Cisco Unified Web and E-Mail Interaction Manager System Administration Guide

For Unified Contact Center Express

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Preface

- About this guide
- Document conventions
- Other learning resources

Welcome to Cisco Interaction Manager, multichannel interaction software used by businesses all over the world to build and sustain customer relationships. A Cisco Interaction Manager installation includes a common platform and one or both of the following applications:

- Cisco Unified Web Interaction Manager (Unified WIM)
- Cisco Unified E-Mail Interaction Manager (Unified EIM)

About this guide

Cisco Unified Web and E-Mail Interaction Manager System Administration Guide discusses best practices for maintaining your Cisco Interaction Manager installation. Cisco Interaction Manager includes a common platform and two applications: Unified WIM and Unified EIM.

This guide is intended for system and database administrators. It will help you keep the installation in good health and to fine tune it to improve its performance.

This guide is for installations that are integrated with Cisco Unified Contact Center Express (Unified CCX).

Document conventions

This guide uses the following typographical conventions.

Convention	Indicates
Italic	Emphasis. Or the title of a published document.
Bold	Labels of items on the user interface, such as buttons, boxes, and lists. Or text that must be typed by the user.
`Monospace`	The name of a file or folder, a database table column or value, or a command.
Variable	User-specific text; varies from one user or installation to another.

Document conventions

Other learning resources

Various learning tools are available within the product, as well as on the product CD and our web site. You can also request formal end-user or technical training.

Online help

The product includes topic-based as well as context-sensitive help.

Use	To view
Help button	Topics in *Cisco Unified Web and E-Mail Interaction Manager Help*; the Help button appears in the console toolbar on every screen.
F1 keypad button	Context-sensitive information about the item selected on the screen.

Online help options

Documentation

- The latest versions of all Cisco documentation can be found online at http://www.cisco.com
- All Unified EIM documentation can be found online at http://www.cisco.com/en/US/products/ps7236/tsd_products_support_series_home.html
- All Unified WIM documentation can be found online at http://www.cisco.com/en/US/products/ps7233/tsd_products_support_series_home.html
- In particular, Release Notes for these products can be found at http://www.cisco.com/en/US/products/ps7236/prod_release_notes_list.html
- For general access to Cisco Voice and Unified Communications documentation, go to http://www.cisco.com/en/US/products/sw/voicesw/tsd_products_support_category_home.html

1 Setting up an integrated installation

- Designing your installation
- Preparing Unified CCX for the integration
- Installing Cisco Interaction Manager and the integration
- Configuring objects in Cisco Interaction Manager

This chapter provides an overview of the steps to set up an integrated Cisco Interaction Manager–Unified CCX system.

Designing your installation

See *Cisco Unified Web and E-Mail Interaction Manager Solutions Reference Network Design Guide* to evaluate available deployment models and design your installation.

Preparing Unified CCX for the integration

Installing Unified CCX

- Ensure that Unified CCX is installed and available for use. See the following documents for help with installing and configuring the system:
  - *Getting Started with Cisco Unified Contact Center Express*
  - *Cisco CRS Installation Guide*
  - *Cisco CRS Administration Guide*
  - *Cisco CRS Servicing and Troubleshooting Guide*
  - *Cisco CRS (IP IVR and IPCC Express) Port Utilization Guide*

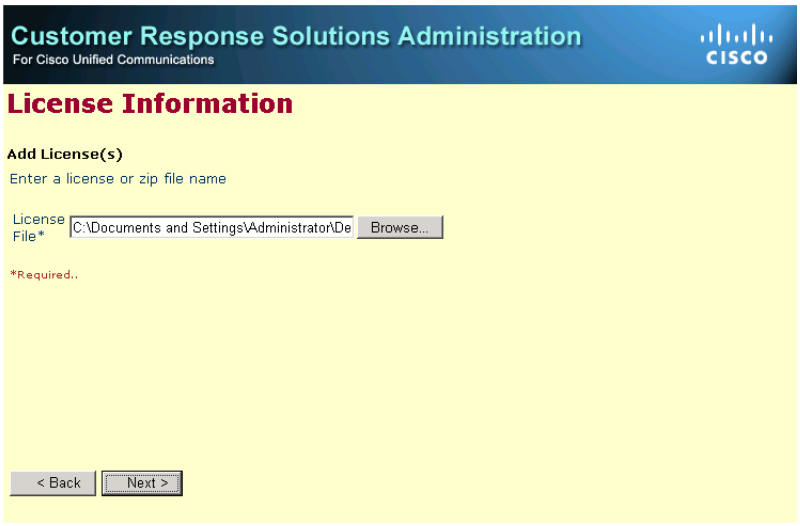
Uploading licenses

Licenses are uploaded through the Cisco CRS Administrator. The procedure described in this section can be used to upload additional licenses too.

To upload licenses:

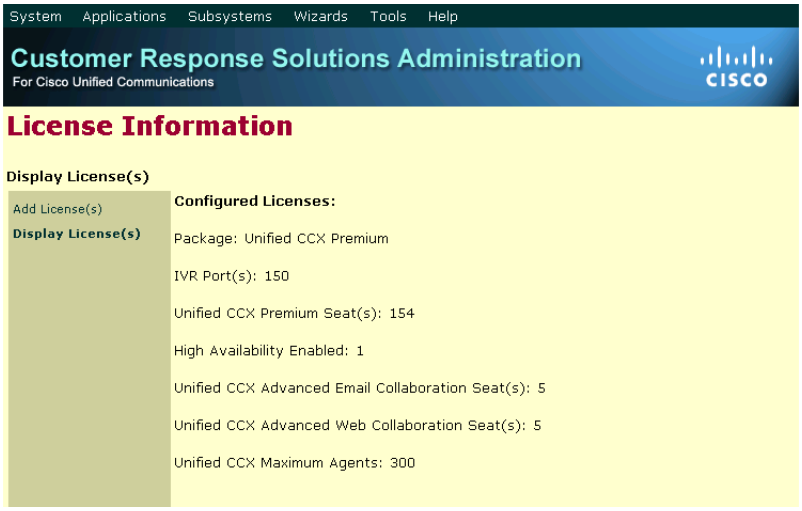
1. Go to the URL for the Cisco CRS Administrator: http://*Unified_CCX_Server*/AppAdmin
2. Log in as a Unified CCX administrator.
3. Select **System** > **License Information**.
4. Select the **Add License(s)** option.

5. Browse to locate the Unified CCX (voice seats) license file on disk and then click **Next.**



Upload Unified CCX license files

6. Review the configured license details displayed**.**
7. Follow steps 3–5 to upload the Unified EIM (email seats) license file if your integration will include Unified EIM.
8. Follow steps 3–5 to upload the Unified WIM (chat seats) license file if your integration include Unified WIM. Review the final details of configured licenses and log out of Cisco CRS Administrator**.**



Review the final details of configured licenses

Configuring Unified CCX

- Ensure that Unified CCX is configured and agents, contact service queues (CSQs), teams, and supervisors are created. After Cisco Interaction Manager and the integration is installed, the configuration items mentioned above will be automatically configured on Cisco Interaction Manager. For details about Unified CCX configuration, refer to the Unified CCX documentation.

Installing Cisco Interaction Manager and the integration

To install Cisco Interaction Manager and the integration with Unified CCX:

1. Ensure that Microsoft SQL Server 2000 Service Pack 4 is installed and running on the machine on which you will be installing the Cisco Interaction Manager database.
2. From the Cisco Interaction Manager Environment CD, copy the BEA folder to a local directory on the Cisco Interaction Manager application server, and the JRE_1.6 folder to the user desktop.
3. From the BEA folder inside the local directory, open the folder WebLogic Server 8.1 SP6, and double-click the `.exe` file within it. This launches the installation process for WebLogic 8.1 SP 6 on the application server. Refer to `WebLogicServerInstallGuide.pdf` inside the `BEA\documentation` folder for steps to install and configure BEA WebLogic 8.1 SP 6.
4. From the JRE_1.6 folder inside the user desktop, double-click the `.exe` file. This launches the installation process for Sun JRE 1.6. Refer to `readme.txt` for instructions to install Sun JRE 1.6.
5. Install Cisco Interaction Manager. Refer to *Cisco Unified Web and E-Mail Interaction Manager Installation Guide for Unified CCX* for a detailed list of deployment options and installation steps corresponding to each deployment.

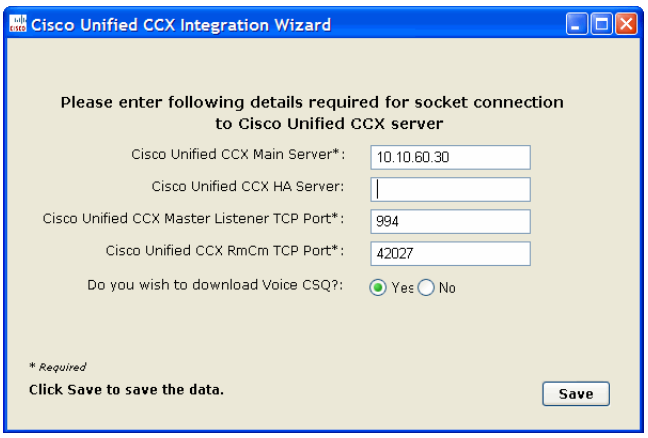
   The document also guides you through the procedure of setting up the integration with the help of Cisco Unified CCX Data Integration Wizard.You will need the following details to configure a socket connection to the Unified CCX server:

   - **Cisco Unified CCX Main Server:** The host name or IP address of the primary Unified CCX server.
   - **Cisco Unified CCX HA Server:** The host name or IP address of the secondary Unified CCX server, which serves as the “high availability” server. This is an optional field. If you provide the secondary Unified CCX server details, Cisco Interaction Manager attempts to connect to the secondary Unified CCX server when the connection to the primary Unified CCX server fails.
   - **Cisco Unified CCX Master Listener TCP Port:** The port number of the licensing port in Unified CCX, which is used to connect to Unified CCX to download license information. This port corresponds to the Master Listener TCP Port configured in the System Parameters section of Unified CCX Administration. The default value is **994.**
   - **Cisco Unified CCX RmCm TCP Port:** The port number to be used to connect to Unified CCX to download configuration data for agents, teams, supervisors, and CSQs (queues). This port corresponds to the RmCm TCP Port configured in the System Parameters section of Unified CCX Administration. The default value is **42027.**

   Cisco Interaction Manager users are auto-configured from Unified CCX agents and supervisors, while user groups are auto-configured from Unified CCX teams. Users and user groups cannot be created in Cisco Interaction Manager. Queues, however, can be auto-configured from Unified CCX CSQs or created in Cisco Interaction Manager. You have the following three options for creating queues:

   a. Configure Cisco Interaction Manager to download Unified CCX CSQs as voice queues and use them for email and chat as well. In this case, you must enable the **Download voice contact service queues (CSQ) from Unified CCX** option through the Integration Wizard.

b. Configure Cisco Interaction Manager to download Unified CCX CSQs and create additional chat and email queues through the Cisco Interaction Manager Administration Console. In this case too, you must enable the **Download voice contact service queues (CSQ) from Unified CCX** option through the Integration Wizard.



Details that you will need to provide while setting up the integration

c. Do not download CSQs from Unified CCX. Create chat and email queues through the Cisco Interaction Manager Administration Console. In this case, clear the **Download voice contact service queues (CSQ) from Unified CCX** option in the Integration Wizard.

6. From the Windows Services panel, start the Cisco Interaction Manager Service, and wait for 2–3 minutes before launching the URL to allow all the application services to start.
7. Configure the browser on user desktops according to the procedures detailed in the *Cisco Unified Web and E-Mail Interaction Manager Browser Settings Guide*.

Configuring objects in Cisco Interaction Manager

This section describes the following procedures:

1. "Verifying auto-configured objects in the Administration Console" on page 13.
2. "Setting up knowledge base articles for Unified EIM" on page 15.
3. "Setting up business objects in the Administration Console" on page 17.
4. "Setting up services in the System Console" on page 20.
5. "Setting up web links for chat" on page 26.

Verifying auto-configured objects in the Administration Console

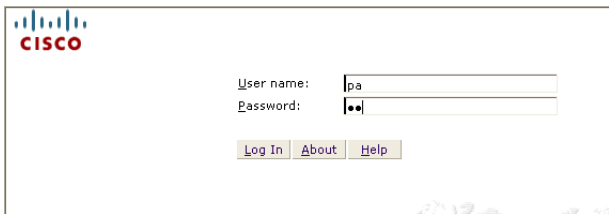
The following table lists the three types of Unified CCX objects that are auto-configured in Cisco Interaction Manager during the integration.

Unified CCX objects	Auto-configured in Cisco Interaction Manager as
Agents Supervisors	Users
Teams	User groups
CSQs (optional)	Queues

The auto-configured objects appear as read-only objects in the Cisco Interaction Manager Administration Console. Configuration changes in Unified CCX are propagated to Cisco Interaction Manager in real time. If needed, the **ReSync** button in the Cisco Interaction Manager Administration Console lets you manually synchronize objects between the two systems.

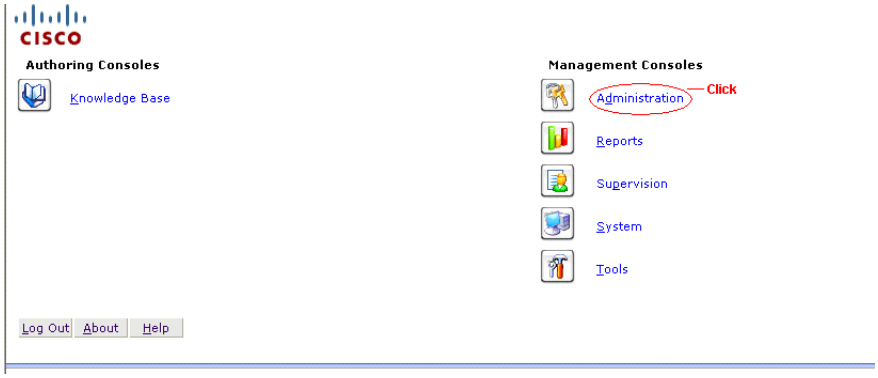
To verify that Unified CCX objects have been auto-configured in the Cisco Interaction Manager Administration Console:

1. Launch the URL: http://*Cisco_Interaction_Manager_Server*/*Default_Partition*.
2. Log in as the partition administrator (user name and password that were configured during the installation of Cisco Interaction Manager).



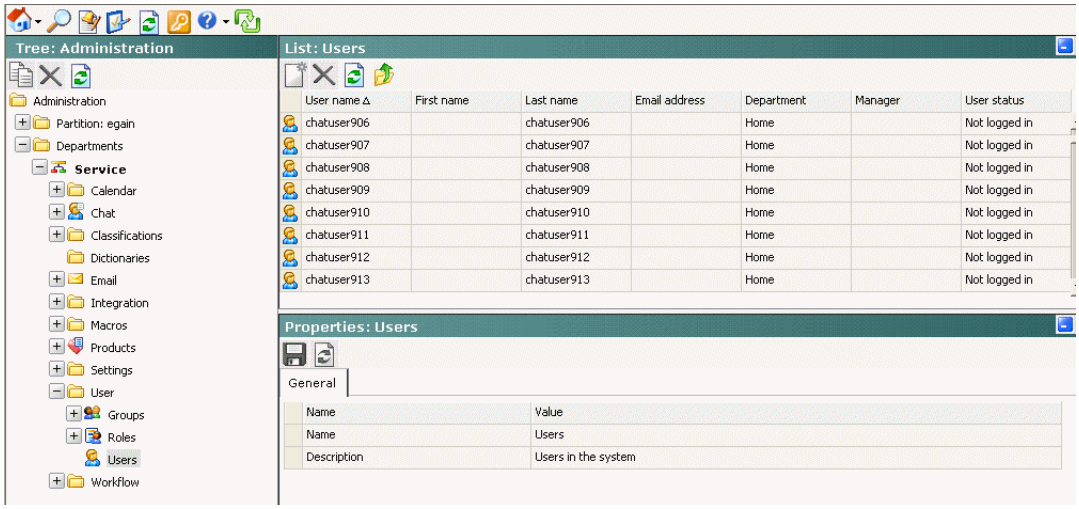
Log in as partition administrator

3. Select the Administration Console.



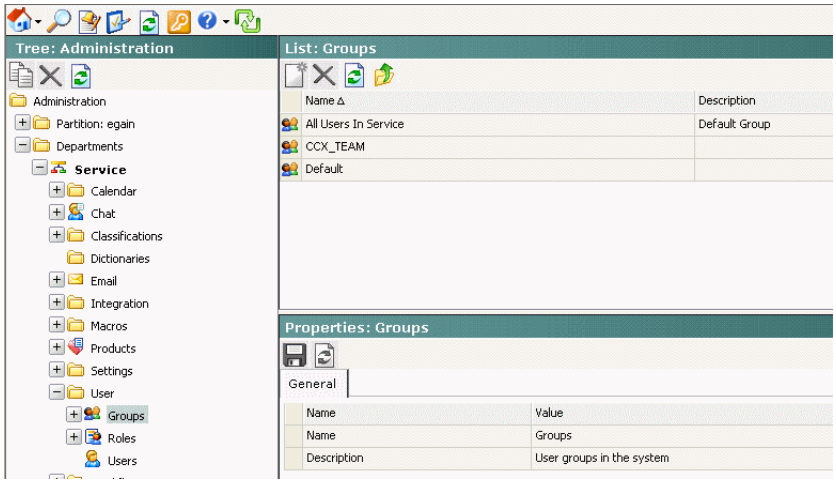
Select the Administration Console

4. In the Administration console, click the **User** node in the Administration tree, to verify that all agents and supervisors in Unified CCX have been auto-configured in Cisco Interaction Manager.



Review auto-configured users

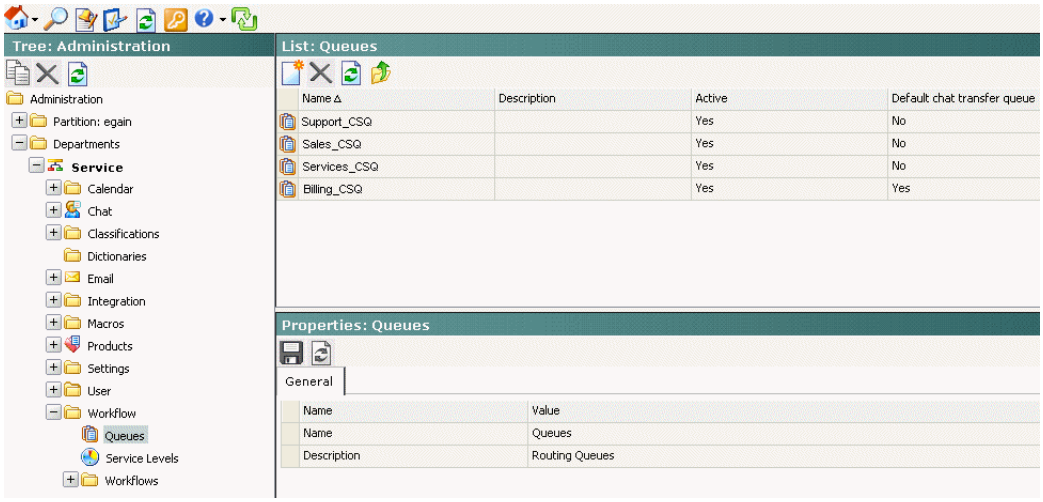
5. Click the **Groups** node in the Administration tree to verify that all teams in Unified CCX have been auto-configured in Cisco Interaction Manager.



Review auto-configured groups

6. Click the **Queue** node in the Administration tree, and verify that all CSQs in Unified CCX have been auto-configured in Cisco Interaction Manager.

Important: **Skip this step if you have not enabled the option to download CSQs.**



Review auto-configured queues

Setting up knowledge base articles for Unified EIM

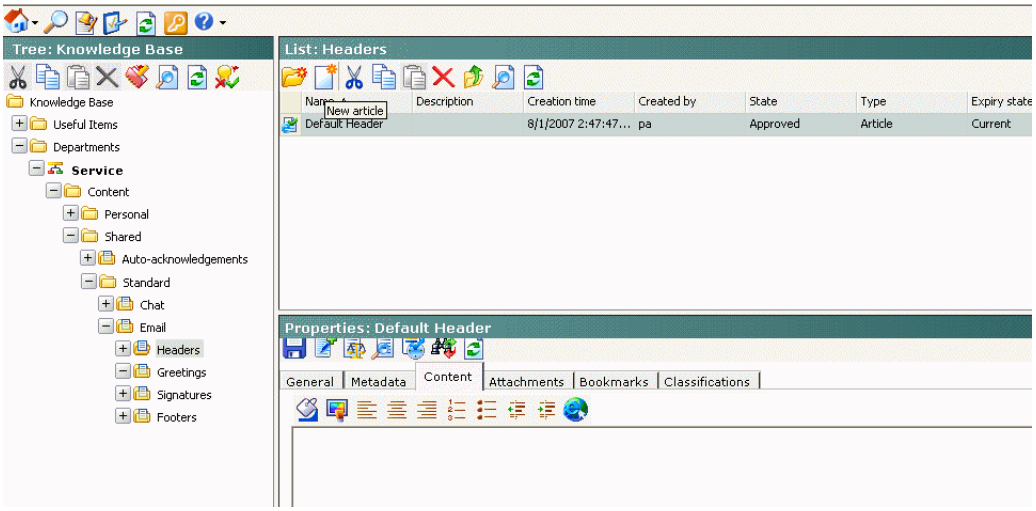
The knowledge base (KB) consists of articles organized into folders. It includes certain standard folders to hold articles meant for specific use in emails, such as headers, greetings, signatures, and footers. Folders for articles of other types are created by KB managers and authors.

See *Cisco Unified Web and E-Mail Interaction Manager Knowledge Base Console User's Guide* for the details of the procedures mentioned in this section.

To set up KB articles for Unified EIM:

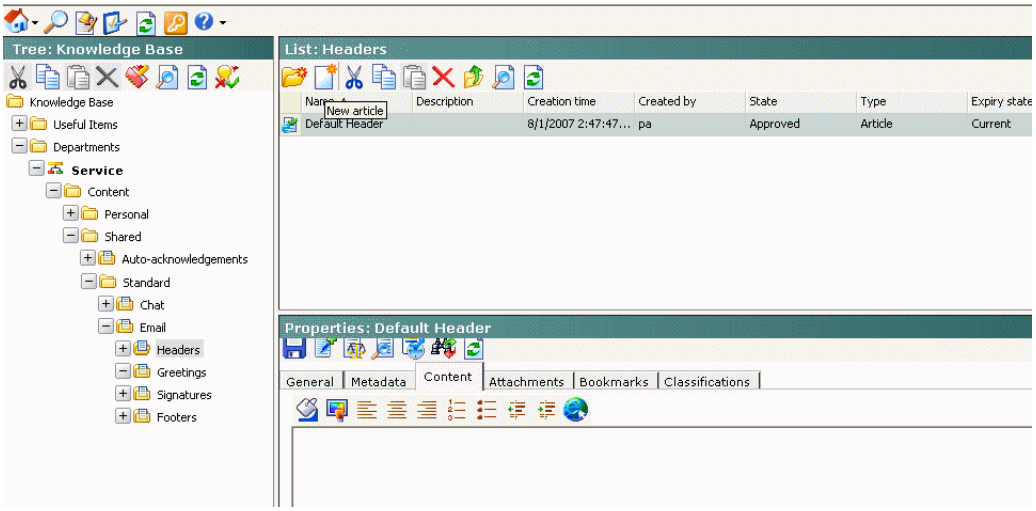
1. Launch the URL: http://*Cisco_Interaction_Manager_Server/Default_Partition*.
2. Log in as the partition administrator.
3. Open the Knowledge Base Console.

4. In the Knowledge Base tree, browse to *Department* > **Shared** > **Standard** > **Email**. Create an article in each of the sub-nodes to set up one option each for a header, greeting, signature, and footer that can be used in responses to incoming activities in the department. Set up macros for the articles to make it easy to insert them into other articles or email responses.



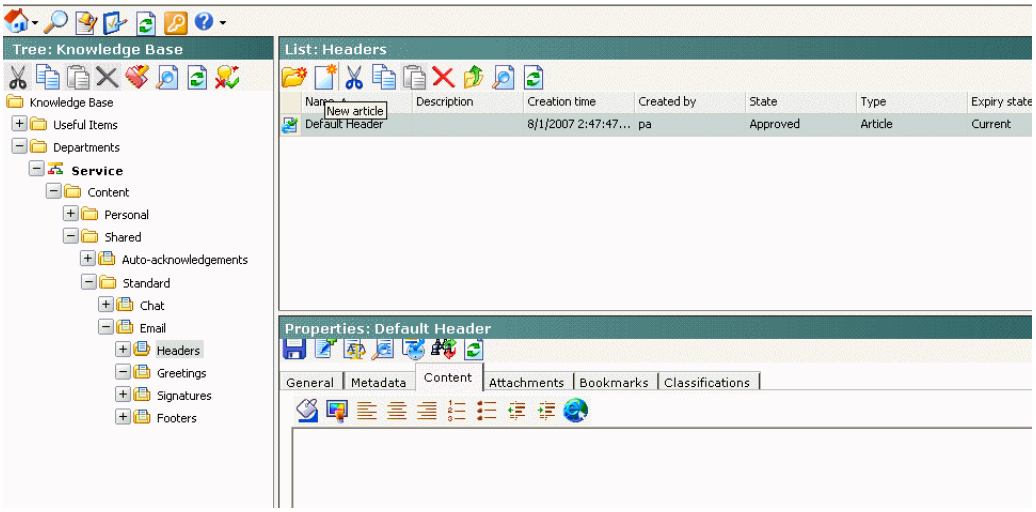
Create a header, greeting, signature, and footer

5. Browse to the *Department* > **Shared** folder. Create a folder for auto-acknowledgements.



Create a folder for auto-acknowledgements

6. In the newly created folder, create an article for use in auto-acknowledgement emails. Use macros to insert the header, greeting, signature, and footer created earlier. These macros expand to the actual content at runtime.



Create a KB article to use in auto-acknowledgement emails

This article will be used later in a workflow (see page 18).

Setting up business objects in the Administration Console

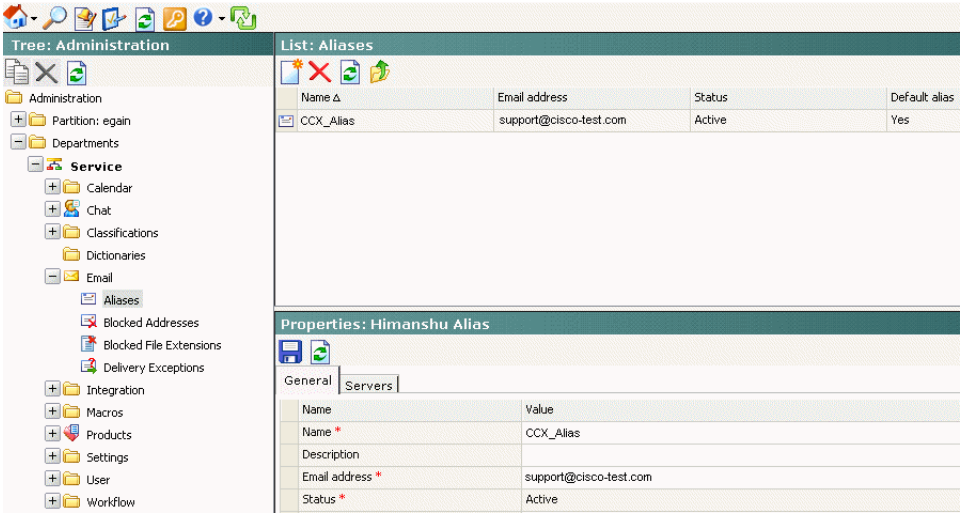
See *Cisco Unified Web and E-Mail Interaction Manager Administration Console User's Guide* for the details of the procedures mentioned in this section.

Unified EIM objects

To set up Unified EIM business objects in the Administration Console:

1. Launch the URL: http://*Cisco_Interaction_Manager_Server*/*Default_Partition*.
2. Log in as the partition administrator.
3. Open the Administration Console.

4. In the Administration tree, browse to the **Email** > **Aliases** node. Create an alias to serve as the entry point for emails into the system.

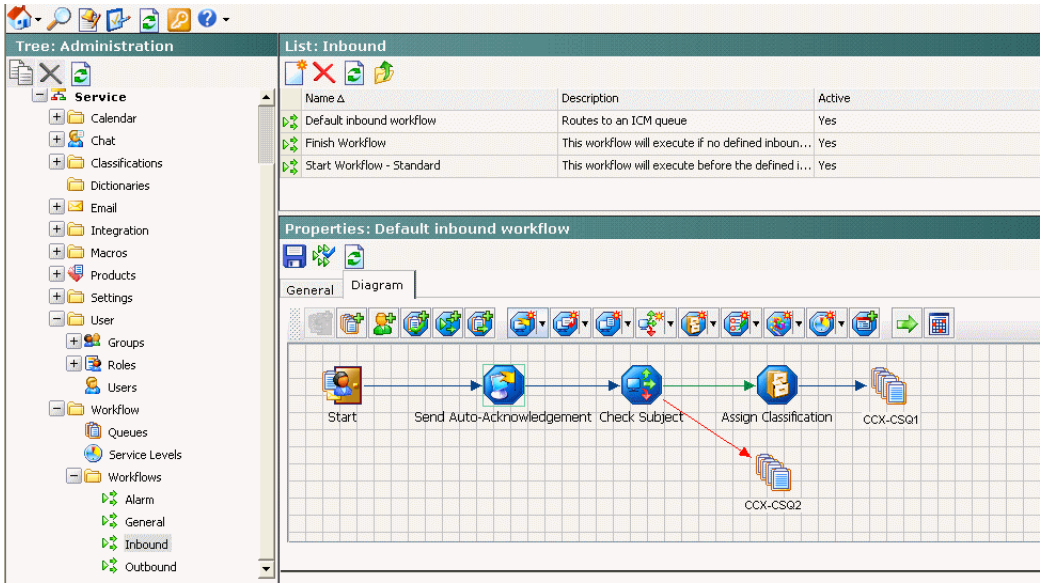


Create an email alias

5. Next, browse to the **Workflow** > **Queues** node to create an email queue.

> **Important:** **Skip this step if intend to use only queues auto-configured from CSQs.**

6. Then browse to the **Workflow** > **Workflows** > **Inbound** node to create an inbound workflow for this alias. The workflow will route incoming emails. Add the alias created in step 4 to the **Start** node. Add an auto-configured CSQ or the queue created in step 5 to the **Queue** node. Select the auto-acknowledgement KB article created earlier (see page 17) for the auto-acknowledgement node.



Create an inbound workflow

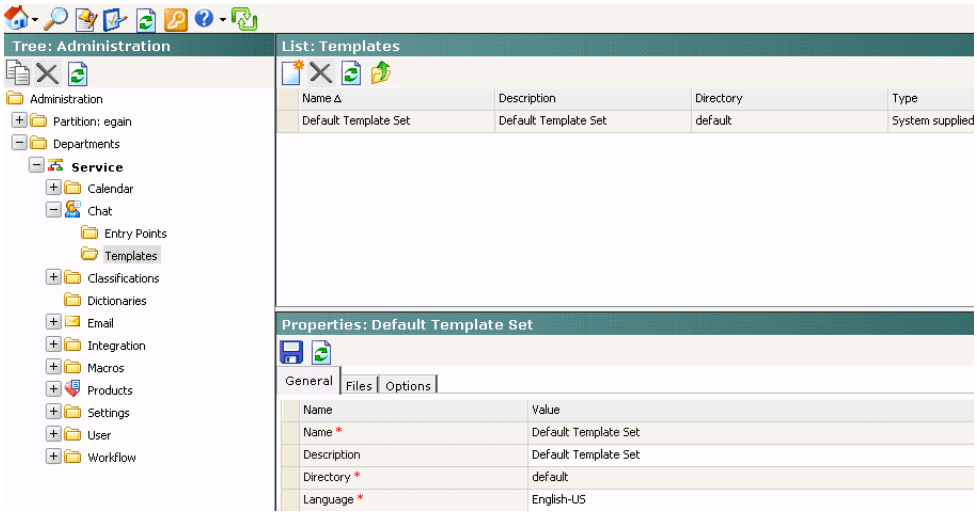
Unified WIM objects

To set up Unified WIM business objects in the Administration Console:

1. Launch the URL: http://*Cisco_Interaction_Manager_Server/Default_Partition*.
2. Log in as the partition administrator.
3. Open the Administration Console.
4. Next, browse to the **Workflow** > **Queues** node to create a chat queue.

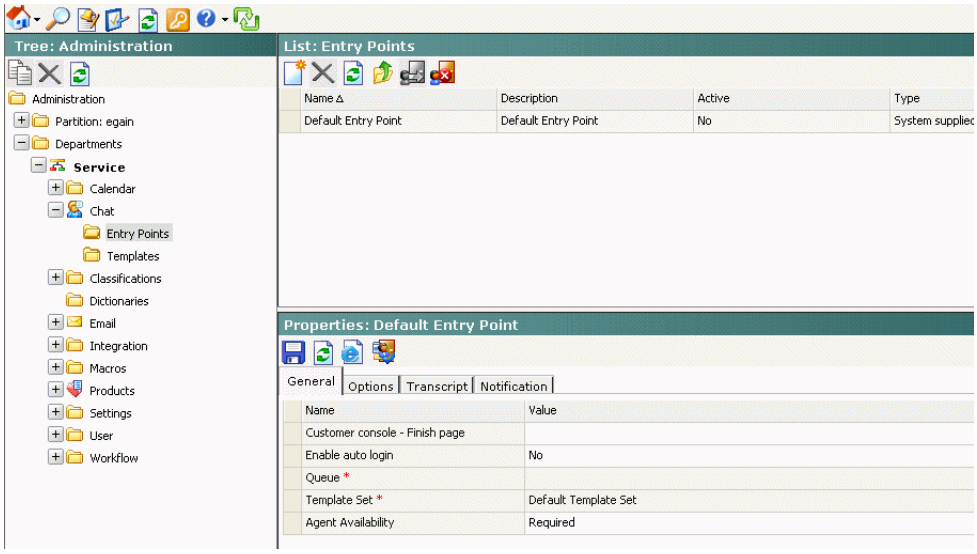
Important: **Skip this step if intend to use only queues auto-configured from CSQs.**

5. Browse to the **Chat** > **Templates** node. Create a new template set, and provide default messages for different states associated with a chat session, e.g., abandon, exit, error, and so on.



Create a customer template set for chat

6. Browse to the **Chat** > **Entry points** node. Create a new chat entry point by assigning the appropriate customer chat template. To route chats that enter from this entry point, use an auto-configured CSQ or the queue created in step 4. Make the entry point active.



Set up an entry point for chats

In the Properties pane, click the **Show HTML** button. The code used to generate a chat hyperlink to that entry point is displayed. Copy this link code into a Notepad file. Edit the code as explained in the Administration Console Help.

Setting up services in the System Console

Service processes are managed at the system level as shared resources across partitions. Service instances are managed within partitions.

See *Cisco Unified Web and E-Mail Interaction Manager System Console User's Guide* for the details of the procedures mentioned in this section.

Unified EIM services

This section helps you set up processes and instances for the following services:

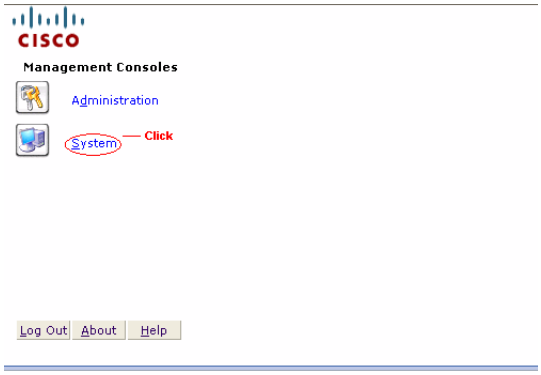
- **Retriever:** Gets incoming emails from configured aliases and parses them.
- **Workflow Engine:** Applies workflows on emails to automate their routing and handling.
- **Dispatcher:** Sends outgoing emails out of the system.

To set up Unified EIM services in the System Console:

1. Open a new browser window, and launch the URL: http://*Cisco_Interaction_Manager_Server*/system. Log in as the system administrator (user name and password that were configured during the installation of Cisco Interaction Manager).

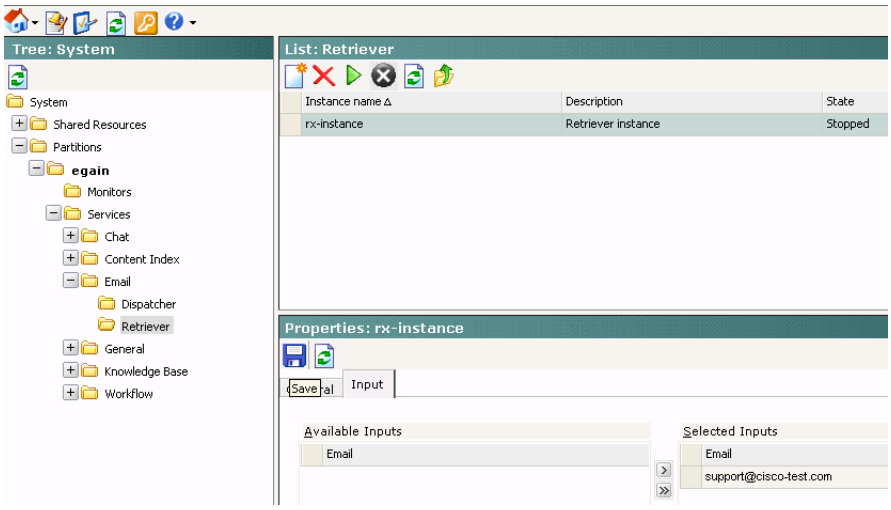
Log in as system administrator into system area

2. Select the System Console.



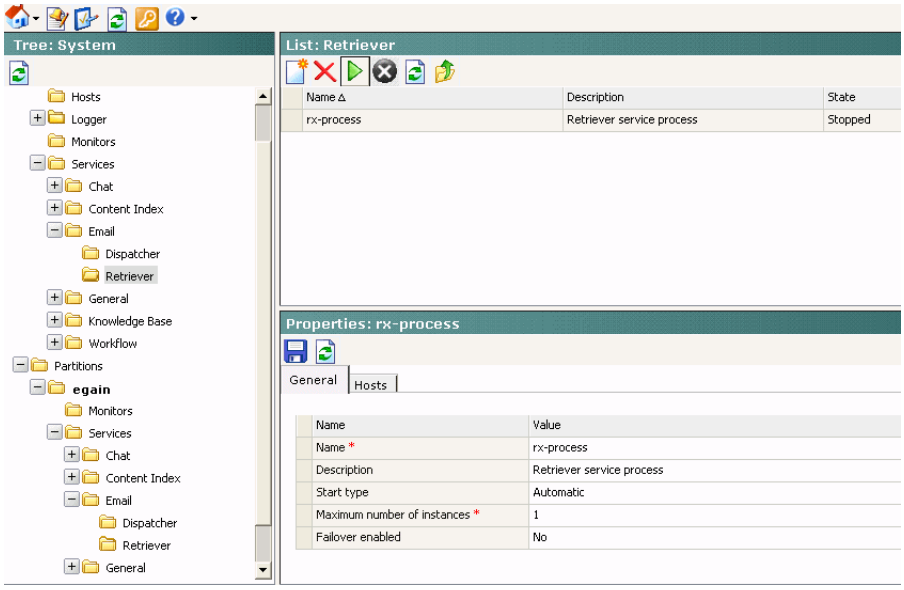
Select the System Console

3. Browse to the **Partitions >** *Partition* > **Services** > **Retriever** node. Click the Retriever instance to use in the partition, and select the email alias that you had created earlier in the Administration Console (see page 18).



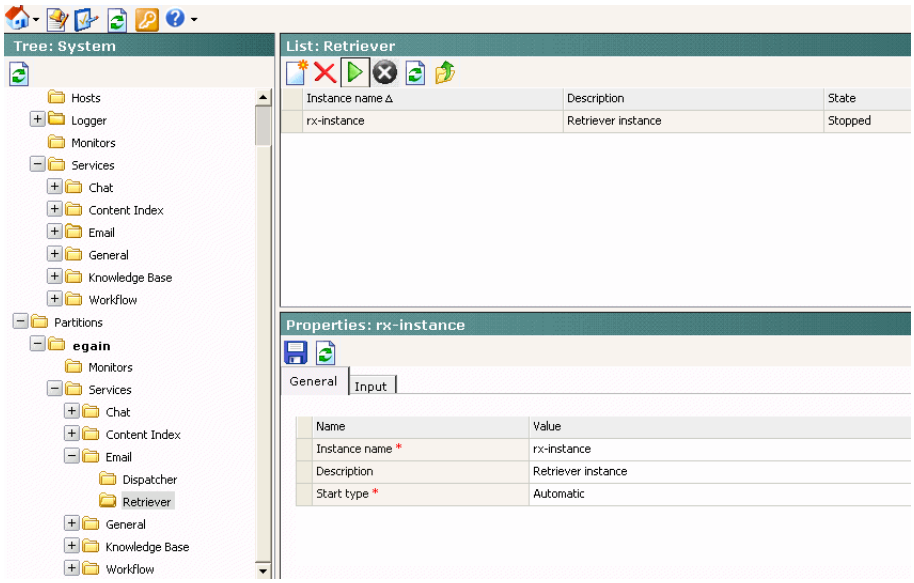
Associate a Retriever instance with the email alias created earlier

4. Restart the Retriever process and instance based on the notification message that appears. Browse to **Shared Resource** > **Services** > **Retriever,** and stop and start the Retriever process for the system.



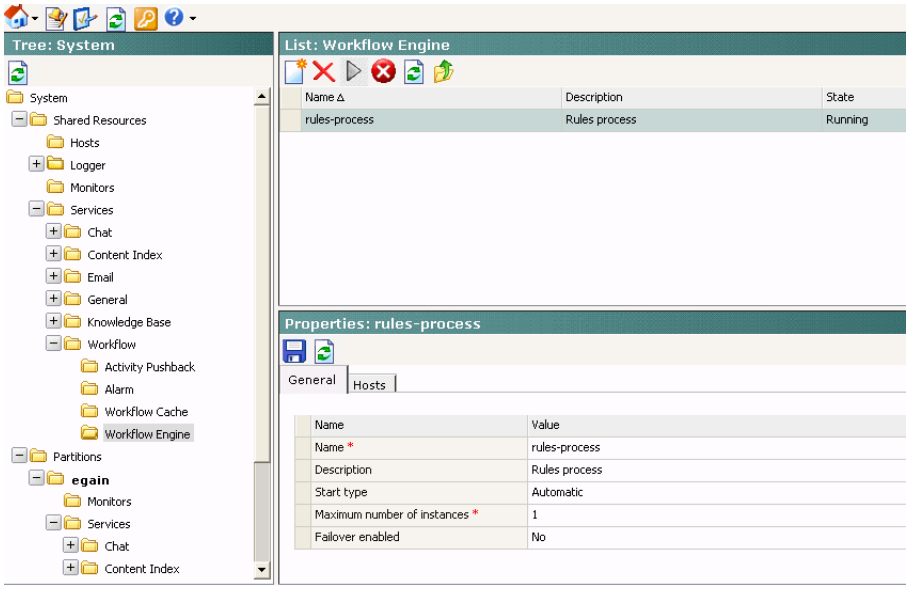
Start the Retriever process

5. Navigate back to the **Partitions >** *Partition* > **Services** > **Retriever** node. Stop and start the Retriever instance.



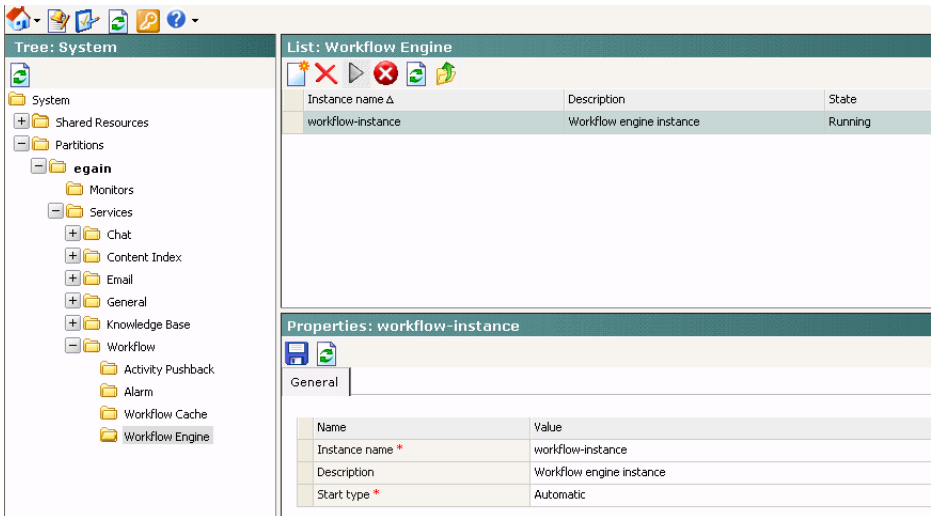
Start the Retriever instance

6. Browse to **Shared Resource** > **Services** > **Workflow** > **Workflow Engine** and verify that the Workflow Engine process is running. If the process is in a stopped state, start the process by clicking the **Run** button.



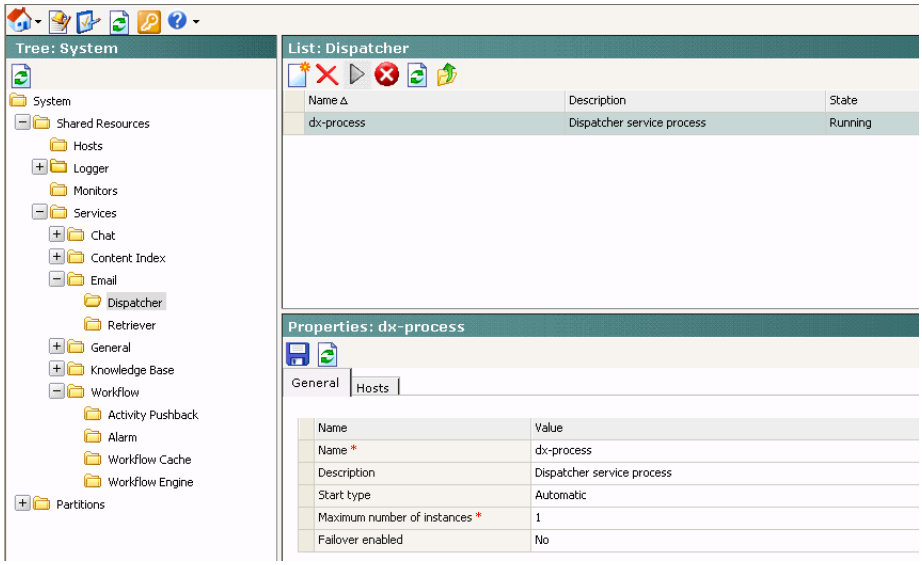
Verify that the Workflow Engine process is running

7. Browse to **Partitions >** *Partition* > **Services** > **Workflow** > **Workflow Engine** and start the Workflow Engine instance.



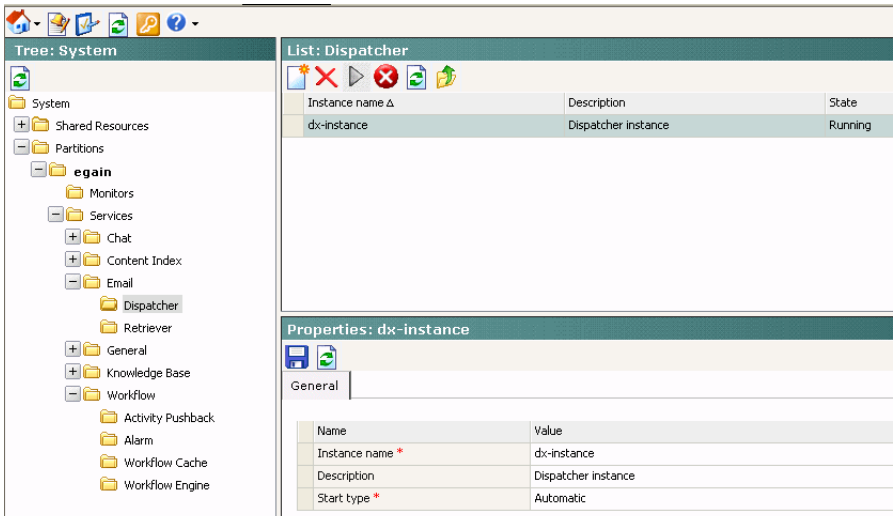
Start the Workflow Engine instance

8. Browse to **Shared Resource** > **Services** > **Email** > **Dispatcher** and verify that the Dispatcher process is running. If the process is in a stopped state, start the process by clicking the **Run** button.



Verify that the Dispatcher process is running

9. Browse to **Partitions >** *Partition* > **Services** > **Email** > **Dispatcher** and start the Dispatcher instance.



Start the Dispatcher instance

Unified EIM is now ready for use. To verify, log in as an agent or supervisor, and perform basic tasks.

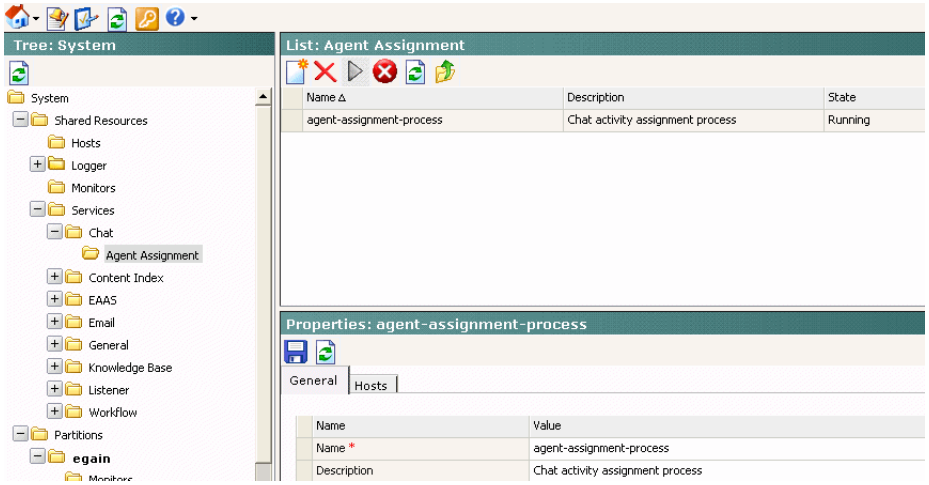
Unified WIM services

This section helps you set up processes and instances for the following service:

- **Agent Assignment:** Routes chats to agents.

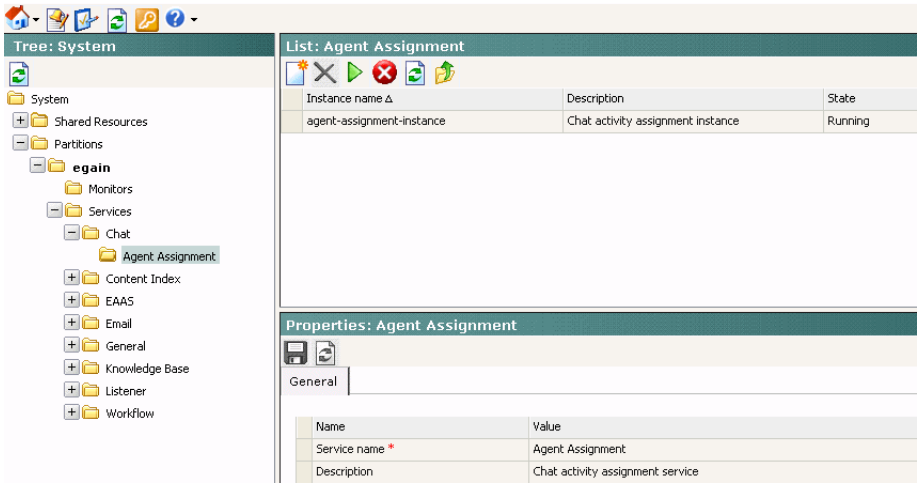
To set up Unified WIM services in the System Console:

1. Open a new browser window, and launch the URL: http://*Cisco_Interaction_Manager_Server*/system.
2. Log in as the system administrator.
3. Browse to **Shared Resource** > **Services** > **Chat** > **Agent Assignment** and verify that the Agent Assignment process is running. If the process is in a stopped state, start the process by clicking the **Run** button.



Verify that the Agent Assignment process is running

4. Browse to **Partitions >** *Partition* **>** **Services** > **Chat** > **Agent Assignment** and start the Agent Assignment service instance.



Start the Agent Assignment instance

Setting up web links for chat

To create a chat link on your web site:

- Open the code view of the host web page and add the edited link code (see page 20) from the entry point properties at the appropriate point. You may need to ask your web master to perform this task.

Unified WIM is now ready for use. To verify, log in as an agent or supervisor, and perform basic tasks.

Related documentation

Refer to the following Cisco Interaction Manager User's Guides (for the Unified CCX integration) for more information about configuring and using Cisco Interaction Manager.

- *Cisco Unified Web and E-Mail Interaction Manager Administration Console User's Guide* helps administrators set up and manage business objects.
- See *Cisco Unified Web and E-Mail Interaction Manager System Console User's Guide* helps system administrators set up and manage services, loggers, and system monitors.
- See *Cisco Unified Web and E-Mail Interaction Manager Tools Console User's Guide* helps business analysts extend the system by adding custom attributes. The Tools Console also enables administrators to configure screens and views for users and groups.
- See *Cisco Unified Web and E-Mail Interaction Manager Supervision Console User's Guide* helps supervisors set up and use agent and queue monitors.
- See *Cisco Unified Web and E-Mail Interaction Manager Reports Console User's Guide* helps managers and supervisors to set up and run reports to analyze various aspects of the system.
- See *Cisco Unified Web and E-Mail Interaction Manager Knowledge Base Console User's Guide* helps knowledge base (KB) managers and authors to create and publish KB articles.
- See *Cisco Unified Web and E-Mail Interaction Manager Agent Console User's Guide* helps agents handle email and chat interactions.

2 Configuring web server

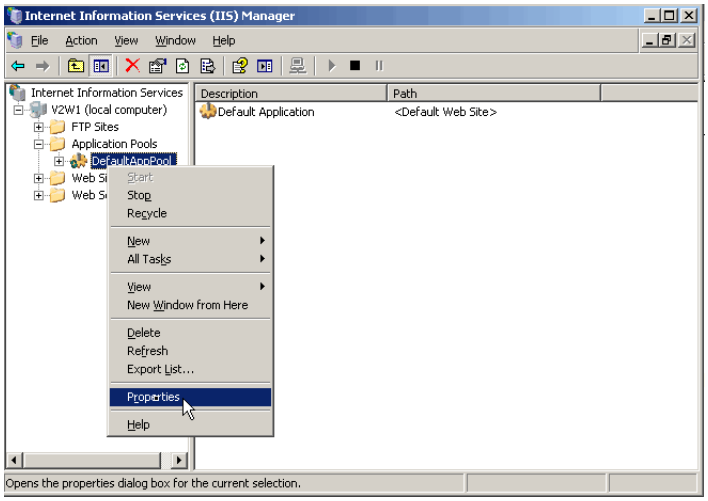
- Configuring Internet Information Services
- Configuring pool thread limit

Configuring Internet Information Services

This procedure helps eliminate 503 errors on the web server.

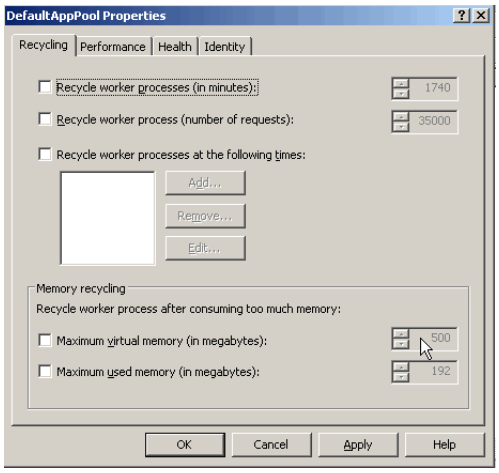
To configure Internet Information Services (IIS) on the web server:

1. On the web server, go to **Start** menu > **Administrative Tools** > **Internet Information Services (IIS) Manager.**
2. In the navigation tree, go to `Application Pools` > `DefaultAppPool`. Right-click the node and select **Properties.**



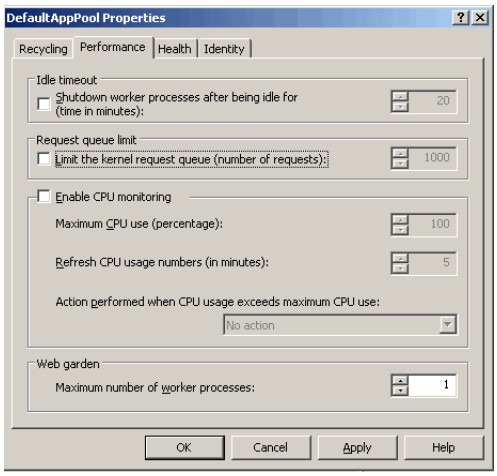
Open the `DefaultAppPool` *node*

3. In the DefaultAppPool Properties window, on the Recycle tab, clear the following options:
   - **Recycle worker process (in minutes)**
   - **Recycle worker process (number of requests)**



Clear the ***Recycle worker process*** *options*

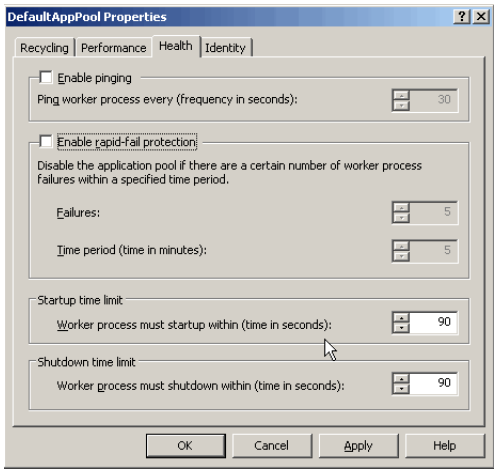
4. On the Performance tab, clear the following options:
   - **Shutdown worker process after being idle for**
   - **Limit the kernel request queue**



*Clear the **Shutdown worker process** and **Limit kernel request queue** options*

5. On the Health tab, clear the following options:
   - **Enable pinging**
   - **Enable rapid fail protection**

   Click **Apply.** Then click **OK** to close the window.



*Clear the **Enable pinging** and **Enable rapid fail protection** options*

Configuring pool thread limit

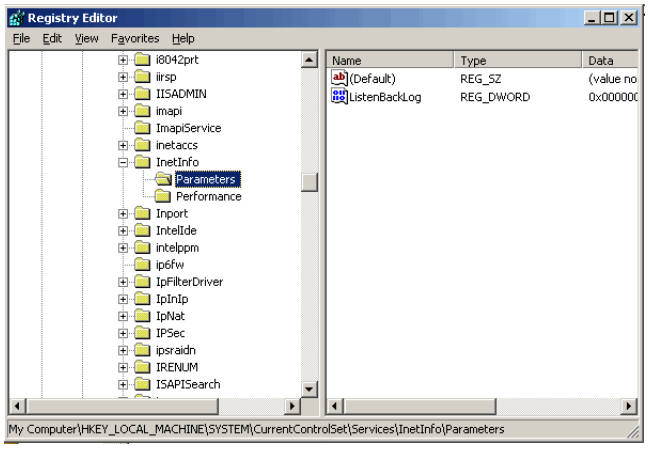
This procedure increases the capacity of IIS to handle concurrent requests.

To configure pool thread limit:

1. On the machine where the web server associated with the primary application server is installed, go to **Start** menu > **Run.**
2. Type:

   Regedit

   Press the Enter key.
3. In the Registry Editor window, navigate to `HKEY_LOCAL_MACHINE` > `System` > `CurrentControlSet` > `Services`> `InetInfo` > `Parameters`.

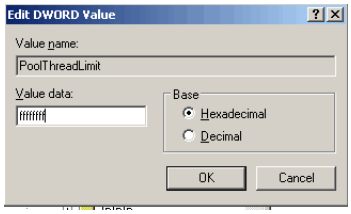


Navigate to InetInfor parameters

4. Go to Edit menu > New > DWORD Value.
5. Change the name of the new registry value that gets created to **PoolThreadLimit**.
6. Right-click **PoolThreadLimit** and select **Modify.**
7. In the Edit DWORD Value window, set properties as following:
   - **Value data: ffffffff**

     Important: **Make sure you have typed “f” eight times.**

   - **Base: Hexadecimal**



Configure the registry value

8. Restart the server.

3 Managing application servers

- Configuring WebLogic
- Routine maintenance tasks

Configuring WebLogic

This procedure increases the application's capacity to handle concurrent requests from users.

Primary application server

To configure the size of HTTP request queues for the primary application server:

1. Open *Cisco_Home*\config\weblogic\config_*Primary_Application_Server*.xml.
2. Locate the following line:

   ```
   <ExecuteQueue Name="default" ThreadCount="50" ThreadsIncrease="1"/>
   ```

   To ensure that an adequate number of threads have been allocated to the **default** pool, set the number of worker threads for WebLogic to at least 60% of the number of concurrent users. For example, if you have 100 concurrent users, set `ThreadCount` to 60; and if you have 150 users, set `ThreadCount` to 90.
3. Locate the following line:

   ```
   <ExecuteQueue Name="eGainPushletQueue" ThreadCount="50" ThreadsIncrease="1"/>
   ```

   Allocate an adequate number of threads to the pushlet queue. It should be 120% of the number of concurrent users.
4. Locate the following line:

   ```
   <Server XMLRegistry="MyXML Registry"
   ```

   In this line, after `Server`, add the following phrase:

   ```
   AcceptBacklog="100"
   ```

   The line should look like:

   ```
   <Server AcceptBacklog="100" XMLRegistry="MyXML Registry"
   ```
5. Locate the following line:

   ```
   <WebServer
   ```

   In this line, after `WebServer`, add the following phrase:

   ```
   KeepAliveSecs="120"
   ```

   That line should look like:

   ```
   <WebServer KeepAliveSecs="120"
   ```
6. Locate the following line:

   ```
   <ExecuteQueue Name="eGainLive" ThreadCount="50" ThreadsIncrease="1"/>
   ```

   Allocate an adequate number of threads to chat queues. It should be 120% of the number of concurrent chat sessions.

Important: **Skip this step if your installation does not include Unified WIM.**

Secondary application servers

To configure the size of HTTP request queues and connection parameters for secondary application servers:

Important: **Skip this set of steps if your installation does not include secondary application servers.**

1. Open *Cisco_Home*`\config\weblogic\config_`*Secondary_Application_Server*`.xml`
2. Locate the following line:

   ```
   <ExecuteQueue Name="default" ThreadCount="50" ThreadsIncrease="1"/>
   ```

   To ensure that an adequate number of threads have been allocated to the **default** pool, set the number of worker threads for WebLogic to at least 60% of the number of concurrent users. For example, if you have 100 concurrent users, set `ThreadCount` to 60; and if you have 150 users, set `ThreadCount` to 90.
3. Locate the following line:

   ```
   <Server XMLRegistry="MyXML Registry"
   ```

   In this line, after `Server`, add the following phrase:

   ```
   AcceptBacklog="100"
   ```

   The line should look like:

   ```
   <Server AcceptBacklog="100" XMLRegistry="MyXML Registry"
   ```
4. Locate the following line:

   ```
   <WebServer
   ```

   In this line, after `WebServer`, add the following phrase:

   ```
   KeepAliveSecs="120"
   ```

   That line should look like:

   ```
   <WebServer KeepAliveSecs="120"
   ```
5. Locate the following line:

   ```
   <ExecuteQueue Name="eGainLive" ThreadCount="50" ThreadsIncrease="1"/>
   ```

   Allocate an adequate number of threads to chat queues. It should be 120% of the number of concurrent chat sessions.

Important: **Skip this step if your installation does not include Unified WIM.**

Routine maintenance tasks

Creating backup copies

- Back up the *Cisco_Home* folder regularly. Exclude the `log` folder under *Cisco_Home* from the backup.

Archiving

- Purge archived activities to free up the disk space occupied by attachments of archived activities.
- Schedule archive jobs to run during your off-peak hours to avoid database performance bottlenecks.

Applying Microsoft security patches and service packs

Microsoft releases security patches and service packs to plug vulnerabilities in the operating system and various programs.

- Apply these patches after confirming their impact on the application.

4 Managing databases

- Best practices for configuring databases
- Routine maintenance tasks

Best practices for configuring databases

Installation and settings

Active database

- While installing the application, ensure that data and log files of the active database reside on a disk volume with a good amount of free disk space.
- Set the active database properties as follows:
  - Properties of Datafile: Automatically grow file by 400-700 MB
  - Maximum file size set to unrestricted file growth

Other databases

- Other system databases (master, model, msdb, TEMPDB) should also be installed on a disk volume with a good amount of free disk space because TEMPDB may sometimes grow due to application requirements. Care needs to be taken during MSSQL installation that the data files are pointed to other location rather than the system volume.

Transaction logs

- Set the transaction log properties as follows:
  - Properties of Datafile: Automatically grow file by 10%
  - Maximum file size set to unrestricted file growth

Optimal configuration settings

Database configuration setting	Recommended value
auto_close	off
auto_create_statistics	on
auto_update_statistics	on
auto_shrink	off
read_only	off
torn_page_detection	on

compatibility level	80 for 2000
database auto grow	on
transaction log auto grow	on

Configuring anti-virus protection

Anti-virus protection is necessary, but enabling all files for virus scan may cause performance issues.

- Exclude .mdf, .ldf, .ndf, and .dat files from virus scan.

Routine maintenance tasks

Rebuilding indexes

Rebuilding of indexes enhances database performance.

- Run rebuild index jobs on a weekly basis during off peak hours.

Optimizing database file space

At times, the transaction log may grow considerably, especially if the recovery model of the database is set to "Full." Although the active portion of transaction logs is committed after checkpoint or truncated after transaction log backups, the free space within the transaction log file may not be released to the operating system. This could lead to disk space crunch.

- Run a space optimization job every day during off peak hours to release the free space within the transaction logs back to the operating system.

Performing disk defragmentation

- Weekly defragmentation is recommended. Note that it requires downtime.

Creating backup copies

Backups are critical in case of hardware failure. The following backup policy ensures that you won't lose more than one hour of data. SQL supports full recovery model and hence this policy is strongly recommended. When the recovery mode is set to full it is necessary to backup transactional logs periodically. Otherwise it may lead to a disk space issue because of transaction logs growing indefinitely.

- Perform a weekly complete backup, daily differential backup, and hourly transactional log backups.

Archiving

Regular archiving helps to keep the size of the database manageable. The maximum size of the database should be kept under 20 GB in most cases.

- Schedule archive jobs to run during your off-peak hours to avoid database performance bottlenecks.
- Purge archived activities to create more available disk space.
-

Applying Microsoft security patches and service packs

Microsoft releases security patches and service packs to plug vulnerabilities in the operating system and various programs.

- Apply these patches after confirming their impact on the application.

5 Managing Windows servers

- Best practices for configuring Windows servers
- Routine maintenance tasks
- Performance tuning considerations

Best practices for configuring Windows servers

Allocating adequate virtual memory

- Virtual memory setting should be set to 1.5 times the physical memory. It is also recommended to distribute the virtual memory across disk volumes to avoid space crunch on system volume during run time.

Setting up disk space

- All the system volumes should have more than 10% of their actual space free for application and other operating system (OS) related activities at any given time.

Configuring anti-virus protection

- As email attachments are prone to virus attacks, set up scanning of email attachments on your mail exchange server.

Routine maintenance tasks

Monitoring disk space

- Monitor and free space on disk volumes from time to time by deleting the unnecessary files. Installation programs, application logs, user profiles, Dr. Watson logs, temp files are known to occupy the space unnecessarily. However, if it is not possible to free disk space further because of the size of the data, the administrator should plan archiving of old data or migration of the system to a larger capacity server.

Applying Microsoft security patches and service packs

Microsoft releases security patches and service packs to plug vulnerabilities in the operating system and various programs.

- Apply these patches after confirming their impact on the application.

Performance tuning considerations

One of the first steps towards tuning an application is to determine evolving requirements, which is not easy as requirements are likely to vary across different types of users. Administrators, typically, want the system to be easily configurable for various user loads, security needs, and application uptime. Business managers tend to care about issues such as security considerations for critical data that is passed between various components

within the application, response times, reliability, availability and scalability. For agents, response time is the most important factor that defines a finely tuned system.

Cisco Unified Web and E-Mail Interaction Manager Solutions Reference Network Design Guide helps you plan your configuration when you first set it up. In this section, we provide a quick overview of some of the factors that you should consider as the system grows.

Peak concurrent usage

The application will need to be tuned if there is a need to meet specific concurrent usage requirements. Concurrent usage includes usage by email and chat agents as well as chat sessions. The general guideline is that the greater the number of concurrent users, the likelier it is for the system to be stressed resulting in longer response times.

Email volume

The email volume that the application handles determines the amount of disk space used by the database, size of active and master databases, and the capacity of the database engine to provide optimal response times to data requests. Active usage of email attachments and Knowledge Base (KB) articles also affect disk space requirements.

Server configuration

It is a well known fact that the specifications for servers that run critical business application are constantly changing and, therefore, the application needs to account for such periodic changes. The server configuration and environment must be tailored to allow application to take advantage of it and vice versa. Therefore, if the server configuration is either downsized (less likely to occur) or increased (more likely), then the application needs to be tuned to the current server configuration. In addition, other applications that might be running on the same hardware also affect the tuning of the application.

Security requirements

Often security requirements dictate that the application data should be accessed in a secure way. For this reason secure sockets layer (SSL) mode of access to information is set up. Likewise, sharing and access to critical information such as customer data require that data is stored and retrieved in a secure way by extra access control and beyond.

Additional security requirements do lead to some delay in response times for users accessing the application. This should be clearly understood by administrators setting up SSL mode of access on web servers or trying to access information stored on remote and highly secure resources like remotely mounted file systems or disks.

- See *Cisco Unified Web and E-Mail Interaction Manager Installation Guide* for information about how to set up the SSL mode of communication on the web server.