support/unified-communications/unified-presence/products-installation-and-configuration-guides-list.html>.
- Decide whether you are going to deploy High Availability for Persistent Chat. This deployment type adds redundancy and failover to your persistent chat rooms. However, the external database requirements are slightly different than if you deploy the feature without High Availability.
- For Persistent Chat deployments, we recommend that you deploy a minimum OVA of 15,000 users.

## Group Chat and Persistent Chat Task Flow

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	<a href="#">Configure Group Chat System Administrators, on page 3</a>	Add system administrators to manage the persistent chat system.
<b>Step 2</b>	<a href="#">Configure Chat Room Settings, on page 4</a>	Configure basic chat room settings. Optionally, enable Persistent Chat.
<b>Step 3</b>	<a href="#">Restart the Cisco XCP Text Conference Manager, on page 5</a>	If you are deploying Persistent Chat, make sure that the Cisco XCP Text Conference Manager service is running.
<b>Step 4</b>	<a href="#">Set up External Database for Persistent Chat, on page 5</a>	For Persistent Chat, you must configure a unique external database instance for each node.

	Command or Action	Purpose
		<b>Note</b> If you are deploying High Availability for Persistent Chat, you can skip the remaining tasks in this chapter as the database requirements are slightly different when HA is deployed.
<b>Step 5</b>	<a href="#">Add External Database Connection, on page 6</a>	In the IM and Presence Service, set up a connection to your external database.
<b>Step 6</b>	<a href="#">Windows Authentication for MSSQL Database for Persistent Chat, on page 6</a>	While setting up a connection to MSSQL external database, you can enable Windows authentication.
<b>Step 7</b>	Migrate persistent chat rooms from one external database to another	In the IM and Presence Service, migrate all the persistent chat rooms and groups from your existing external database to another of the same database type or different types. For more information on how to perform the external database migration, see the "Migrate Persistent Chat Rooms from One External Database to Another" section of the Cisco IM and Presence Database Setup Guide 12.5(1)SU2 Release.

## Configure Group Chat System Administrators

Add system administrators to manage the persistent chat system.

### Procedure

**Step 1** Choose **Messaging > Group Chat System Administrators**.

**Step 2** Check **Enable Group Chat System Administrators**.

Restart the Cisco XCP Router when the setting is enabled or disabled. Once the System Administrator setting is enabled, you can add system administrators dynamically.

**Step 3** Click **Add New**.

**Step 4** Enter an IM address.

### Example

The IM address must be in the format of name@domain.

**Step 5** Enter a **Nickname** and **Description**.

**Step 6** Click **Save**.

**What to do next**

[Configure Chat Room Settings, on page 4](#)

## Configure Chat Room Settings

Configure basic chat room settings such as Room Member and Occupancy settings, and the maximum number of users per room.

Optionally, you can enable Persistent Chat by checking the **Enable Persistent Chat** check box.

**Procedure**

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- Step 1** From Cisco Unified CM IM and Presence Administration, choose **Messaging > Group Chat and Persistent Chat**
- Step 2** Configure whether you want the system to manage chat node aliases by checking or unchecking the **System automatically manages primary group chat server aliases** check box.
- Checked—The system assigns chat node aliases automatically. This is the default value.
  - Unchecked—Administrators can assign their own chat node aliases.
- Step 3** Check the **Enable Persistent Chat** check box if you want your chat rooms to remain in existence after all participants have left the room.
- Note** This is a cluster-wide setting. If persistent chat is enabled on any node in the cluster, clients in any cluster will be able to discover the Text Conference instance on the node and chat rooms hosted on that node.
- Users from a remote cluster can discover Text Conference instances and chat rooms in the local cluster even if Persistent Chat is not enabled for the remote cluster.
- Step 4** If you have chosen to enable Persistent Chat, configure values for each of the following fields:
- Maximum number of persistent chat rooms allowed
  - Number of connections to the database
  - Database connection heartbeat interval (seconds)
  - Timeout value for persistent chat rooms (minutes)
- Note** Do not set the **Database Connection Heartbeat Interval** value to zero without contacting Cisco support. The heartbeat interval is typically used to keep connections open through firewalls.
- Step 5** Under **Room Settings**, assign a maximum number of rooms.
- Step 6** Complete the remaining settings in the **Group Chat and Persistent Chat Settings** window. For help with the fields and their settings, refer to the online help.
- Step 7** Click **Save**.
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**What to do next**

[Restart the Cisco XCP Text Conference Manager, on page 5](#)

## Restart the Cisco XCP Text Conference Manager

If you have edited your chat settings or added one or more aliases to a chat node, restart the **Cisco XCP Text Conference Manager** service.

### Procedure

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- Step 1** In **Cisco Unified IM and Presence Serviceability**, choose **Tools > Control Center - Feature Services**.
  - Step 2** From the **Server** drop-down list, choose the IM and Presence node and click **Go**.
  - Step 3** In the **IM and Presence Service** section, click the **Cisco XCP Text Conference Manager** radio button and click **Start** or **Restart**.
  - Step 4** Click **OK** when a message indicates that restarting may take a while.
  - Step 5** (Optional) Click **Refresh** if you want to verify that the service has fully restarted.
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### What to do next

If you are deploying High Availability for Persistent Chat, proceed to [High Availability for Persistent Chat Task Flow](#).

Otherwise, [Set up External Database for Persistent Chat, on page 5](#).

## Set up External Database for Persistent Chat



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**Note** This topic covers Persistent Chat without High Availability. If you are deploying High Availability for Persistent Chat, refer to that chapter instead for external database setup info.

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If you are configuring persistent chat rooms, you must set up a separate external database instance for each node that hosts persistent chat rooms. In addition:

- If persistent chat is enabled, an external database must be associated with the Text Conference Manager service, and the database must be active and reachable or the Text Conference Manager will not start.
- If you use an external database for persistent chat logging, make sure that your database is large enough to handle the volume of information. Archiving all the messages in a chat room is optional, but will increase traffic on the node and consume disk space.
- Use the External Database Cleanup Utility to set up jobs that monitor the database size and delete expired records automatically.
- Before you configure the number of connections to the external database, consider the number of IMs you are writing and the overall volume of traffic that results. The number of connections that you configure will allow the system to scale. While the system defaults suit most installations, you may want to adapt the parameters for your specific deployment.

For instructions on how to set up an external database, see *External Database Setup Guide for IM and Presence Service* at <http://www.cisco.com/c/en/us/support/unified-communications/unified-presence/products-installation-and-configuration-guides-list.html>.

**What to do next**

[Add External Database Connection, on page 6](#)

## Add External Database Connection

Configure a connection to the Persistent Chat external database from the IM and Presence Service. A minimum of one unique logical external database instance (tablespace) is required for the entire IM and Presence Service intercluster.

**Procedure**

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- Step 1** From Cisco Unified CM IM and Presence Administration, choose **Messaging > External Servers Setup > External Databases**.
  - Step 2** Click **Add New**.
  - Step 3** In the **Database Name** field, enter the name of external database instance.
  - Step 4** From the **Database Type** drop-down, select the type of external database that you are deploying.
  - Step 5** Enter the **User Name** and **Password information** for the database.
  - Step 6** In the **Hostname** field, enter the hostname or IP address of the database.
  - Step 7** Complete the remaining settings in the **External Database Settings** window. For help with the fields and their settings, refer to the online help.
  - Step 8** Click **Save**.
  - Step 9** Repeat this procedure to create connections to each external database instance.
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## Windows Authentication for MSSQL Database for Persistent Chat

To enable Windows authentication for MSSQL external database for Persistent Chat.

**Before you begin**


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**Important** Supported from Release 14SU2 onwards.

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To configure external database connection, see [Add External Database Connection, on page 6](#).

**Procedure**

	Command or Action	Purpose
<b>Step 1</b>	From the <b>Database Type</b> drop-down, select the type of external database as <b>Microsoft SQL Server</b> .	
<b>Step 2</b>	Check the <b>Enable Windows Authentication</b> check box.	

	Command or Action	Purpose
<b>Step 3</b>	In the <b>Domain</b> field, enter the Windows domain name.	
<b>Step 4</b>	Enter the <b>User Name</b> and <b>Password</b> information of the Windows user.	<b>Note</b> By using Windows authentication, Windows groups can be created at the domain level, and a login can be created on MSSQL server for the entire group.

## Group Chat and Persistent Chat Interactions and Restrictions

*Table 1: Group Chat and Persistent Chat Interactions and Restrictions*

Feature Interaction	Restriction
Archiving room joins	Archiving room joins and leaves is optional because it will increase traffic and consume space on the external database server.
Chat with anonymous rooms	If you are deploying chat via Cisco Jabber (either group chat or persistent chat), make sure that the <b>Rooms are anonymous by default</b> and <b>Room owners can change whether or not rooms are anonymous</b> options are not selected in the <b>Group Chat and Persistent Chat Settings</b> window. If either check box is checked, chat will fail
Database Connection Issues	If the connection with the external database fails after the Text Conference Manager service has started, the Text Conference Manager service will remain active and functional, however, messages will no longer be written to the database and new persistent rooms cannot be created until the connection recovers.
OVA Requirements	If you are deploying Persistent Chat or Intercluster Peering, the minimum OVA size that you can deploy for these features is the 5000 user OVA. It's recommended that you deploy at least the 15,000 user OVA. Centralized Deployments may require the 25,000 user OVA, depending on the size of the user base. For additional details on OVA options and user capacities, refer to the following site:  <b>Note</b> It's strongly recommended to deploy at least the 15,000 user OVA on all IMP nodes.  <a href="https://www.cisco.com/c/dam/en/us/td/docs/voice_ip_comm/uc_system/virtualization/virtualization-cisco-ucm-im-presence.html">https://www.cisco.com/c/dam/en/us/td/docs/voice_ip_comm/uc_system/virtualization/virtualization-cisco-ucm-im-presence.html</a>
Persistent chat character limit with Microsoft SQL Server	Chat messages where the message body (includes HTML tags + text message) exceeds 4000 characters are not delivered. These messages are rejected and are not archived. This issue exists when Microsoft SQL Server is used as the external database for releases 11.5(1)SU3 onward. See CSCvd89705 for additional detail.

Feature Interaction	Restriction
<p>Persistent Chat for Jabber Mobile where a peer cluster is running a non-supported release</p>	<p>Persistent chat for Jabber mobile is introduced with 11.5(1)SU5 and is not supported on earlier 11.5(1)SU releases. This feature is also not supported for 12.0(1) or 12.0(1)SU1.</p> <p>If you have Persistent Chat for Jabber mobile deployed in this release, and you also have intercluster peering set up with peer clusters that do not support persistent chat rooms for Jabber Mobile, the following conditions apply for Jabber mobile clients:</p> <p>If the persistent chat room is hosted on a non-supported release, such as 11.5(1):</p> <ul style="list-style-type: none"> <li>• A Jabber mobile client that is homed from the supported cluster can join persistent chat rooms hosted on the non-supported cluster, but will have no option to mute the room. They will see a Global Mute option, but it will not work.</li> <li>• A Jabber mobile client that is homed on the non-supported peer cluster will be unable to join any persistent chat rooms.</li> </ul> <p>If the persistent chat room is hosted on a supported release, such as 11.5(1)SU5:</p> <ul style="list-style-type: none"> <li>• A Jabber mobile client participant that is homed on the supported cluster will have all persistent chat on mobile functionality.</li> <li>• A Jabber mobile client from a non-supported peer cluster will be unable to join persistent chat rooms.</li> </ul> <p><b>Note</b> The search feature for Persistent Chat does not work when the Jabber Configuration file (<i>jabber-config.xml</i>) is set to disable the IM History.</p>
<p>External Database connectivity and Cisco XCP Text Conferencing service</p>	<p>In a split-brain scenario, When the subscriber or publisher detects its peer Text Conferencing service or any node is down, then the subscriber or publisher attempts a transition from normal to backup.</p> <p>During this operation if loading of the peer's chat rooms fails to connect to external database, then the Cisco XCP Text Conferencing service will shutdown.</p>



Feature Interaction	Restriction
Number of Persistent chat rooms supported if High Availability is configured	<p>The maximum number of Persistent Chat Rooms supported on an IM&amp;P deployment is 5000 per subcluster.</p> <p>If High Availability is enabled, it is recommended to create a maximum of 2500 rooms per node. (though the system allows to create upto maximum of 5000 rooms per node). If more than 2500 rooms are configured per node in a High Availability deployment, then during failover, there would be more than 5000 rooms hosted on the backup node. This might result in unexpected performance issues depending on the traffic load.</p> <p>The load of 5000 rooms on the system also depends on the number of participants in the room, the rate of message exchange in the rooms and the size of messages. Use Cisco Collaboration Sizing tool to ensure you have the right OVA setup for your Persistent Chat Deployment. For Information on Collaboration Sizing tool, Please refer: <a href="https://cucst.cloudapps.cisco.com/landing">https://cucst.cloudapps.cisco.com/landing</a></p> <p>It is recommended to have your rooms balanced equally among both the nodes in a subcluster. And if you have more than one subcluster in a IM&amp;P Cluster, it is recommended to also load balance the rooms across all the subclusters. Currently IM&amp;P doesn't have a mechanism to automatically load balance the rooms. The responsibility of load balancing the room lies with the users creating the rooms. During room creation, users have to ensure that they use the jabber feature to automatically select a random node for a room creation.</p>
Making ad hoc chat rooms private	<p>Ad hoc chat rooms are public by default, but can be configured to be for members only with the following configuration:</p> <ol style="list-style-type: none"> <li>1. From Cisco Unified CM IM and Presence Administration, choose <b>Messaging &gt; Group Chat and Persistent Chat</b>.</li> <li>2. Check the <b>Rooms are for members only by default</b> check box.</li> <li>3. Uncheck the <b>Room owners can change whether or not rooms are for members only</b> check box.</li> <li>4. Uncheck the <b>Only moderators can invite people to members-only rooms</b> check box.</li> <li>5. Click <b>Save</b>.</li> <li>6. Restart the Cisco XCP Text Conference service.</li> </ol> <p><b>Note</b> When you configure Ad hoc chat rooms as private on IM and Presence, persistent chat rooms also become private.</p>

## Persistent Chat Examples (without HA)

The following two examples illustrate the Persistent Chat feature along with intercluster peering where High Availability for Persistent Chat is not deployed.

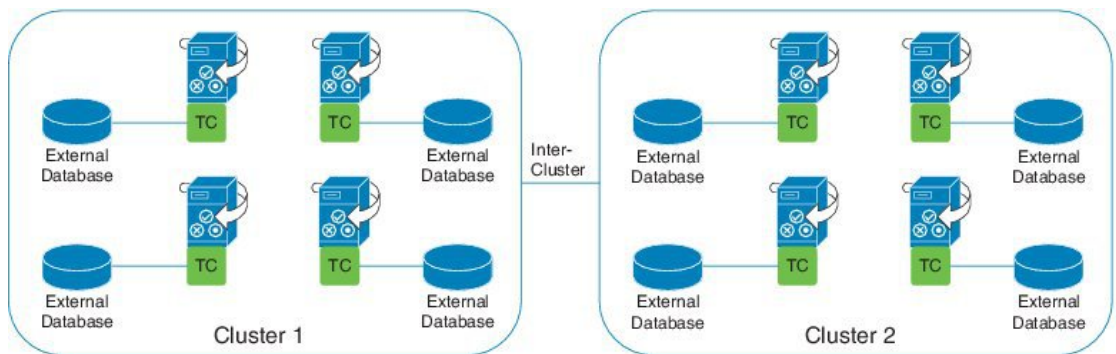


**Note** Cisco recommends that if you are deploying Persistent Chat, you should display High Availability for Persistent Chat in order to add redundancy to your persistent chat rooms.

### Persistent Chat (without HA) Enabled on all Intercluster Nodes

Persistent Chat (without HA) is enabled on all nodes in an intercluster network. All nodes have an external database associated for Persistent Chat, thereby allowing all nodes to host persistent chat rooms.

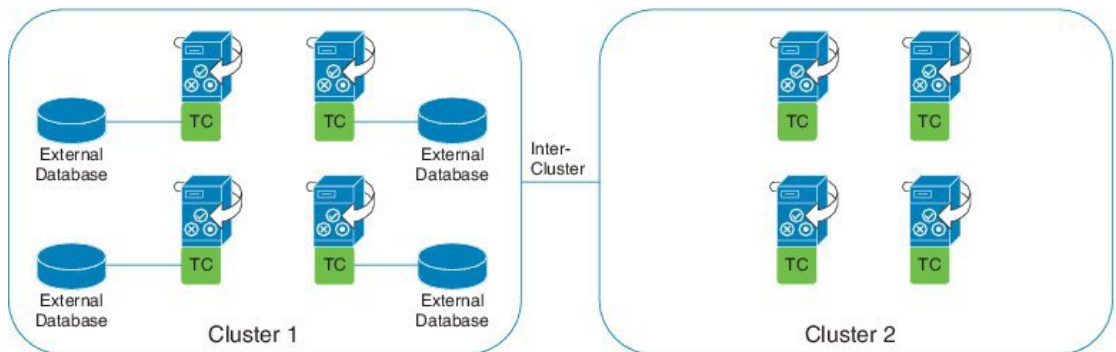
The Cisco Text Conferencing service is running on all nodes in either cluster, allowing all users in either cluster to join persistent chat rooms that are hosted on any node in either cluster.



### Persistent Chat (without HA) Enabled in one Cluster of Intercluster Network

Only nodes in Cluster 1 are configured for Persistent Chat (without HA) and have external databases. External databases are not required in Cluster 2 as the nodes are not configured to host persistent chat rooms.

However, the Cisco Text Conference Manager service is running on all nodes in either cluster, thereby allowing all users in either cluster to join the persistent chat rooms that are hosted in Cluster 1.



## Persistent Chat Boundaries in IM and Presence

This section describes the matrix representing persistent chat (PChat) boundaries in IM and Presence with examples to clarify various dependencies.

The following assumptions are made for deriving the persistent chat boundaries:

1. With respect to the number of rooms per alias/server/subcluster/cluster:
  - a. The server may contain several text conferencing aliases.
  - b. A subcluster contains two servers (nodes).
  - c. A cluster may have up to three subclusters.
2. If high availability (HA) is enabled, all supported room numbers are halved. The maximum allowed value for the **Maximum number of persistent chat rooms allowed** is 2500.
3. Example: Assuming 100 users per rooms in average, the IM and Presence service can support:
  - a. 3500 persistent chat rooms per server without HA, or
  - b. 1750 persistent chat rooms per server with HA.
  - c. Assuming one message per room per minute, up to 273 persistent chat rooms can be active per server.

The following are some examples to clarify these dependencies:

Rooms supported per time slice can be increased at the expense of the total number of rooms supported by using the following formula:

$$\text{New Number of Rooms Supported} = \text{Current Number of Rooms Supported} * \text{Current Number of Rooms Supported Per Time Slice (\%)} / \text{New Rooms Supported Per Time Slice (\%)}$$

*Table 2: 25K OVA Persistent Chat Capacity Table (Per Server)*

Average Number of Users per Room	Number of PChat Rooms Supported	Rooms Supported Per Time Slice Message Frequency = 1/min	Rooms Supported Per Time Slice Message Frequency = 3/min
2	5000	100%	100%
5	5000	100%	58%
10	5000	99%	33%
15	5000	69%	23%
20	5000	53%	18%
30	5000	36%	12%
50	5000	22%	7%
100	3497	16%	5%
200	2064	14%	5%
500	926	12%	4%
1,000	482	12%	4%



**Note** It is assumed that 30% of the users have two devices/clients.

**Example for 25K OVA:**

Average Number of Users per Room = 10

Message frequency = 3/ min

Current Number of Rooms Supported = 5000

Current Rooms Supported per Time Slice = 33%

New Rooms Supported per Time Slice = 50%

**Result:**

New Rooms Supported =  $5000 * 33/50 = 3300$

*Table 3: 15K OVA Persistent Chat Capacity Table (Per Server)*

Average Number of Users per Room	Number of PChat Rooms Supported	Rooms Supported Per Time Slice Message Frequency = 1/min	Rooms Supported Per Time Slice Message Frequency = 3/min
2	5000	100%	80%
5	5000	100%	41%
10	5000	67%	22%
15	5000	46%	15%
20	5000	35%	12%
30	5000	24%	8%
50	5000	14%	5%
100	3497	10%	3%
200	2064	9%	3%
500	926	8%	3%
1,000	482	7%	2%



**Note** It is assumed that 30% of the users have two devices/clients.

**Example for 15K OVA:**

Average Number of Users per Room = 5

Message frequency = 3/ min

Current Number of Rooms Supported = 5000

Current Rooms Supported per Time Slice = 41%

New Rooms Supported per Time Slice = 50%

**Result:**

New Rooms Supported =  $5000 * 41/50 = 4100$

**Table 4: 5K OVA Persistent Chat Capacity Table (Per Server)**

Average Number of Users per Room	Number of PChat Rooms Supported	Rooms Supported Per Time Slice Message Frequency = 1/min	Rooms Supported Per Time Slice Message Frequency = 3/min
2	5000	94%	31%
5	5000	53%	18%
10	4654	33%	11%
15	4261	26%	9%
20	3929	21%	7%
30	3399	17%	6%
50	2677	13%	4%
100	1748	10%	3%
200	1032	9%	3%
500	463	8%	3%
1,000	241	7%	2%



**Note** It is assumed that 30% of the users have two devices/clients.

**Example for 5K OVA:**

Average Number of Users per Room = 2

Message frequency = 3/ min

Current Number of Rooms Supported = 5000

Current Rooms Supported per Time Slice = 31%

New Rooms Supported per Time Slice = 50%

**Result:**

New Rooms Supported =  $5000 * 31/50 = 3100$