Security Guide
for Cisco Unified Contact Center Domain Manager, Release 12.0(1)

For Unified Contact Center Enterprise

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Contents

Preface

About This Guide

This document explains how to set up and maintain security for the Unified Contact Center Domain Manager (Unified CCDM). It should be read in conjunction with the security section of the *User Manual for Cisco Unified Contact Center Domain Manager*, which describes the entities and operations involved in greater detail.

Who Should Read This Document

This document is intended for administrators responsible for the commissioning and ongoing maintenance of the Unified Contact Center Domain Manager. All users responsible for managing security should have access both to this document and to any records of the exact system setup chosen.

Product Naming Conventions

In this release, the product names defined in the table below have changed. The New Name (long version) is reserved for the first instance of that product name and in all headings. The New Name (short version) is used for subsequent instances of the product name.

Note This document uses the naming conventions provided in each GUI, which means that in some cases the old product name is in use.

Old Product Name	New Name (long version)	New Name (short version)
Cisco IPCC Enterprise Edition	Cisco Unified Contact Center Enterprise	Unified CCE
Cisco IPCC Hosted Edition	Cisco Unified Contact Center Hosted	Unified CCH
Cisco Intelligent Contact Management (ICM) Enterprise Edition	Cisco Unified Intelligent Contact Management (ICM) Enterprise	Unified ICM
Cisco Intelligent Contact Management (ICM) Hosted Edition	Cisco Unified Intelligent Contact Management (ICM) Hosted	

Related Documentation

Documentation for Cisco Unified ICM/Contact Center Enterprise & Hosted, as well as related documentation, is accessible from Cisco.com at: https://www.cisco.com/cisco/web/psa/default.html.

Related documentation includes the documentation sets for:

- Cisco CTI Object Server (CTIOS), Cisco Agent Desktop (CAD)
- Cisco Agent Desktop - Browser Edition (CAD-BE)
- Cisco Unified Contact Center Domain Manager
- Cisco Unified Customer Voice Portal (CVP)
- Cisco Unified IP IVR, Cisco Unified Intelligence Center
- Cisco Support Tools

Documentation for Cisco Unified Communications Manager is accessible from:

- https://www.cisco.com/cisco/web/psa/default.html.

Technical Support documentation and tools are accessible from:

- https://www.cisco.com/en/US/support/index.html.

The Product Alert tool is accessible from (sign in required):

- https://www.cisco.com/cgi-bin/Support/FieldNoticeTool/field-notice.

For information on the Cisco software support methodology, refer to *Software Release and Support Methodology: ICM/IPCC* available at (sign in required):

- https://www.cisco.com/en/US/partner/products/sw/custcosw/ps1844/prod_bulletins_list.html.

For a detailed list of language localizations, refer to the *Cisco Unified ICM/Contact Center Product and System Localization Matrix* available at the bottom of the following page:

- https://www.cisco.com/en/US/products/sw/custcosw/ps1001/prod_technical_reference_list.html.

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Document Conventions

This document uses the following conventions:

Convention	Description
boldface font	Boldface font is used to indicate commands, such as entries, keys, buttons, folders and submenu names. For example: • Choose **Edit** > **Find** • Click **Finish**
italic font	Italic font is used to indicate the following: • To introduce a new term; for example: A *skill group* is a collection of agents who share similar skills • For emphasis; for example: *Do not* use the numerical naming convention • A syntax value that the user must replace; for example: IF (*condition, true-value, false-value*)

	• A book title; for example: Refer to the *User Guide for Cisco Unified Contact Center Domain Manager*
`window font`	Window font, such as Courier, is used for the following: • Text as it appears in code or that the window displays; for example: `<html><title>Cisco Systems, Inc. </title></html>`
`< >`	Angle brackets are used to indicate the following: • For arguments where the context does not allow italic, such as ASCII output • A character string that the user enters but that does not appear on the window, such as a password

Unified CCDM Security Fundamentals

Unified Contact Center Domain Manager (Unified CCDM) provides a flexible and fine-grained security model which enables administrators to align access rights for individual business users with their specific business accountability. It enables users to operate with complete security in their individual areas of responsibility without impacting other parts of the virtual enterprise.

Resources within Unified CCDM, such as Agents, Users and Skill Groups, are stored in folders as part of a hierarchical folder structure that is typically modeled on the organizational structure of the business. Users and groups of users can be given permission to perform a variety of tasks on the resources in a folder. For example, a user with the *Manage Users* permission in a particular folder can view and edit users in that folder, but cannot view and edit users in any folder where they do not have that permission.

By separating resources into different folders and granting users different permissions on those folders, a security model can be constructed that gives access to business users to the resources that are relevant to their organizational role with the appropriate degree of management capability.

This section gives an overview of how security in Unified CCDM works and describes the individual components of the security model.

Security Overview

The basic components for configuring security in Unified CCDM are *Users*, *Tasks* and *Folders*. A Task is a discrete operation such as 'Browse Folders' or 'Manage Dimensions'. A Unified CCDM User can be given permission to perform a task within the scope of a particular Folder in the Unified CCDM folder tree.

Applying each task to each user on every folder in a complex tree would be cumbersome. To simplify the process, Unified CCDM provides a mechanism to group together a collection of tasks into a *Role*. This role can then be given to a user (within the context of a folder) to enable them to carry out a number of different tasks.

To further simplify the management process, Unified CCDM enables users to be collected together as a *Group*. In the same way that a user is given permission to perform a role within a folder, a Group can be given rights to perform a role within a folder. All of the users who are members of the group receive those permissions through their group membership. This means that future changes to permissions can be managed by applying them to a group, rather than repeating the change for each user, and new users who require the same rights can simply be added to the group.

To simplify security management further still, Unified CCDM enables permissions on a folder to be inherited from its parent folder. This means that permissions can be set at the highest level folder and are cascaded down to lower lever folders that require the same settings, without an administrator needing to apply them to each 'child' folder.

As well as folder based partitioning, Unified CCDM also provides a mechanism for managing access to features and functionality at a 'global' level. Global tasks are used to manage access to features while folder based security can be used to determine where, and with which resources those features can be used. For example, access to the Resource Manager tool is something that a user either can or cannot do, it is a global task. A folder based task determines whether or not the user has the right to edit reports in a particular folder.

The relationships between the security components are 'many-to-many':

- A *user* can belong to many *groups.*

- A *group* can belong to many other groups.

- A *role* is comprised of many *tasks.*

- A *task* can belong to many different *roles.*

Using the basic building blocks, a sophisticated and fine-grained security model can be constructed.

This guide describes how to configure Unified CCDM's security and offers guidance on best practice for setting up a security framework.

Folders

Folders in Unified CCDM are organized in a hierarchical tree and access to them can be partitioned, so that individual users have access to different sets of folders. Figure 0.1 shows a view of a Unified CCDM tenant, called IBank, from the perspective of two different users; one of whom is permitted to view many of the folders in IBank, the other who has restricted access to the Consumer and BostonTeam01 folders.

Figure 0.1   The IBank Tenant Folder, Viewed with Two Different Permissions
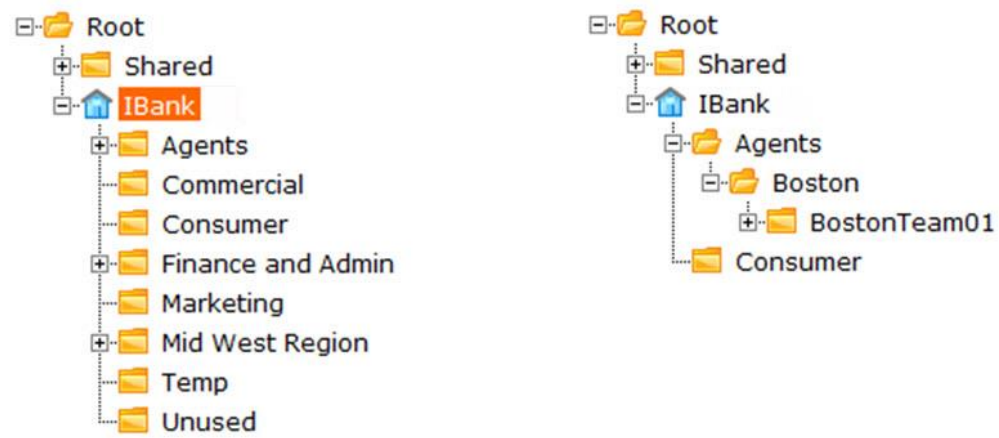
A folder may inherit its security settings from its parent folder, or may have separate security settings from its parent folder. A folder that does not inherit its security setting from its parent is called a *policy root*. It has its own security settings (the policy) and it is a root folder from which its child folders can inherit their security. See Chapter 0, Policy Roots and Inheriting Permissions for more information about policy roots.

Tasks

A *Task* is an individual permission applied to a user, or group of users, that enable them to carry out particular operations, such as browsing resources or managing information notices within a specified folder or accessing a particular tool. Tasks are either folder-based or global.

Folder-based Tasks

Folder-based task permissions are allocated to folders, and allow a user to do that task in any folder which has that permission.

In general, Unified CCDM provides two types of folder-based task:

- **Browse** tasks allow a user to view items of a specified type. For example, enabling the Browse Dimensions task allows a user to examine resources in that folder using Resource Manager.

- **Manage** tasks allow a user to move, add, change and delete items of a specified type within a folder. For example a user with the Manage Information Notices task permission can create information notices in the specified folder via Information Notices and Resource Manager.

Note

You cannot separate out the Manage task permissions any further. For example, you cannot allow a user to change an item but not delete it. If you want users to be able to manage some resources but only to browse others, you should place these resources in separate folders.

Global Tasks

Global tasks give the user permission to carry out various operations, for example, the *Security Manager* task permission allows the user to run the Security Manager tool and the *Provision Agent* task permission allows the user to provision agents.

For most operations, the user will require one or more folder-based task permissions as well as the global task permission. For example, a user with the Security Manager global task permission must also have the Manage Security permission on the folder for which they want to manage the security.

Roles

A *role* is a collection of tasks which define the permitted actions for a particular user or group of users. A role such as 'Basic User' has a different set of tasks enabled, to that of 'Supervisor' allowing each type of user access to the resources and functionality which is appropriate to their remit. Within Unified CCDM, you can create new roles, change the sets of tasks which make-up existing roles, and apply roles to groups of users.

There are two types of role, folder-based roles and global roles.

Folder-based Roles

Folder-based roles specify the folder tasks which may be performed within specific folders, for example the ability to manage users within a specific folder. These roles apply to a user (or group) only within the specified folder, where they have been applied, and within any subfolders that inherit their security permissions from that folder.

Roles (composed of tasks) are applied to users and groups of users with permission to perform those tasks on the resources in specific folders. Sub-folders can inherit the same security permissions if necessary, granting the same group of users the same permissions on those folders. For more information on inheritance, see Chapter 0, Policy Roots and Inheriting Permissions.

Figure 0.2   Roles, Tasks and Folders

Global Roles

Global Roles consist of global tasks which provide the ability to perform certain kinds of action system-wide. Global tasks, and hence global roles are not folder specific. For example, the ability to access Security Manager is a global task. The ability to manage security on a particular folder is a folder-based task. Global roles applied to a user (or group of users) are effective across the entire system.

Summary

Users, folders and roles form the basic components of Unified CCDM Security. With these building blocks defined, the process of implementing a security model in Unified CCDM can be summarized as follows:

- **Identify and create the security roles you need** to allow you to distribute permissions appropriately. From a management perspective it makes sense to keep the number of roles as low as you can, while still delivering the partitioning you need.

- **Configure default groups and roles**. Unified CCDM enables you to specify *default groups* that are automatically created when a new folder is added. These groups then have predefined security settings on the new folder. Using this feature can speed up the process of managing security a great deal, so it is worth understanding and leveraging it.

- **Construct a folder tree** in which resources can be stored. Try and keep it simple. Aim for the minimum number of folders required in order to partition access to resources appropriately. If you need to restrict access to agent resources on a team-by-team basis for reporting purposes, then a folder will be needed for each team. Typically the folder tree will mirror the organizational structure. It's worth noting that in very large installations, folder depth (the number of levels between the root folder and the lowest leaf level folder) can have an impact on system performance. As a rule try and keep to a maximum folder depth of seven folders, not including the tenant folder.

- **Define Inheritance.** When planning the folder structure, determine which folders can inherit their security from a parent folder and which need their own

specific security settings (policy roots). The more folders that inherit security, the less administrative activity required. However, you may need different configurations of security permissions on a variety of folders to meet business requirements for access control.

- **Create users and assign permissions**. Assigning permissions to users through their group memberships can simplify security management. Give the permissions required for a particular role (global and folder-based) to a group and then add the users who need those permissions to that group. If a single group, or a small number of groups, already have all the permissions a user needs, all you have to do to set up a particular user's access permissions is add them to the appropriate groups.

The rest of this document describes each of these steps in detail.

Managing Roles

Roles are collections of tasks, which can be grouped together and applied to users or groups. Like tasks, roles can be folder-based, containing a collection of folder-based tasks, or global, containing a collection of global tasks.

Folder roles always apply to folders. A user that has a particular folder role in a folder is able to do all the tasks in that role on the items in that folder. A user that has been given a global role is able to do all the tasks in that global role.

This section describes how to create new roles. It also describes how default groups and roles are automatically assigned to simplify the process of managing security.

Creating Roles

Unified CCDM comes with a number of preconfigured global and folder-based roles. You can choose to use these roles as they are, or edit them and create additional roles to suit your needs.

For a complete list of all the global and folder-based tasks available, and the preconfigured roles to which they apply, see Appendix A.

Note To manage folder-based roles, use the Role Manager link in the Security Manager. To manage global roles, use the Global Role Manager, which can be accessed through the Role Manager.

How to Create a Role

1. To create a new folder role or global role, first click **Tools > Roles**. This takes you to the Roles page. If you want to create a global role rather than a role, click **Global Roles**, to go to the Global Roles page.

2. Click **New** on the menu bar. The Create New Role page is displayed, showing a list of tasks with blank check boxes.

3. Enter the **Name** and **Description** of the role.

4. Select the tasks you want to enable for the role. A complete list of tasks is given in Appendix A.

5. Click **Save**. The new role is added to the list of roles.

Note When creating global roles that allow access to the Resource Manager, Information Notices or other tools, you will also need to include the **Advanced User** global task.

Default Groups

Every time a policy root folder is created, up to three groups will be created automatically within the folder. These groups will have a default role applied to them for the folder. You can configure and use these groups to simplify security management. Ideally these groups will align with the security profiles required by the majority of users.

The following default groups and roles are used:

- **Basic Users Group**, with **Basic** role

- **Supervisor Users Group**, with **Supervisor** role

- **Advanced Users Group**, with **Advanced** role

Note The default Advanced users group is also given the global role of **Global Advanced** when a new folder is created. See Chapter 0, Global Roles for more information.

You can change the groups you want to be added to each new policy root, and the role you want to apply to each group on the folder.

To change the default groups and their roles:

1. Click **Settings** from the top right menu.

2. Select **Security Settings** from the left menu panel.

3. The Security Settings page is displayed, showing **Groups to create when removing inheritance**.

4. Select which groups you want to be added to new policy root folders.

5. For each group, select a folder role from the drop-down menu.

6. Click **Save**.

New users are also added to the **Everyone** group, which is given the **Basic** role by default and the **Basic** folder-based role on the Shared folder.

The Security Settings page enables you to apply folder-based roles only to default groups. It is not currently possible to change the global roles associated with the default groups.

Creating a Folder Structure

This section describes how to set up a folder structure in Unified CCDM. A folder represents the lowest level at which security can be managed within Unified CCDM; you cannot give a user rights to edit a particular item, but you can grant access to manage items within a particular folder.

It is recommended that you read through this entire document before planning your folder structure.

Managing Folders

Resource Manager enables you to create, edit, move and remove folders from the tree structure.

How to Create a New Folder

1. Click **Tools > Resource Manager ,** then select the drop down arrow by System, and click Folder.

2. The folder tree-structure is displayed in the left panel with the create-new-folder screen to the right.

3. Select the location of your new folder in the tree. For example, click on a folder which will act as the new folder's parent.

4. Enter the new folder's Name and Description.

Note **I**t is not possible to edit the name of a folder once it has been created.

5. Clear the **Inherit Permissions** check box if you require the new folder to have a different set of security permissions to those of its parent folder. If *all* users who can see the parent folder and perform tasks within it will be able to perform the same tasks in the new folder then you can leave the check box selected so that security settings will be inherited.

6. Click **Save**. The new folder is created in the selected location in the hierarchical tree structure.

Tip You can create several folders in the same location. Select the **Create Another** check box to repeat the process.

Unified CCDM enables you to create any number of folders and any number of folder levels within the hierarchical tree. It is recommended however, for optimal performance and ease of maintenance, that you do not create any more than seven levels of folder beneath the tenant folder.

Policy Roots and Inheriting Permissions

When creating a folder, the default behavior is for the folder to inherit the security settings of its parent. The security settings applied to the parent folder will also apply to the new folder. Any changes made to those roles and security settings are then cascaded down the folder-tree to all inheriting folders. Subsequently, it is not possible to change the security on an inheriting folder.

Alternatively, you can enable a folder to begin a new set of permissions, which its sub-folders may also inherit. A folder which does not inherit its security settings is referred to as a *Policy Root*. By definition, the Root folder and the tenant folder are always Policy Roots. Figure 0.1 shows a typical folder-tree with policy roots labelled.

Policy Roots enable you to create a new configurable set of permissions on a folder. Inheriting folders carry identical security permissions to their parent policy root folders, unless this chain of inheritance is 'broken' (by creating a Policy Root).

Note that the policy root labels shown here are for illustrative purposes only these labels do not appear in the Unified CCDM user interface.

Figure 0.1   *Policy Roots and Inheriting Folders*
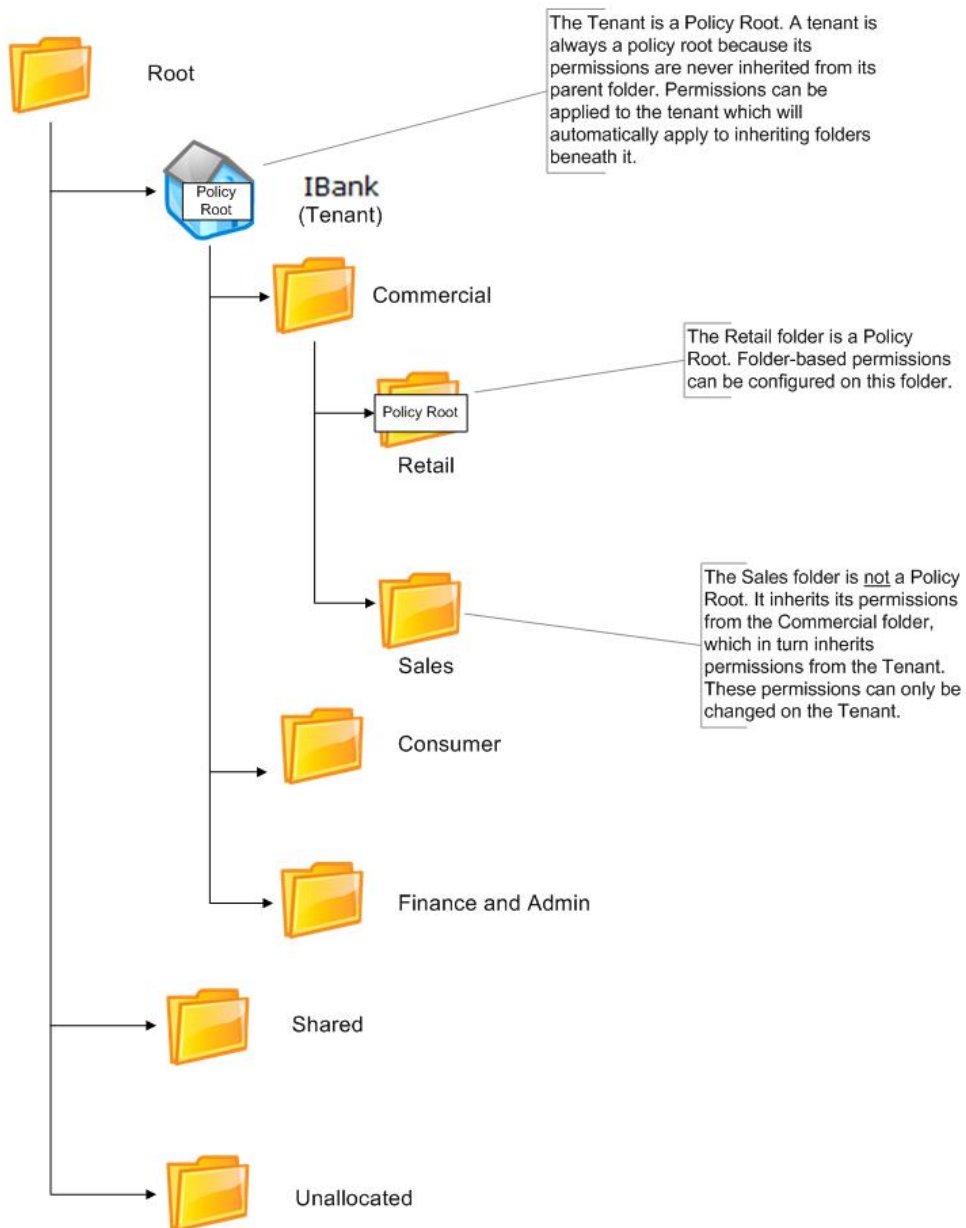
You can use the Security Manager tool to determine whether a folder is a policy root. Click **Security Manager**, and navigate to the folder you want to look at. The right-hand panel displays folder security information. Under the **Permissions** tab, the permitted users and their roles are displayed, along with a check box indicating whether or not that folder inherits permissions from its parent. Additionally, the security roles are displayed dimmed for folders that inherit permissions and are not policy roots. These permissions cannot be changed at this level.

To create a new policy root, clear the **Inherit Permissions** checkbox to break inheritance for the selected folder. To set a folder to inherit its security settings, select the **Inherit Permissions** checkbox on the Permissions tab in Security Manager.

Note When inheritance is broken, and a new policy root folder is created, any permissions that were previously applied to that folder (by inheritance) will be explicitly applied to the folder so that existing users' permissions on that folder are not affected.

Figure 0.2 shows the folder tree structure with the **Permissions** tab displayed for some of the folders. Note that the roles are dimmed on the Sales folder. This is because you cannot edit the roles on a folder that inherits its permissions from another folder.

Figure 0.2   Inherited Folders and Policy Roots
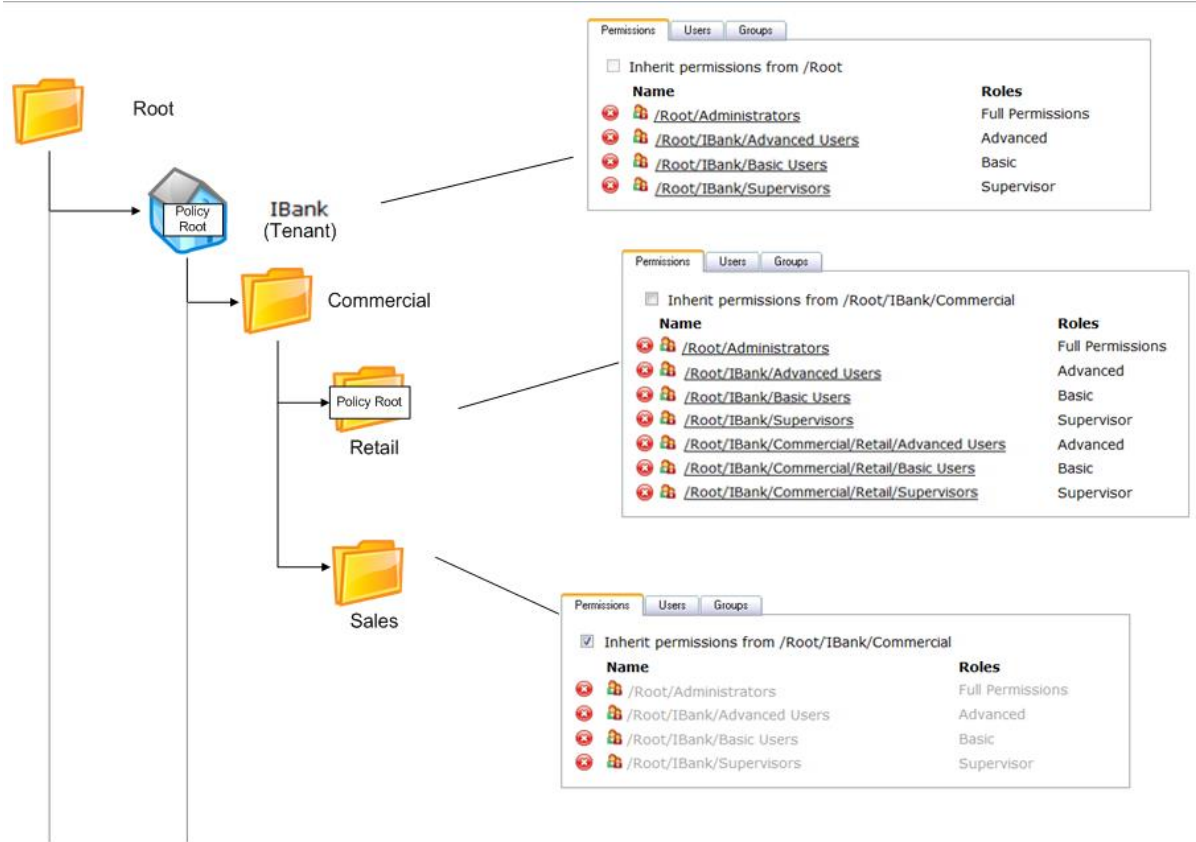
The Shared Folder

The **Shared** folder is a unique folder which, by default, is accessible to everyone on the system. This is achieved by the automatic inclusion of all new users to the **Everyone** group, which, by default, is has the basic folder-role on the Shared folder.

The Shared folder can be managed in the same way as any other folder on the system. You can create folders within the Shared folder and indicate whether or not security settings are inherited. In this way you can create and distribute resources within the Shared folder, restricting access to certain users or groups.

Managing Security

Creating Users and Groups

Security in Unified CCDM operates on the basis of roles, which are applied to users, giving them a set of tasks, either on a specified folder, or globally across the system. Rather than setting a role for each individual user, you can also apply a role to a collection, or **group** of users.

Groups can be user-defined and located within a folder, or created automatically when a new policy root folder is added to the system. These default groups enable security to be set up quickly, providing permissions that users will most commonly require on their specified folders.

How to Create a User

Unified CCDM treats user accounts in a similar way to resources. That is, each user account is contained within a specific folder, and users with appropriate permissions enabled on that folder can change the user's properties (such as the password) or move or delete the account.

Each user has a home folder that they can use to store their own reports and parameter sets. The home folder is usually the default selected folder when a user opens a Unified CCDM tool which contains a folder tree.

Note The home folder can be a different folder to that which contains the user account. For example, you might create a user in the folder `Users/Atlanta`, but set their home folder to be `Resources/Atlanta`

To create a new user:

1. Click **Tools** > **Users**. The folder-tree structure is displayed in the left panel, with details of users in the selected folder displayed to the right.

2. Select the folder in which your new user's account will be stored. Existing users are displayed with their **Name**, **Description**, **Last Logged In** time and **Last Modified** time.

3. Click **New** on the menu bar.

4. The **Create a new user page** will be displayed. Enter the user's details

   - **Login Name:** username.

Note For users that use external Windows login authentication, the *down-level logon name* format (for example **testdomain\user1**) must be used.

The login name must correspond to an existing Windows Active Directory user, and must be formatted as <**username\domain-name**>, where <**username**> is the Windows username and <**domain-name**> is the NetBIOS domain name. The login name must exactly match the details in the corresponding Active Directory entry.

For ISE users, external login is not supported. However, the username must still be in the <**username**>@<**domain-name**> format, where <**username**> is the Windows username and <**domain-name**> is the fully qualified domain name.

- **Password** (this field is not present in installations that use external login authentication): user's password. Must meet any password restrictions.

- **Confirm Password:** user's password.

- **First Name:** user's first name.

- **Last Name**: user's last name.

- **Email**: user's email address.

- **Description**: any explanatory text.

- **User Home Folder:** location of the user's home folder. The user will start here when logging in. If the User Home Folder field is left blank, the folder in which the user is created will become the home folder by default. Use the **Browse** button to locate the correct folder, or enter the path.

- **Advanced Mode:** check box to choose whether the user will have the basic or advanced mode interface.

- **Account Enabled**: the user will stored in Unified CCDM but will be unable to login until the enabled check box is selected.

- **Local Login Enabled**: allow the user to login to the system using Local Login.

- **User must change password at next logon:** prompts user to change password after first login.

- **Password Never Expires:** password is assigned indefinitely. The user will not be prompted to change it.

- **User cannot change password:** prevents the new user from changing their password. The password can still be changed by an administrator.

- **Internet Script Editor Enabled:** specify that the user is ISE-enabled. This also creates a linked Unified CCE user that can access Cisco's Internet Script Editor using Unified CCDM security partitioning.

Tip Select the **Create a new folder for this user** check box to create a new folder for the user's home folder. The user is given the role of 'My Reports' on this folder by default. A different default home folder role can be configured on the **Settings > Security Settings** page.

5. Click **Save** to create the new user.

How to Create a Group

The procedure for creating a group is very similar to creating a user.

1. Click **Tools** > **Groups**. The folder-tree structure is displayed in the left panel, with the groups belonging to the currently selected folder displayed on the right.

2. Select the folder in which you want to create the new group.

3. Click **New** in the menu bar. The Create a new user group page is displayed.

4. Enter the **Name** and **Description** of the group.

5. Click **Save**. The group is added to the selected folder.

> You can create several groups at a time. Select the **Create Another** check box to repeat the process.
>
> **Tip**

Managing Group Memberships

Groups are a useful mechanism to quickly apply a collection of permissions to a user or another group. Managing security in this way means that you need only change the permissions for the group to update the permissions of all the group's members.

There are three ways to manage group memberships in Unified CCDM:

- Add users to groups using the User Manager when you want to add a single user to one or more groups.

- Use the Group Manager when you want to add a single group to one or more groups.

- You can also add multiple users and groups to a single group using the Group Manager.

How to Add Users to Groups

1. Click **Tools** > **Users**. The folder-tree structure is displayed in the left panel, with the details of users in the currently selected folder displayed on the right.

2. Select the required folder.

3. Select the user name of the user you require from the list.

4. The user's details are displayed.

5. Click the **Groups** tab. A list is displayed showing all the groups the selected user already belongs to (see Figure 0.1). In this example, the user belongs only to the Everyone group, to which all new users are automatically added.

Figure 0.1   *The Groups to which a User Belongs*

6. Click **Add to Group**. A dialog box is displayed, showing the selected folder in the tree-structure, and the groups available for the user to join (see Figure 0.2). In this example the selected user is being added to the group Chicago Team A (in the Chicago folder) by selecting its check box.

Figure 0.2   *The Groups a User Can Join*
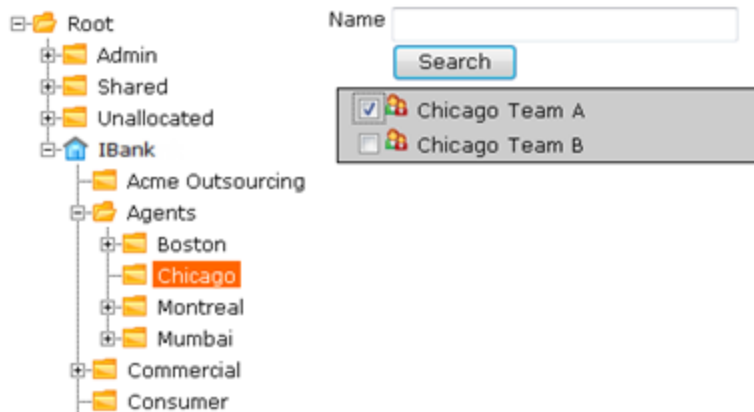
7. Use the folder tree to find the folder containing the group to which you wish to add your user. Select the checkbox of the required group. You can add the user to several groups if required. Use the folder tree to change location if you want to add the user to groups in other folders.

8. Click **Close**. The group memberships you have chosen to create will be listed for review.

> **Tip** Use the remove button ⊗ to cancel any of the pending group memberships.

9. Click **Save** to finalize the changes.

How to Add a Group to Other Groups

In addition to being able to add users to groups, you can also add groups to other groups. This can be useful if you wish to create a group that has a subset of permissions which it derives from another group.

To add group A to group B.

1. Click **Tools** > **Groups**. The folder-tree structure is displayed on the left, with group details displayed in the right panel.

2. Select the folder of the group you want to add (A).

3. The groups belonging to the selected folder are displayed with their Details and Last Modified dates.

4. Click the group you require (A).

5. The group's details are displayed under three tab headings: Details, Members and Groups.

6. Click the **Groups** tab.

7. The group's membership of other groups is displayed along with an Add to Group button.

8. Click **Add to Group**.

9. A dialog box is displayed, showing the folder-tree structure and groups corresponding to the folder selected in the tree.

10. Select the folder of the group you wish to add to (B). The list of groups is displayed.

11. Select the check box of group B.

12. Click **Close**. The group of which group A is now a member (group B) is displayed in the membership list.

13. Click **Save** to finalize the changes.

> **Note** You cannot add a group to a group which is already a member of the first group, or any of its associated groups. In other words, if group B is a member of group A (or group A's existing groups), you cannot add group A to B. The Group Manager tool displays a message indicating that a *violation check constraint* has been encountered.

How to Add Multiple Members to a Single Group

In addition to being able to assign a user to a particular group or groups, you can also navigate to the group and add members to it using Group Manager.

To add multiple members to a group:

1. Click **Tools** > **Groups**. The folder tree structure is displayed on the left with groups in the selected folder displayed in the right panel.

2. Locate the folder in which your group is stored.

3. The groups within the selected folder are listed.

4. Click the required group. Group details are displayed with Details, Members and Groups tabs.

5. Click the **Members** tab. Existing members of the group are listed (including users and groups)

6. Click **Add Members**. A dialog box is displayed, showing the folder-tree structure and users/groups in the selected folder.

7. Find the folder in which your user (or group) is located using the folder structure.

8. Users and groups within the selected folder are displayed.

9. Select the users you want to add to the group using the check boxes. You can repeat step 6 and 7 to add multiple users.

10. Click **Close**. The new users (and groups) are added to the list of members.

11. Click **Save** to finalize the changes.

Assigning Global Permissions

In addition to the permissions that can be applied to a user or group to perform a task within the context of a specific folder, Unified CCDM also has permissions that are global in nature. For example, a user can be given access to a tool such as Resource Manager or Security Manager.

To apply a global role to a user or group:

1. Click **Tools** > **Roles** to go to the Roles page. Then, click **Global Roles**, to go to the Global Roles page. The list of global roles is displayed.

2. Click the role you wish add a user or group to. Details of the selected role are displayed with Details, Tasks and Members tabs.

3. Click the **Members** tab. A list is displayed, showing all the users 👤 and 👥 groups currently assigned with the selected role.

4. Click the **Add Members** button. A dialog box displays the folder-structure on the left and users and groups on the right.

5. Select the folder in which your user or group is located.

6. The available users and groups correspond to the selected folder.

🔍 **Tip**
Use the **Name** field and **Search** button to find the user or group you require. You can also use the Type drop-down to filter your search to just **Users**, just **Groups** or both **Users and Groups**.

7. Select the checkbox adjacent to the groups or users you require.

8. Click **Close**. The new user or group is added to the list.

9. Click **Save** to finalize the changes.

⚠️ **Caution**
If you want to delegate user creation and some elements of security management to other users, but you do not want to allow them to manage global security, you can achieve this by creating a group that is a member of the relevant global roles and allowing the user to add members to that group, rather than allowing them to manage global security directly. This avoids the situation where a user who needs to create new users with the System Advanced role also has the capability to grant users other global roles and tasks such as Manage Site.

Assigning Folder-Based Permissions

Whereas global roles affect users' activity across the system, folder roles are applied to groups or users, and impact the activity of users within specific folders.

Each folder has a set of configured permissions either inherited from its parent folder, or applied to the folder itself as a policy root.

How to Add Folder Permissions to a User or Group

Folder roles apply to the user or group only within a specific folder. This folder is selected during the process of applying the role as shown below.

1. Click **Tools** > **Security**. The folder-tree is displayed in the left panel, with security details displayed to the right, corresponding to the selected folder.

2. Select the folder in which your user or group is located. The folder's security details are displayed under the Permissions, Users and Groups tab.

3. If you are applying the role to individual users, select the **Users** tab. If you are applying the role to a group (or groups) of users, select the **Groups** tab. All the users or groups in the folder are displayed.

4. Select the checkbox of the user(s) or group(s) you want to apply the role to. The Clear Selections and Change Permissions buttons are activated.

5. Click **Change Permissions**. A dialog box is displayed showing the folder-structure and roles available for the selected folder (see Figure 0.3). The dialog box displays available roles with check boxes, enabling you to select any number of roles to apply to your users/groups on the selected folder.

Figure 0.3   Applying Roles to Users and Groups
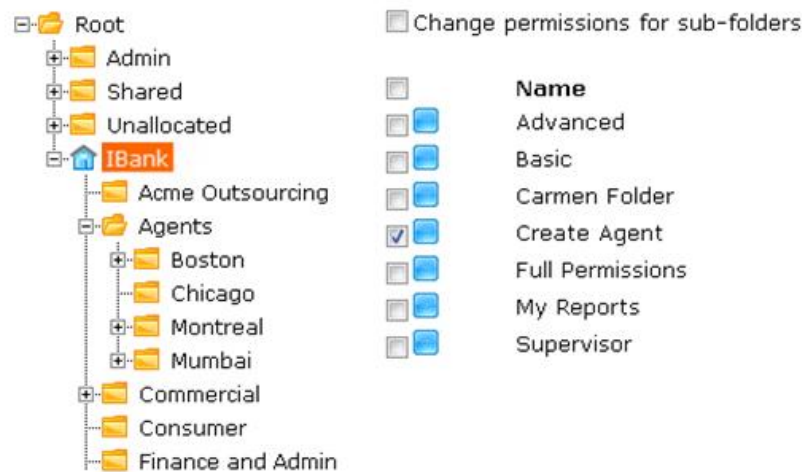
6. Select the folder on which you want to apply the role.

7. Select the checkbox of the role you wish to apply to the user/group.

8. You can repeat steps 6 and 7 if you want to apply several roles on different folders.

9. When you have finished setting roles for your user or group, click **Save**. The dialog box displays the changes you have made to the security role settings.

10. If you are happy with the configuration, click **Confirm**.

Editing Security on Folders That Inherit Permissions
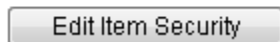
The example in Figure 0.2 above shows a folder tree with both inheriting and policy root folders, with the roles applied to each using Security Manager. You cannot apply a new folder role to a folder which inherits permissions from another folder. You can

either apply the desired permission to the policy root folder or you can 'break inheritance' and make the folder a policy root itself.

If you attempt to edit security settings on a folder that inherits permissions from a parent, you will see the message in Figure 0.4.

Figure 0.4   Security Settings Error Message

This folder is currently
inheriting permissions. To edit
permissions on this folder
select the button below.

Edit Item Security

Clicking **Edit Item Security** will allow you to make the folder you have selected a policy root, enabling you to edit security on the folder. Any sub-folders will now inherit their permissions from the new policy root, and any previously inherited permissions will automatically be applied explicitly to the folder. See Chapter 0, Policy Roots and Inheriting Permissions for more information.

Appendix A.   Roles and Tasks

Roles are a collection of tasks which can be carried out by a user of Unified CCDM. This section describes the function of each of the available tasks.

Folder-based Tasks

Roles can be applied to a specific folder; so that users assigned the folder-based role have access to the task-based permissions specified only for that folder. The following table lists the tasks available to create a folder-based role, using **Tools > Roles**.

The **Bas**ic, **Sup**ervisor, **Adv**anced and **Full** columns indicate whether the task is enabled by default for these pre-configured roles in Unified CCDM. The roles in your Unified CCDM system may differ from the list here if they have been edited since the system was installed. Some tasks may not be licensed for use in your Unified CCDM system.

Note that a folder task permission allows the user to perform a task on a folder, but, in most cases a global role is also required to provide access to a tool with which to perform the task. For example, the Manage Dimensions folder task permission allows the user to manage dimensions in a folder, but the global task permission, Resource Manager, is also needed to allow the user to locate the required dimension and perform the update.

Task Name	Comments	Bas	Sup	Adv	Full
Folder Settings					
Browse Folders	Allows the user to see a folder in the folder tree. For example, when creating a parameter set, a user needs Browse Folders to navigate to the location of their resources, and Browse Dimensions on the folder where the resources are located.	✓		✓	✓
Manage Folders	Allows the user to edit, create and remove folders in the specified folder.			✓	✓

Task Name	Comments	Bas	Sup	Adv	Full
Users and Security					
Browse Domain Accounts	Allows the user to associate domain accounts with agents in the specified folder. Without this task, the user will be unable to view the available domain accounts.			✓	✓
Browse Users	Allows the user to view the details of all users and groups in the specified folder. For example, if the user has access to the Security Manager or User Manager tool, the Browse Users task allows them to view users and groups and their details in a particular folder.	✓		✓	✓
Manage Users	Allows the user to modify settings of users and groups within the specified folder. For example, if the user has access to the Security Manager or User Manager tool, the Manage Users task allows them to view and edit users and groups in a particular folder.		✓	✓	✓
Reset Passwords	Allows the user to reset the passwords of other users within the specified folder. For example, if the user has access to the Resource Manager tool and access to Browse Users in a particular folder, the Reset Passwords task allows them to reset the password of those users, but not edit other user details such as Username.			✓	✓
Manage Tenants	Allows the user to manage tenant items within the specified folder.				✓
Manage Security	Allows the user to modify security permissions on the selected folder. Access to the Security Manager tool is also required.			✓	✓

Task Name	Comments	Bas	Sup	Adv	Full
Dimensions and Prefixes					
Browse Dimensions	Allows the user to list system resources (Agents, Skill Groups, Call Types etc.) in the specified folder. For example, this permission is necessary for a user to see dimension items in order to create Parameter Sets. When viewing an item in Resource Manager, such as an Agent, Browse Dimensions is required on the folder in which the Agent is located. Items to which the agent has a membership, such as a Skill Group or Agent Team will be visible in the Agents detail tabs, even if the user does not have Browse Dimensions on their location as the Browse Dimension permission allows a user to see an item's memberships. However, if the user does not have Browse Dimension permission on the location of the membership items, they will not be able to click through using the Go To button to view details of those items.	✓		✓	✓
Manage Dimensions	Allows the user to edit, move and delete dimensions, such as Agents, Agent Teams or Skill Groups, in the specified folder using Resource Manager. The user will not be able to delete or reskill an Agent if the Agent has memberships to an item in another folder (on which the user does not have permissions).		✓	✓	✓
Manage Dimension Memberships	Allows the user to add, modify and delete dimension memberships.				✓
Clone Dimensions	Allows the user to copy agents.		✓		✓
Browse Prefixes	Allows the user to browse automatic resource movement prefixes in the specified folder on the Prefix details tab of a Tenant item in the System Manger tool			✓	✓
Manage Prefixes	Allows the user to add and remove automatic resource movement prefixes in the specified folder, using the Prefixes tab of a Tenant item in the System Manger tool				✓

Task Name	Comments	Bas	Sup	Adv	Full
Gadgets					
Browse Apps	Allows the user to browse and open apps in a folder.	✓		✓	✓
Browse Gadgets	Allows the user to browse and open gadgets in a folder.	✓		✓	✓
Manage Apps	Allows the user to create, edit, move and delete apps in a folder.			✓	✓
Manage Gadgets	Allows the user to add, update and delete gadgets in a folder using **Settings > Gadget Management**.				✓
Information Notices					
Browse Information Notices	Allows the user to list and view information notices within the specified folder via the Information Notices and Resource Manager tools. If a user has Browse Information Notices permissions on their home folder then notifications for currently active information notices located in their home folder and every parent folder up to and including the tenant folder will be displayed on the user's home page.	✓		✓	✓
Manage Information Notices	Allows the user to create information notices (for users in the specified folder) via the Information Notices and Resource Manager tools. Information notice options are displayed on the user's homepage, provided they have been given the global permission to access Information Notices.			✓	✓
Uploading					
Upload Media	Allows the user to upload files to the specified folder through Resource Manager.			✓	✓
Searching					
Browse Search Folders	Allows the user to list and view the search folders and run the searches they contain.			✓	✓

Task Name	Comments	Bas	Sup	Adv	Full
Manage Search Folders	Allows the user to create, modify and delete search folders.			✓	✓

Global Role Tasks

Global roles, such as Basic, Advanced, Host and System Administrator are applied to users or groups of users, enabling them to access the same set of functions on all the folders to which they have access. The following table displays a list of all available tasks configurable for a global role, accessed through **Tools >Roles**, then **Global Roles.**

The **Global Basic**, **Global Adv**anced, **Global Host** and **System Adv**anced columns indicate the default settings for these roles in a new installation of CCDM.

> **Note**
>
> The **B**asic (B) and **A**dvanced (A) columns indicate the default settings for these roles in a new installation of Unified CCDM.

Global Task Name	Comments	Global Basic	Global Adv	Global Host	System Adv
Advanced User	Displays a checkbox on the user settings page, enabling access to Advanced User mode.		✓	✓	✓
Browse Dimension Types	Allows the user to select dimension types (such as Agent or Call Type) from an Item Type drop-down, when creating a Parameter Set in Reports.	✓	✓	✓	
Browse Global Roles	Allows the user to view global roles in Global Role Manager.		✓	✓	
Browse Global Security	Allows the user to view the folder roles that are assigned to folders in Security Manager.		✓	✓	
Browse Roles	Allows the user to view folder-based roles within Role Manager and Security Manager.		✓	✓	
Bulk Import Dimensions	Allows the user to upload csv files containing dimensions such as agents, through the upload menu on the items panel in Resource Manager.		✓	✓	

Global Task Name	Comments	Global Basic	Global Adv	Global Host	System Adv
Display Legacy Toolset	Reverts the user's home page to the classic tools page instead of the gadgets page. Users with a global role that includes this task will not be able to use gadgets.				
Folder Tree Management	Allows the user to drag and drop folders in the folder tree.			✓	
Information Notices	Allows access to the Information Notices tool.		✓	✓	
Manage Global Roles	Allows the user to add, modify and delete global roles in Global Role Manager.			✓	
Manage Global Security	Allows the user to access the User Manager, Group Manager and Security Manager tools.			✓	
Manage Roles	Allows the user to create, modify and delete folder-based roles in Role Manager.			✓	
Manage Site	Allows the user to save system settings, security settings, reporting settings and provisioning settings on the Settings page.			✓	
Provision Agent	Allows the user to create and manage an Agent via Resource Manager, or Agent Team Manager, provided the user has also been granted permission to Manage Dimensions on the specified folder, and Browse Connected Systems is enabled.	✓	✓	✓	
Provision Agent Desktop	Allows the user to add an Agent Desktop, through the New > Resource Items menu within Resource Manager, provided the user has also been granted permission to Manage Dimensions on the specified folder, and Browse Connected Systems is enabled.		✓	✓	
Provision Agent Team	Allows the user to add an Agent Team item to a folder, through the New > Resource Items menu within Resource Manager.	✓	✓	✓	

Global Task Name	Comments	Global Basic	Global Adv	Global Host	System Adv
Provision Call Type	Allows the user to add a new Call Type to a folder via the Resource Manager, New > Resource Items menu.		✓	✓	
Provision Department	Allows the user to provision new Departments.		✓	✓	
Provision Device Profile	Allows the user to manage Device Profiles.		✓	✓	
Provision Dialed Number	Allows the user to provision new Dialed Numbers.		✓	✓	
Provision Directory Number	Allows the user to provision new Directory Numbers.		✓	✓	
Provision Enterprise Skill Group	Allows the user to provision new Enterprise skill groups.		✓	✓	
Provision Expanded Call Variable	Allows the user to create an Expanded Call Variable and manage its settings and active dates, through Resource Manager > New Resource.		✓	✓	
Provision IP Endpoint	Allows the user to provision IP Endpoints from the remote equipment.		✓	✓	
Provision IVR Script	Allows the user to provision IVR scripts from the remote equipment.		✓	✓	
Provision Label	Allows the user to create Labels for specific label creation through Resource Manager > Resource Folder > Resource Item.		✓	✓	
Provision Media File	Allows the user to provision media files from the remote equipment.		✓	✓	
Provision Network VRU Script	Allows the user to create and update Network VRU scripts.		✓	✓	

Global Task Name	Comments	Global Basic	Global Adv	Global Host	System Adv
Provision Person	Allows the user to provision a Person via Resource Manager or Service Manager, provided the user has also been granted permission to Manage Dimensions on the specified folder, and Browse Connected Systems is also enabled.	✓	✓		
Provision Precision Attribute	Allows the user to provision Attributes for use in Precision Queues.		✓	✓	
Provision Precision Queue	Allows the user to provision Precision Queues.		✓	✓	
Provision Precision Queue Step	Allows the user to provision Precision Queue Steps.		✓	✓	
Provision Route	Allows the user to manage call routes derived from the ICM through Resource Manager.		✓	✓	
Provision Service	Allows the user to provision and manage a service, including setting Service Level Type, associated Skill Groups and peripherals, using Resource Manager.		✓	✓	
Provision Skill Group	Allows the user to manage skill groups using Resource Manager, Skill Group Manager (within Service Manager) provided the user has also been given permission to Manage Dimensions on the folder where the skill group is located.	✓	✓	✓	
Provision User Variable	Allows the user to provision a User Variable, using Resource Manager.		✓	✓	
Purge Dimensions	Allows the user to purge resources that are stuck.		✓		
Resource Manager	Allows access to Resource Manager.		✓	✓	
Security Manager	Allows access to Security functions.		✓	✓	

Global Task Name	Comments	Global Basic	Global Adv	Global Host	System Adv
Service Manager	Allows access to Service Manager.		✓	✓	

Example Usage

This section describes combinations of folder-based tasks and global security tasks required to carry out some typical scenarios within Unified CCDM.

Scenario	Task	Where?	Why?
Create an Agent	Resource Manager or Service Manager	Global	To access to the create agent menus.
	Manage Dimensions	Folder in which the new Agent is to be created.	In order to create the Agent in the specific folder
	Provision Agent	Global	In order to provision the Agent to UCCE
	Browse Dimensions	Folders containing items which need to be associated with the agent, for example, Peripherals, Teams, Skill Groups and Agent Desktops.	In order to allow the creation of the Agent's memberships.
Create a user and allocate non-default permissions	Resource Manager	Global	To access the functionality to create users.
	Manage Users	Folder in which new user is to be created.	To create the new user in the specific folder.
	Security Manager	Global	To access the functionality to change permissions for the new user.
	Manage Security	Folder in which new user is to be created.	To change the permissions for the new user.
	Browse Global Roles	Global	To access the permissible global roles.

Scenario	Task	Where?	Why?
	Browse Roles	Global	To access the permissible folder roles.
Reskill-only permissions (for example, for a supervisor user)	Resource Manager or Service Manager	Global	To access Resource Manager or Skill Group Manager tool.
	Browse Folders	Folder containing agent and folder containing skill group to be assigned to agent.	To access agent and new skill group.
	Manage Dimensions Memberships	Folder containing agent and folder containing skill group to be assigned to agent.	To modify the agent and skill group details.
	Provision Agent	Global	To provision the agent change to UCCE.
	Provision Skill Group	Global	To provision the skill group change to UCCE.