Configure Guest Access

Cisco ISE Guest Services

Cisco Identity Services Engine (ISE) guest services enable you to provide secure network access to guests such as visitors, contractors, consultants, and customers. You can support guests with base Cisco ISE licenses, and you can choose from several deployment options depending on your company's infrastructure and feature requirements.

Cisco ISE provides web-based and mobile portals to provide on-boarding for guests (and even employees) to your company's network and internal resources and services.

From the Admin portal, you can create and edit guest and sponsor portals, configure guest access privileges by defining their guest type, and assign sponsor privileges for creating and managing guest accounts.

Guest Services are configured on the following pages:

- Guest Portals, on page 20
- Guest Types and User Identity Groups, on page 3
- Sponsor Portals, on page 32
- Sponsor Groups, on page 17

End-User Guest and Sponsor Portals in Distributed Environment

Cisco ISE end-user web portals depend on the Administration, Policy Services, and Monitoring personas to provide configuration, session support, and reporting functionality.

Administration Node

Any configuration changes you make to users or devices on the end-user portals are written to the Administration node.

Policy Services Node

You must run the end-user portals on a Policy Services Node, which handles all session traffic, including: network access, client provisioning, guest services, posture, and profiling. If the Policy Service Node is part of a node group, and the node fails, the other nodes detect the failure and reset any pending sessions.

Monitoring Node

The Monitoring node collects, aggregates, and reports data about the end user and device activity on the My Devices, Sponsor, and Guest portals. If the primary Monitoring node fails, the secondary Monitoring node automatically becomes the primary Monitoring node.

Guest and Sponsor Accounts

Guest services support various types of users—guests, sponsors, and employees. From the Admin portal, you must define the access privileges and feature support for sponsors. Sponsors then access the Sponsor portal to create and manage guest accounts.

Once their guest accounts are created, guests can use the Sponsored-Guest portal to log in and gain access to the network. Guests can also create their own accounts by registering themselves using the Self-Registered Guest portal and then logging in to the network. Based on the portal configuration, these self-registering guests may need sponsor approval before they can receive their login credentials. Guests can also choose to access the network using the Hotspot Guest portal, which does not require the creation of guest accounts and login credentials such as username and password.

Employees who are included in identity stores (such as Active Directory, LDAP, Internal Users) can also gain access through the credentialed Guest portals (Sponsored-Guest and Self-Registered Guest portals), if configured.

Guest Accounts

Guests typically represent authorized visitors, contractors, customers, or other temporary users who require access to your network. However, you can also use guest accounts for employees if you prefer to use one of the guest deployment scenarios to allow employees to access the network. You can access the Sponsor portal to view guest accounts created by a sponsor and by self-registering guests.

Sponsor Accounts

Use the Sponsor portal to create temporary accounts for authorized visitors to securely access your corporate network or the Internet. After creating the guest accounts, you also can use the Sponsor portal to manage these accounts and provide account details to the guests.

Guest Accounts

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Manage Guest Accounts on the Sponsor Portal

Use the Sponsor portal to create temporary accounts for authorized visitors to securely access your corporate network or the Internet. After creating the guest accounts, you also can use the Sponsor portal to manage these accounts and provide account details to the guests.

As an ISE administrator, you can access the Sponsor portal through any one of the following ways:

- From the Guest Access menu using the Manage Accounts link—Full access to the default Sponsor portal.
- From the Sponsor portal using a valid Sponsor account—Permissions and restrictions based on the sponsor group to which the sponsor belongs.

Note An ISE administrator from an external identity store such as Active Directory can be part of a Sponsor group. However, internal administrator accounts (for example, the default "admin" account) cannot be part of a Sponsor group.

Step 1 To open the Sponsor Console using the Manage Accounts link—On the Administrators console, click **Guest Access**, then click **Manage Accounts**.
This step requires that you have added the Sponsor Portal URL to your DNS server. If you haven't done that yet, follow the next step.

Step 2 You can also open the Sponsor Console from the Sponsor Portal configuration page. Click **Guest Access** > **Configure** > **Sponsor Portal** page, by opening a Sponsor Portal and clicking the **Portal Test URL** link to the right of the Description field.

What to Do Next

Refer to the *Sponsor Portal User Guide for Cisco Identity Services Engine* http://www.cisco.com/c/en/us/td/docs/security/ise/2-1/sponsor_guide/b_spons_SponsorPortalUserGuide_21.htmlfor information on how to use the Sponsor portal.

Guest Types and User Identity Groups

Guest accounts must be associated with a guest type. Guest types allow a sponsor to assign different levels of access and different network connection times to a guest account. These guest types are associated with particular network access policies. Cisco ISE includes these default guest types:

- Contractor—Users who need access to the network for an extended amount of time, up to a year.
- Daily—Guests who need access to the resources on the network for just 1 to 5 days.
- Weekly—Users who need access to the network for a couple of weeks.

When creating guest accounts, certain sponsor groups can be restricted to using specific guest types. Members of such a group can create guests with only the features specified for their guest type. For instance, the sponsor group, ALL_ACCOUNTS, can be set up to use only the Contractor guest type, and the sponsor groups, OWN_ACCOUNTS and GROUP_ACCOUNTS, can be set up to use Daily and Weekly guest types. Also, since self-registering guests using the Self-Registered Guest portal typically need access for just a day, you can assign them the Daily guest type.

The guest type defines the user identity group for a guest. User identity groups are configured in **Administration** > **Identity Management** > **Groups** > **User Identity Groups**. You can delete a user identity group for a guest only by deleting the specific guest type.

For more information, see:

- User Identity Groups
- Create a User Identity Group

Create or Edit Guest Types

You can edit the default Guest Types and their default access privileges and settings, or you can create new Guest Types. Changes you make will be applied to existing Guest accounts that were created using this Guest Type. Guest users who are logged on will not see these changes until they log off and back on. You can also duplicate a Guest Type to create additional Guest Types with the same access privileges.

Each Guest Type has a name, description, and a list of sponsor groups that can create guest accounts with this guest type. You can designate some guest types as follows: use just for self-registering guests, or do not use to create Guest accounts (by any sponsor group).

Fill in the following fields, which are described below.
The navigation path for these settings is **Guest Access** > **Configure** > **Guest Types**. Use these settings to create the types of Guests that can access your network and their access privileges. You can also specify which Sponsor Groups can create this type of Guest.

Field	Usage Guidelines
Guest type name	Provide a name (from 1-256 characters) that distinguishes this Guest type from the default Guest Types and others that you create.
Description	Provide additional information (maximum of 2000 characters) about the recommended use of this Guest Type, for example, Use for self-registering Guests, Do NOT use for Guest account creation, etc.
Language File	Export or Import the language file to use for portals using this Guest Type.
Collect Additional Data	Select custom fields to collect additional information from Guests. Custom fields are managed on **Guest Access** > **Settings** > **Custom Fields**.

Field	Usage Guidelines
Maximum Access Time—Account Duration Starts	**From first login—**The account start time starts when the guest user first logs in to the guest portal, and the end time equals the specified duration time. If the guest user never logs in, the account remains in the Awaiting first login state until the account is removed by the Guest Account Purge Policy. Self-registered and Sponsor-created user's account starts when they create and log on to their account. **Note** If you use **Allow access only on these days and times**, then location is used for context of those times. If you don't want FFL access to be based on location, then don't set days and times for access. **From sponsor-specified date—**Specify the maximum number of days, from 1 to 999, hours or minutes that Guests of this Guest Type can access and stay connected to the network. If you change this setting, your changes will not apply to existing Guest accounts created using this Guest Type.
Allow access only on these days and times	Enter the time ranges and select the days of the week to specify when this Guest Type can access the network. If this guest type remains connected outside these time parameters, they will be logged off. The time ranges are related to the time zones defined by the locations assigned to the guests using this Guest Type. Click the **+** and **-** for adding and deleting restricted access times.
Configure guest account Purge Policy	You can schedule an endpoint purge job. The endpoint purge schedule is enabled by default and Cisco ISE deletes endpoints that are older than 30 days. Refer to the Endpoints Purge Settings section for more information.
Login Options—Maximum simultaneous logins	Enter the maximum number of user sessions that this Guest Type can have running concurrently.

Field	Usage Guidelines
When guest exceeds limit	When you select **Maximum simultaneous logins**, you also must also select the action to take when a user connects after that limit is reached. **When the guest exceeds limit** • **Disconnect the oldest connection** • **Disconnect the newest connection** ◦ **Redirect user to a portal page showing an error message**: An error message is displayed for a configurable amount of time, then the session is disconnected, and the user is redirected to the Guest portal. The error page's content is configured on the Portal Page Customization dialog, on the Messages > Error Messages tab.
Maximum devices guests can register	Enter the maximum number of devices that can be registered to each Guest. You can set the limit to a number lower than what is already registered for the Guests of this Guest Type. This will only affect newly created Guest accounts.
Allow guest to bypass the Guest portal	Allows users to bypass the credentialed Guest captive portal (web authentication page) and access the network by providing credentials to wired and wireless (dot1x) supplicants or VPN clients. Guest accounts go to Active state bypassing the Awaiting Initial Login state and the AUP page, even if it is required. If you do not enable this setting, users must first log in through the credentialed Guest captive portal before they will be able to access other parts of the network.
Account Expiration Notification—Send account expiration notification __ days before account expires	Send a notification to Guests before their account expires and specify how many days, hours or minutes in advance of the expiration.
View messages in	Specify the language to use when displaying email or SMS notifications as you set them up.
Email	Select email as the method used for account expiry notification.
Use customization from	Select email customization from another portal.
Messages	Enter the text to use for account expiry notification.

Field	Usage Guidelines
Copy text from	Reuse email text that you created for another Guest Type for account expiry notification.
Send test email to me at	Ensure that the email notification displays as it should by sending it to your email address.
SMS	Select text (SMS) as the method used for account expiry notification.
Messages	Enter the text to use for account expiry notification.
Copy text from	Reuse text messages that you created for another Guest Type.
Send test SMS to me at	Ensure that the text notification displays as it should by sending it to your cell phone.
These sponsor groups can create this guest type	Select which sponsor groups can create Guest accounts with this Guest Type. If you want to disable use of this Guest Type, do not assign it to any sponsor group. If you want to discontinue use of this Guest Type, delete the sponsor groups listed.

What to Do Next

- Create or modify sponsor groups to use this guest type.
- If appropriate, assign this guest type to self-registering guests in the Self-Registered Guest portal.

Disable Guest Types

You cannot delete the last remaining guest type or guest types that are being used by guest accounts. If you want to delete a guest type that is in use, first ensure that it is no longer available for use. Disabling a guest type does not affect guest accounts that were created with that guest type.

Step 1 Do one of the following or both, if appropriate:

- Choose **Guest Access** > **Configure** > **Guest Type** and delete all sponsor groups using the specific guest type in **Sponsor Groups**. This action effectively prevents all sponsors from using it to create any new guest accounts.

- Choose **Guest Access** > **Configure** > **Guest Portals**. Select the Self-Registered Guest portal that is using the specific guest type and change the assigned guest type for self-registering guests.

Step 2 Click **Save** and then **Close**.

Changing Guest Account Attributes

When a guest account is created, attributes are configured for that account by the Guest Type.

If you make changes to a Guest Type, active Guest accounts will take on all the attributes of the updated Guest Type, including the default access times, dates, and duration, which can then be edited. In addition, the custom fields from the original Guest Type are copied to the updated Guest Type.

A Sponsor can also extend the account duration before the time period has expired.

Configure Maximum Simultaneous Logins for Endpoint Users

You can configure the maximum number of simultaneous logins that are allowed for Guest users.

When the user logs into the Guest portal, and is successfully authenticated, that user's number of existing logins is checked to see if the user has already reached the maximum number of logins. If so, then the Guest user is redirected to an error page. After a configurable period of time, so the user can read the error page, the session is terminated. If the user tries to access the internet again, that user is redirected to the Guest portal's login page.

In an authorization policy, check for a value of true for the attribute *Network Access.SessionLimitExceeded*, and configure the action to take when the maximum number of sessions is reached.

Before You Begin

Make sure that the authorization profile that you are using in the authorization policy for this portal has **Access Type** set to *Access_Accept*. If **Access Type** is set to *Access_Reject*, then maximum logins will not work.

Step 1 Choose **Guest Access** > **Configure** > **Guest Type**, and under **Login Options**:

a) Enable **Maximum simultaneous logins**. This is already enabled on the default Guest types.

b) Select **Disconnect the newest connection**, select **Redirect user to a portal page showing an error message**, and choose the maximum number of simultaneous logins to allow.

Step 2 Choose **Policy** > **Results**, and create an authorization profile:

a) Under Common Tasks, Select **Web Redirection**, then:

   - In the first drop-down, select **Centralized Web Auth**.
   - Enter the **ACL** you created as part of the prerequisite.
   - For **Value**, select any Guest portal.

b) Select **Reauthentication**, then:

1 In **Timer**, enter the amount of time you would like the error page to appear before redirecting the user to the Guest portal login page.

2 In **Maintain Connectivity During Reauthentication**, choose **Default**.

Step 3 Browse to **Policy** > **Authorization**, and create an authorization policy so that when the attribute NetworkAccess.SessionLimitExceeded is true, the user is redirected to the portal.

What to Do Next

You can customize the text of the error page on the Portal Page Customization tab, in the tab **Messages Error Messages** by changing the text of the error message key *ui_max_login_sessions_exceeded_error*.

Schedule When to Purge Expired Guest Accounts

When an active or suspended guest account reaches the end of its account duration (as defined by the sponsor when creating the account), the account expires. When guest accounts expire, the affected guests cannot access the network. Sponsors can extend expired accounts before they are purged. However, after an account is purged, sponsors must create new accounts.

When expired guest accounts are purged, the associated endpoints and reporting and logging information are retained.

Cisco ISE automatically purges expired guest accounts every 15 days, by default. The **Date of next purge** indicates when the next purge will occur. You can also:

- Schedule a purge to occur every X days. The first purge will occur in X days at **Time of Purge**, then purges occur every X days.
- Schedule a purge on a given day of the week every X weeks. The first purge occurs on the next **Day of Week** at **Time of Purge**, then purges occur every configured number of weeks on that day and time. For example, on Monday you set purges to occur on Thursday every 5 weeks. The next purge will be the Thursday of this week, not the Thursday 5 weeks from now.
- Force a purge to happen immediately by clicking **Purge Now**.

If the Cisco ISE server is down when the purge is scheduled to run, the purge is not executed. The purge process will run again at the next scheduled purge time, assuming the server is operational at that time.

Step 1 Choose **Guest Access** > **Settings** > **Guest Account Purge Policy**.

Step 2 Choose one of these options:

- Click **Purge Now** to immediately purge the expired guest account records.
- Check **Schedule purge of expired guest accounts** to schedule a purge.

Note After each purge is completed, the **Date of next purge** is reset to the next scheduled purge.

Step 3 Specify after how many **days of inactivity** to purge user-specific portal records maintained in the Cisco ISE database for LDAP and Active Directory users.

Step 4 Specify the number of days of inactivity to expire users in **Expire portal-user information after**. This setting prevents LDAP and Active Directory accounts that were never used from staying in the ISE database indefinitely.
If a first login does not happen, on expiry of the specified time period, the guest account is moved to the expired state and is then purged, based on the configured purge policy.

Step 5 Click **Save**. If you do not want to save any updates you made to the settings, click **Reset** to revert to the last saved values.

Add Custom Fields for Guest Account Creation

When providing guest access, you may want to collect information from your guests beyond just their names, email addresses, and phone numbers. Cisco ISE provides custom fields that you can use to collect additional information about guests that is specific to your company's needs. You can associate the custom fields with guest types and with the Self-Registered Guest and Sponsor portals. Cisco ISE does not provide any default custom fields.

Step 1 To add, edit, or delete custom fields for all Guest and Sponsor portals, choose **Guest Access** > **Settings** > **Custom Fields**.

Step 2 Enter the **Custom Field Name**, pick a **Data Type** from the drop-down list, and enter **Tip Text** to help provide additional information about the custom field. For instance, if you enter Date of Birth, pick Date-MDY, and enter a tip for the date format as MM/DD/YYYY.

Step 3 Click **Add**.
The custom field appears in the list in alphabetical order or in the context of the sorted order.

Step 4 Click **Save**. If you do not want to save any updates you made to the settings, click **Reset** to revert to the last saved values.

Note If you delete a custom field, it will no longer be available for selection in the **Custom Fields** list for guest types and in the Self-Registered Guest and Sponsor portals settings. If the field is being used, **Delete** will be disabled.

What to Do Next

You can include the desired custom fields:

- When defining a guest type so that accounts created with that guest type will include this information. See Create or Edit Guest Types.
- When configuring the Sponsor portal for sponsors to use when creating guest accounts. See Customize Sponsor Portals, on page 36.
- When requesting information from self-registering guests using a Self-Registered Guest portal. See Create a Self-Registered Guest Portal, on page 29.

Specify Email Addresses and SMTP Servers for Email Notifications

Cisco ISE allows you to send emails to sponsors and guests, notifying them of information and instructions. You can configure SMTP servers to deliver these email notifications. You can also specify the email address from which the notifications will be sent to guests.

Sponsors can manually send email notifications to guests to deliver their login credentials and password reset instructions. Sponsors can also receive email notifications requiring their approval for self-registering guests.

During the portal configuration, you can choose to automatically send guests email notifications with their login credentials after they successfully register themselves.

Step 1 To specify email settings and configure SMTP servers for all Guest and Sponsor portals, choose **Guest Access** > **Settings** > **Guest Email Settings**.

Step 2 Choose **Administration** > **System** > **Settings** > **SMTP Server** if you want to add more SMTP servers.
Configure the SMTP server to enable notifications.

Enable email notifications to guests is checked by default. If you disable this setting, guests will not receive email notifications regardless of any other settings you may have enabled while configuring Guest and Sponsor portals.

Step 3 Enter the **Default "From" email address** that is designated for sending email notifications to guests. For example, donotreply@ *yourcompany*.com.

Step 4 Do one of the following:

- Check **Send notifications from sponsor's email address (if sponsored)** if you want guests to receive notifications from the sponsor who created their accounts. Self-registering guests will receive notifications from the default email address.
- Check **Always send notifications from the default email address** if you want guests to receive notifications, regardless of whether they are sponsored and self-registering.

Step 5 Click **Save**. If you do not want to save any updates you made to the settings, click **Reset** to revert to the last saved values.

Assign Guest Locations and SSIDs

A Guest Location defines a name for a time zone, and is used by ISE to enforce time-related settings of logged on Guests. Guest Locations are assigned to Guest accounts by Sponsors creating a Guest account, and by self-registering Guests. The default Guest Location is San Jose. If no other Guest Locations are added, all accounts are assigned this Guest Location. You can't delete the San Jose Guest Location unless you create one or more new Locations. Unless all your Guests will be in the same time-zone as San Jose, create at least one Guest Location with the required time-zone.

Note Guest access times are based on the Guest Location's time zone. A Guest user may not be able to login if the Guest Location's time zone doesn't match the system time zone. In this case, the Guest user may get an "Authentication Failed" error. You might see the "Guest active time period not yet started" error message in the debug report. As a workaround, you can adjust the Guest access start time to match the local time zone of the Guest user by using the Manage Accounts option.

The SSIDs you add here are available to Sponsor Portals, so Sponsors can tell the Guest which SSID to connect to.

You can't delete a Guest Location or a SSID if it is configured in a Sponsor portal or assigned to a Guest account.

Step 1 To add, edit or delete Guest Locations and SSIDs for Guest and Sponsor portals, choose **Guest Access** > **Settings** > **Guest Locations and SSIDs**.

Step 2 For **Guest Locations**:

a) For each time-zone that you need to support, enter a **Location name** and pick a **Time zone** from the drop-down list.

b) Click **Add**.

Note In a Guest Location, the name of the place, the name of the time zone, and the GMT offset are static; you cannot change them. The GMT offset does not change with daylight savings time changes.

Step 3 For **Guest SSIDs**:

a) Enter the **SSID** names of the networks that will be available for guests to use at the Guest Locations.

b) Click **Add**.

Step 4 Click **Save**. To evert to the last saved values, click **Reset**.

What to Do Next

If you added a new Guest Location or SSID, you can:

- Provide the SSIDs for Sponsors to use when creating Guest accounts. See Portal Settings for Sponsor Portals.
- Add the Guest Locations to Sponsor Groups, so Sponsors assigned to that group can use them when creating guest accounts. See Configure Sponsor Groups, on page 18.
- Assign the Guest Locations available to self-registering guests using a Self-Registered Guest portal. See Create a Self-Registered Guest Portal, on page 29.

Rules for Guest Password Policies

Cisco ISE has the following built-in rules for guest passwords:

- Changes to the guest password policy do not affect existing accounts, until the guests passwords have expired and need to be changed.
- Passwords are case sensitive.
- The special characters <, >, /, and % cannot be used.

- Minimum length and minimum required characters apply to all passwords.
- Passwords cannot match usernames.
- New passwords cannot match current passwords.
- Guests do not receive notifications prior to password expiration, unlike guest account expiration. When guest passwords expire, either sponsors can reset the password to a random password or guests can log in using their current login credentials and then change their password.

Set the Guest Password Policy and Expiration

You can define a password policy for all Guest portals. A Guest password policy determines how the password is generated for all guest accounts. A password can be a mixture of alphabetic, numeric, or special characters. You can also set the number of days after which guest passwords will expire, requiring guests to reset their passwords.

Step 1 Choose **Guest Access** > **Settings** > **Guest Password Policy**.

Step 2 Enter the **Minimum password length** (in characters) for the guest passwords.

Step 3 Specify the characters from each character set that can be used by guests to create passwords.
Choose one of the following options under **Allowed Characters and Minimums** to specify the password policy for guests:

- Use all the characters from each character set.
- To prevent the use of certain characters, choose **Custom** from the drop-down menu, and delete these characters from the predefined and complete sets.

Step 4 Enter the minimum number of characters to use from each set.
The total number of required characters across the four character sets should not exceed the overall **Minimum password length**.

Step 5 Choose one of the following options under **Password Expiration**:

- Specify the frequency (in days) when guests have to change their passwords after they first log in. If the guests do not reset their passwords before they expire, the next time they log in to the network using their original login credentials, they are prompted to change their passwords.
- Set the passwords to never expire.

Step 6 Click **Save**. If you do not want to save any updates you made to the settings, click **Reset** to revert to the last saved values.

What to Do Next

You should customize the error messages that are related to the password policy to provide the password requirements.

1 Choose **Guest Access** > **Configure** > **Sponsored-Guest Portals or Self-Registered Guest Portals** > **Edit** > **Portal Page Customization** > **Error Messages**.

2 Search for the keyword “policy.”

Rules for Guest Username Policies

Cisco ISE has the following built-in rules for guest username policies:

- Changes to the guest username policy do not affect existing accounts, until the guest accounts have expired and need to be changed.
- The special characters <, >, /, and % cannot be used.
- Minimum length and minimum required characters apply to all system-generated usernames, including usernames based on email addresses.
- Passwords cannot match usernames.

Set the Guest Username Policy

You can configure rules for how guest usernames are created. A generated username can be created based on the email address, or based on the first name and last name of the guest. The Sponsor can also create a random number of guest accounts to save time when creating multiple guests, or when guest names and email addresses are not available. Randomly generated guest usernames consist of a mixture of alphabetic, numeric, and special characters. These settings affect all guests.

Step 1 To define the guest username policies for all Guest and Sponsor portals, choose **Guest Access** > **Settings** > **Guest Username Policy**.

Step 2 Enter the **Minimum username length** (in characters) for the guest usernames.

Step 3 Choose one of the options under **Username Criteria for Known Guests** to specify the policy for creating usernames for known guests.

Step 4 Choose one of the following options under **Characters Allowed in Randomly-Generated Usernames** to specify the policy for creating random usernames for guests:

- Use all characters from each character set.
- To prevent the use of certain characters, choose **Custom** from the drop-down menu, and delete these characters from the predefined and complete sets.

Step 5 Enter the minimum number of characters to use from each set.
The total number of characters from the three character sets should not exceed the number specified in **Minimum username length**.

Step 6 Click **Save**. If you do not want to save any updates you made to the settings, click **Reset** to revert to the last saved values.

What to Do Next

You should customize the error messages that are related to the username policy to provide the username requirements.

1. Choose **Guest Access** > **Configure** > **Sponsored-Guest Portals, Self-Registered Guest Portals, Sponsor Portals, or My Devices Portals** > **Edit** > **Portal Page Customization** > **Error Messages**.
2. Search for the keyword “policy.”

SMS Providers and Services

SMS services are required when you and sponsors want to send SMS notifications to guests that are using credentialed Guest portals. Whenever possible, configure and provide free SMS service providers to lower your company's expenses.

Cisco ISE supports a variety of cellular service providers that provide free SMS services to their own subscribers. You can use these providers without a service contract and without configuring their account credentials in Cisco ISE. These include ATT, Orange, Sprint, TMobile, and Verizon.

You can also add other cellular service providers that offer free SMS services or a global SMS service provider, such as a Click-A-Tell. The default global SMS service provider requires a service contract and you must configure their account credentials in Cisco ISE.

- If self-registering guests pick their free SMS service provider on the Self-Registration form, SMS notifications with their login credentials are sent to them free of cost. If they do not pick their SMS service provider, then the default global SMS service provider contracted by your company is used to send the SMS notifications.
- If you allow sponsors to send SMS notifications to guests whose accounts they have created, you should also customize the sponsor portal and select all the appropriate SMS service providers that can be used by these sponsors. If you do not select any SMS service providers for the Sponsor portal, the default global SMS service provider contracted by your company will provide the SMS services.

SMS providers are configured as SMS Gateways in ISE. Email from ISE is converted to SMS by the SMS gateway.

Configure SMS Gateways to Send SMS Notifications to Guests

You must set up SMS gateways in Cisco ISE to enable:

- Sponsors to manually send SMS notifications to guests with their login credentials and password reset instructions.
- Guests to automatically receive SMS notifications with their login credentials after they successfully register themselves.
- Guests to automatically receive SMS notifications with actions to take before their guest accounts expire.

When entering information in the fields, you should update all text within **[ ]**, such as [USERNAME], [PASSWORD], [PROVIDER_ID], etc., with information specific to your SMS provider's account.

Before You Begin

Configure a default SMTP server to use for the SMS Email Gateway option.

Step 1 Choose **Administration** > **System** > **Settings** > **SMS Gateway**.

Step 2 Click **Add**.

Step 3 Enter an **SMS Gateway Provider Name**.

Step 4 Select a **Provider Interface Type** and enter the required information:

- **SMS Email Gateway** to send SMS via an email server.

- **SMS HTTP API** to send SMS via an HTTP API (GET or POST method).

For information about configuring an SMS Email Gateway and an SMS HTTP API gateway, see SMS Gateway Settings.

Step 5 Check **Break up long message into multiple parts** to enable Cisco ISE to divide messages that exceed 140 bytes into multiple messages.
Most SMS providers divide long SMS messages into multiple parts automatically. MMS messages can be longer than SMS messages.

Step 6 Click **Submit**.

What to Do Next

If you configured a new SMS gateway, you can:

- Select the SMS service provider to use when sending SMS notifications about expiring accounts to guests. See Create or Edit Guest Types.
- Specify which of the configured SMS providers should display on the Self-Registration form for self-registering guests to pick from. See Create a Self-Registered Guest Portal, on page 29.
- Provide the SMS service providers for sponsors to use when creating guest accounts for guests whose information is available. See Configure Sponsor Groups, on page 18.

Managing Sponsor Accounts

Sponsors are a special type of internal user who can create guest accounts using the Sponsor portal. Like other internal users, Cisco ISE authenticates sponsors through a local database, or through external Lightweight Directory Access Protocol (LDAP), Microsoft Active Directory, or SAML identity stores. If you are not using an external source, you must create internal user accounts for sponsors in Cisco ISE.

Sponsor Groups

Each sponsor belongs to a sponsor group. The sponsor group configuration defines the permissions and settings for sponsors that are part of that group. Cisco ISE includes these default sponsor groups:

- ALL_ACCOUNTS—Sponsors can manage all guest accounts.
- GROUP_ACCOUNTS—Sponsors can manage the guest accounts created by sponsors from the same Sponsor Group.
- OWN_ACCOUNTS—Sponsors can manage only the Guest accounts that they created.

You can customize the features available to particular sponsor groups, thereby limiting or expanding functionality of the Sponsor portal. For example:

- You can allow sponsors to create multiple guest accounts in one operation.
- You can restrict sponsors from managing guest accounts created by other sponsors.
- You can restrict sponsors from viewing guest passwords.
- You can grant sponsors the authority to approve or deny requests from self-registering guests.

- You can allow sponsors to delete, suspend, and reinstate guest accounts.
- You can disable a sponsor group to prevent its members from logging in to the Sponsor portal.

Sponsor Groups

Sponsor groups control the permissions given to a sponsor when using any Sponsor portal. If a sponsor is a member of a sponsor group, then the sponsor receives the permissions defined in the group.

A sponsor is considered to be a member of a sponsor group if the sponsor belongs to at least one of the Member Groups defined in the sponsor group. A Member Group can be a User Identity Group, or a group selected from an external identity source, such as Active Directory.

A sponsor can be a member of more than one sponsor group. If so, the sponsor receives the combined permissions from all of those groups, as follows:

- An individual permission such as "Delete guests' accounts" is granted if it is enabled in any of the groups.
- The sponsor can create guests using the Guest Types in any of the groups.
- The sponsor can create guests at the locations in any of the groups.
- For a numeric value such as a batch size limit, the largest value from the groups is used.

If a sponsor is not a member of any sponsor group, then the sponsor is not permitted to log into any sponsor portal.

- ALL_ACCOUNTS—Sponsors can manage all guest accounts.
- GROUP_ACCOUNTS—Sponsors can manage the guest accounts created by sponsors from the same Sponsor Group.
- OWN_ACCOUNTS—Sponsors can manage only the Guest accounts that they created.

You can customize the features available to particular sponsor groups, thereby limiting or expanding functionality of the Sponsor portal. For example:

- You can allow sponsors to create multiple guest accounts in one operation.
- You can restrict sponsors from managing guest accounts created by other sponsors.
- You can restrict sponsors from viewing guest passwords.
- You can grant sponsors the authority to approve or deny requests from self-registering guests.
- You can allow sponsors to delete, suspend, and reinstate guest accounts.

If a sponsor is not a member of any sponsor group, then that sponsor is not permitted to log in to any sponsor portal.

Create Sponsor Accounts and Assign to Sponsor Groups

To create internal sponsor user accounts and specify the sponsors who can use the Sponsor portals:

Step 1 Choose **Administration** > **Identity Management** > **Identities** > **Users**. Assign the internal sponsor user account to the appropriate user identity group.

Note The default Sponsor Groups have the default Identity Group Guest_Portal_Sequence assigned to them.

Step 2 Choose **Guest Access** > **Configure** > **Sponsor Groups** > **Create, Edit or Duplicate** and click **Members**. Map the sponsor user identity groups to sponsor groups.

What to Do Next

You can also create additional user identity groups specific to your organization to use with sponsors. Choose **Administration** > **Identity Management** > **Groups** > **User Identity Groups**.

Configure Sponsor Groups

Cisco provides default sponsor groups. If you do not want to use the default options, you can either create new sponsor groups or edit the default sponsor groups and change the settings. You can also duplicate a sponsor group to create more sponsor groups with the same settings and privileges.

You can disable a sponsor group, which prevents the members of the sponsor group from logging in to the Sponsor portal. You can delete any of the sponsor groups, except the default sponsor groups provided by Cisco ISE.

Step 1 Enter the **Sponsor group name** and **Description**.

Step 2 Click **Members** to select user (identity) groups and add them as group members of this sponsor group.

Step 3 To specify which guest types can be created by sponsors which are based on this sponsor group, click inside the box under **This sponsor group can create accounts using these guest types**, and select one or more guest types.
You can create more guest types to assign to this sponsor group by clicking the link under **Create Guest Types at**. After you create a new guest type, you must save, close, and reopen the sponsor group before you can select that new guest type.

Step 4 Use **Select the locations that guests will be visiting** to specify the locations (used to set the guest time zones) that sponsors in this sponsor group can choose from when creating guest accounts.
You can add more locations to choose from by clicking the link under **Configure guest locations at** and adding guest locations. After you create a new guest location, you must save, close and reopen the sponsor group before you can select that new guest location.

This will not restrict guests from logging in from other locations.

Step 5 Under **Automatic guest notification**, check **Automatically email guests upon account creation if email address is available** if you want to save the your sponsors the step of clicking Notify after creating a user. A window will pop up saying that an email was sent. Checking this also adds a header to the sponsor portal that says **Guest notifications are sent automatically**.

Step 6 Under **Sponsor Can Create** configure options that sponsors in this group have for creating guest accounts.

- **Multiple guest accounts assigned to specific guests (Import)—**Enable the sponsor to create multiple guest accounts by importing guest details such as first name and last name from a file.

  If this option is enabled, the **Import** button displays in the **Create Accounts** page of the Sponsor portal. The Import option is only available on desktop browsers (not mobile), such as Internet Explorer, Firefox, Safari, and so forth

- **Limit to batch of—**If this sponsor group is allowed to create multiple accounts simultaneously, specify the number of guest accounts that can be created in a single import operation.

  Although a sponsor can create a maximum of 10,000 accounts, we recommend that you limit the number of accounts you create, due to potential performance issues.

- **Multiple guest accounts to be assigned to any guests (Random)—**Enable the sponsor to create multiple random guest accounts as placeholders for guests who are not known as yet, or when they need to create many accounts quickly.

  If this option is enabled, the **Random** button displays on the **Create Accounts** page of the Sponsor portal.

- **Default username prefix—**Specify a username prefix that sponsors can use when creating multiple random guest accounts. If specified, this prefix appears in the Sponsor Portal when creating random guest accounts. In addition, if **Allow sponsor to specify a username prefix** is:

  - Enabled—The sponsor can edit the default prefix in the Sponsor portal.

  - Not enabled—The sponsor cannot edit the default prefix in the Sponsor portal.

  If you do not specify a username prefix or allow the sponsor to specify one, then the sponsor will not be able to assign username prefixes in the Sponsor portal.

- **Allow sponsor to specify a username prefix—**If this sponsor group is allowed to create multiple accounts simultaneously, specify the number of guest accounts that can be created in a single import operation.

  Although a sponsor can create a maximum of 10,000 accounts, we recommend that you limit the number of accounts you create, due to potential performance issues.

- **Start date can be no more than __ days into the future—**Enable and specify the number of days within which sponsors have to set as the start date for the multiple guest accounts they have created.

Step 7 Under **Sponsor Can Manage** you can restrict which guests accounts the members of this sponsor group can view and manage.

- **Only accounts sponsor has created—**Sponsors in this group can view and manage only the guest accounts that they have created, which is based on the Sponsor's email account.

- **Accounts created by members of this sponsor group—**Sponsors in this group can view and manage the guest accounts created by any sponsor in this sponsor group.

- **All guest accounts—**Sponsors view and manage all pending guest accounts.

Step 8 Under **Sponsor Can** you can provide additional privileges related to guest passwords and accounts to the members of this sponsor group.

- **View guests' passwords—**For guest accounts that they can manage, allow the sponsor to view the passwords.

If the guest has changed the password, the sponsor can no longer view it; unless it was reset by the sponsor to a random password generated by Cisco ISE.

Note If this option is disabled for a sponsor group, the members of that group cannot send email and SMS notifications regarding the login credentials (guest password) for the guest accounts that they manage.

- **Reset guest account passwords—**For guest accounts that they can manage, allow the sponsor to reset passwords for guests to a random password generated by Cisco ISE.
- **Send SMS notifications with guests' credentials—**For guest accounts that they can manage, allow the sponsor to send SMS (text) notifications to guests with their account details and login credentials.
- **Delete guests' accounts—**For guest accounts that they can manage, allow the sponsor to delete the accounts, and prevent guests from accessing your company's network.
- **Suspend guests' accounts—**For guest accounts that they can manage, allow the sponsor to suspend their accounts to prevent guests from logging in temporarily.

  This action also issues a Change of Authorization (CoA) Terminate to remove the suspended guests from the network.
- **Require sponsor to provide a reason—**Require the sponsor to provide an explanation for suspending the guest accounts.
- **Reinstate suspended guest accounts—**For guest accounts that they can manage, allow the sponsor to reinstate suspended accounts.
- **Access Cisco ISE guest accounts using the programmatic interface (Guest REST API)—**For guest accounts that they can manage, allow the sponsor to access guest accounts using the Guest REST API programming interface.

Step 9 Click **Save** and then **Close**.

Guest Portals

When people visiting your company wish to use your company's network to access the Internet or resources and services on your network, you can provide them network access through a Guest portal. Employees can use these Guest portals to access your company's network, if configured.

There are three default Guest portals:

- Hotspot Guest portal—Network access is granted without requiring any credentials. Usually, an Acceptance of User Policy (AUP) must be accepted before network access is granted.
- Sponsored-Guest portal—Network access is granted by a sponsor who creates accounts for guests, and provides the Guest with login credentials.
- Self-Registered Guest portal—Guests can also create their own accounts and credentials, and may need sponsor approval before they are granted network access.

Cisco ISE can host multiple Guest portals, including a predefined set of default portals. The default portal themes have standard Cisco branding that you can customize through the Admin portal. You can also choose to further customize a portal by uploading images, logos, and cascading style sheets (CSS) files that are specific to your organization.

Credentials for Guest Portals

Cisco ISE provides secured network access by requiring guests to log in using various types of credentials. You can require that guests log in using one or a combination of these credentials.

- Username—Required. Applies to all guests using end-user portals (except Hotspot Guest portals) and is derived from the username policy. The username policy applies only to system-generated usernames and not to usernames specified using the Guest API programming interface or the self-registering process. You can configure the policy settings that apply to usernames at **Guest Access** > **Settings** > **Guest Username Policy**. Guests can be notified of their username in an email, SMS, or in printed form.
- Password—Required. Applies to all guests using end-user portals (except Hotspot Guest portals) and is derived from the password policy. You can configure the policy settings that apply to passwords at **Guest Access** > **Settings** > **Guest Password Policy**. Guests can be notified of their password in an email, SMS, or in printed form.
- Access code—Optional. Applies to guests using the Hotspot Guest and Credentialed Guest portals. An access code is primarily a locally known code that is given to physically present guests (either visually via a whiteboard or verbally by a lobby ambassador). It would not be known and used by someone outside the premises to gain access to the network. If the Access code setting is enabled:
    - Sponsored guests are prompted to enter it on the Login page (along with a username and password).
    - Guests using the Hotspot Guest portal are prompted to enter it on the Acceptable Use Policy (AUP) page.
- Registration code—Optional. Applies to self-registering guests and is similar to an access code in how it is provided to the self-registering guests. If the Registration code setting is enabled, self-registering guests are prompted to enter it on the Self-Registration form.

The username and password can be provided by a sponsor at your company (for sponsored guests), or a Credentialed Guest portal can be configured to allow guests to register themselves to obtain these credentials.

Guest Access with Hotspot Guest Portals

Cisco ISE provides network access functionality that includes “hotspots,” which are access points that guests can use to access the Internet without requiring credentials to log in. When guests connect to the hotspot network with a computer or any device with a web browser and attempt to connect to a website, they are automatically redirected to a Hotspot Guest portal. Both wired and wireless (Wi-Fi) connections are supported with this functionality.

The Hotspot Guest portal is an alternative Guest portal that allows you to provide network access without requiring guests to have usernames and passwords and alleviates the need to manage guest accounts. Instead, Cisco ISE works together with the network access device (NAD) and Device Registration Web Authentication (Device Registration WebAuth) to grant network access directly to the guest devices. Sometimes, guests may be required to log in with an access code. Typically, this is a code that is locally provided to guests who are physically present on a company’s premises.

If you support the Hotspot Guest portal:

- Based on the Hotspot Guest portal configuration and settings, guests are granted access to the network if the guest access conditions are met.

- Cisco ISE provides you with a default guest identity group, GuestEndpoints, which enables you to cohesively track guest devices.

Guest Access with Credentialed Guest Portals

You can use a credentialed Guest portal to identify and authorize temporary access for external users to internal networks and services, as well as to the Internet. Sponsors can create temporary usernames and passwords for authorized visitors who can access the network by entering these credentials in the portal's Login page.

You can set up a credentialed Guest portal so that guests can log in using a username and password that is obtained:

- From a sponsor. In this guest flow, guests are greeted by a sponsor, such as a lobby ambassador, when they enter company premises and are set up with individual guest accounts.
- After they register themselves, using an optional registration code or access code. In this guest flow, guests are able to access the Internet without any human interaction and Cisco ISE ensures that these guests have unique identifiers that can be used for compliance.
- After they register themselves, using an optional registration code or access code, but only after the request for a guest account is approved by a sponsor. In this guest flow, guests are provided access to the network, but only after an additional level of screening is done.

You can also force the user to enter a new password when logging in.

Cisco ISE enables you to create multiple credentialed Guest portals, which you can use to allow guest access based on different criteria. For example, you might have a portal for monthly contractors that is separate from the portal used for daily visitors.

Employee Access with Credentialed Guest Portals

Employees can also access the network using Credentialed Guest Portals by signing in using their employee credentials, as long as their credentials can be accessed by the identity source sequence configured for that portal.

Configure Periodic AUP Acceptance

Browse to **Policy** > **Authorization**, and create a new authorization rule at the top of the list that redirects the Guest user to a credentialed portal when the AUP period has expired. Use conditions to compare LastAUPAcceptanceHours against the desired maximum hours, for example, LastAUPAcceptanceHours > 8 . You can check for a range of hours from 8 to 999.

What to Do Next

To verify that the endpoint has received the AUP settings:

1. Choose **Administration** > **Identities** > **EndPoints**.

2 Click an endpoint to verify that the endpoint has the time that the AUP was last accepted (*AUPAcceptedTime*).

Guest Device Compliance

When guests and non-guests access the network through credentialed Guest portals, you can check their devices for compliance before they are allowed to gain access. You can route them to a Client Provisioning page and require them to first download the posture agent that checks their posture profile and verifies if their device is compliant. You can do this by enabling the option in the **Guest Device Compliance Settings** in a credentialed Guest portal, which displays the Client Provisioning page as part of the guest flow.

The Client Provisioning service provides posture assessments and remediations for guests. The Client Provisioning portal is available only with a Central Web Authorization (CWA) guest deployment. The guest login flow performs a CWA, and the credentialed Guest portal is redirected to the Client Provisioning portal after performing acceptable-use-policy and change-password checks. The posture subsystem performs a Change of Authorization (CoA) on the network access device to reauthenticate the client connection once the posture has been assessed.

Guest Portals Configuration Tasks

You can use a default portal and its default settings such as certificates, endpoint identity group, identity source sequence, portal themes, images, and other details provided by Cisco ISE. If you do not want to use the default settings, you should create a new portal or edit an existing one to meet your needs. You can duplicate a portal if you want to create multiple portals with the same settings.

After creating a new portal or editing a default one, you must authorize the portal for use. Once you authorize a portal for use, any subsequent configuration changes you make are effective immediately.

If you choose to delete a portal, you must first delete any authorization policy rules and authorization profiles associated with it or modify them to use another portal.

Use this table for the tasks related to configuring the different Guest portals.

Task	Hotspot Guest Portal	Sponsored-Guest Portal	Self-Registered Guest Portal
Enable Policy Services, on page 24	Required	Required	Required
Add Certificates for Guest Portals, on page 24	Required	Required	Required
Create External Identity Sources, on page 25	Not applicable	Required	Required
Create Identity Source Sequences, on page 25	Not applicable	Required	Required
Create Endpoint Identity Groups	Required	Not required (defined by guest type)	Not required (defined by guest type)

Task	Hotspot Guest Portal	Sponsored-Guest Portal	Self-Registered Guest Portal
Create a Hotspot Guest Portal, on page 27	Required	Not applicable	Not applicable
Create a Sponsored-Guest Portal, on page 28	Not applicable	Required	Not applicable
Create a Self-Registered Guest Portal, on page 29	Not applicable	Not applicable	Required
Authorize Portals, on page 31	Required	Required	Required
Customize Guest Portals, on page 32	Optional	Optional	Optional

Enable Policy Services

To support the Cisco ISE end-user web portals, you must enable portal-policy services on the node on which you want to host them.

Step 1 Choose **Administration** > **System** > **Deployment**

Step 2 Click the node and click **Edit**.

Step 3 On the General Settings tab, check **Policy Service**.

Step 4 Check the **Enable Session Services** option.

Step 5 Click **Save**.

Add Certificates for Guest Portals

If you do not want to use the default certificates, you can add a valid certificate and assign it to a certificate group tag. The default certificate group tag used for all end-user web portals is Default Portal Certificate Group.

Step 1 Chose **Administration** > **System** > **Certificates** > **System Certificates**.

Step 2 Add a system certificate and assign it to a certificate group tag that you want to use for the portal.

This certificate group tag will be available to select during portal creation or editing.

Step 3 Choose **Guest Access** > **Configure** > **Guest Portals** > **Create or Edit** > **Portal Settings**.

Step 4 Select the specific certificate group tag from the **Certificate group tag** drop-down list that is associated with the newly added certificate.

Create External Identity Sources

Cisco ISE can connect with external identity sources such as Active Directory, LDAP, RADIUS Token, and RSA SecurID servers to obtain user information for authentication and authorization. External identity sources also includes certificate authentication profiles that you need for certificate-based authentications.

Step 1 Choose **Administration** > **Identity Management** > **External Identity Sources**.

Step 2 Choose one of these options:

- **Certificate Authentication Profile** for certificate-based authentications.
- **Active Directory** to connect to an Active Directory as an external identity source (see Active Directory as an External Identity Source for more details).
- **LDAP** to add an LDAP identity source (see LDAP for more details).
- **RADIUS Token** to add a RADIUS Token server (see RADIUS Token Identity Sources for more details).
- **RSA SecurID** to add an RSA SecurID server (see RSA Identity Sources for more details).
- **SAML Id Providers** to add an identity provider (IdP), such as Oracle Access Manager (see SAMLv2 Identity Provider as an External Identity Source for more details).

Create Identity Source Sequences

Before You Begin

Ensure that you have configured your external identity sources in Cisco ISE.

To perform the following task, you must be a Super Admin or System Admin.

For allowing guest users to authenticate through Local WebAuth, you must configure both the Guest Portal authentication source and the identity source sequence to contain the same identity stores.

Step 1 Choose **Administration** > **Identity Management** > **Identity Source Sequences** > **Add**.

Step 2 Enter a name for the identity source sequence. You can also enter an optional description.

Step 3 Check the **Select Certificate Authentication Profile** check box and choose a certificate authentication profile for certificate-based authentication.

Step 4 Choose the database or databases that you want to include in the identity source sequence in the **Selected List** box.

Step 5 Rearrange the databases in the **Selected list** in the order in which you want Cisco ISE to search the databases.

Step 6 Choose one of the following options in the **Advanced Search List** area:

- **Do not access other stores in the sequence and set the AuthenticationStatus attribute to ProcessError —**If you want Cisco ISE to discontinue the search, if the user is not found in the first selected identity source.
- **Treat as if the user was not found and proceed to the next store in the sequence —**If you want Cisco ISE to continue searching the other selected identity sources in sequence, if the user is not found in the first selected identity source.

  While processing a request, Cisco ISE searches these identity sources in sequence. Ensure that you have the identity sources in the Selected list box listed in the order in which you want Cisco ISE to search them.

Step 7 Click **Submit** to create the identity source sequence that you can then use in policies.

Create Endpoint Identity Groups

Cisco ISE groups endpoints that it discovers in to the corresponding endpoint identity groups. Cisco ISE comes with several system-defined endpoint identity groups. You can also create additional endpoint identity groups from the Endpoint Identity Groups page. You can edit or delete the endpoint identity groups that you have created. You can only edit the description of the system-defined endpoint identity groups; you cannot edit the name of these groups or delete them.

Step 1 Choose **Administration** > **Identity Management** > **Groups** > **Endpoint Identity Groups**.

Step 2 Click **Add**.

Step 3 Enter the name for the endpoint identity group that you want to create (do not include spaces in the name of the endpoint identity group).

Step 4 Enter the description for the endpoint identity group that you want to create.

Step 5 Click the **Parent Group** drop-down list to choose an endpoint identity group to which you want to associate the newly created endpoint identity group.

Step 6 Click **Submit**.

Create a Hotspot Guest Portal

You can provide a Hotspot Guest portal to enable guests to connect to your network without requiring a username and password to log in. An access code can be required to log in.

You can create a new Hotspot Guest portal, or you can edit or duplicate an existing one. You can delete any Hotspot Guest portal, including the default portal provided by Cisco ISE.

Any changes that you make to the Page Settings on the **Portal Behavior and Flow Settings** tab are reflected in the graphical flow in the Guest Flow diagram. If you enable a page, such as the AUP page, it appears in the flow and the guest will experience it in the portal. If you disable it, it is removed from the flow and the next enabled page displays for the guest.

All the Page Settings, except the Authentication Success Settings, are optional.

Before You Begin

Ensure that you have the required certificates and endpoint identity groups configured for use with this portal.

Ensure that the WLC that guests will connect to for the Hotspot portal is supported by ISE. See the **Cisco Identity Services Engine Network Component Compatibility** guide for your release, for example, http://www.cisco.com/c/en/us/td/docs/security/ise/2-1/compatibility/ise_sdt.html.

Step 1 Choose **Guest Access** > **Configure** > **Guest Portals** > **Create, Edit or Duplicate**.

Step 2 If creating a new portal, in the **Create Guest Portal** dialog box, select **Hotspot Guest Portal** as the portal type and click **Continue**.

Step 3 Provide a unique **Portal Name** and a **Description** for the portal.
Ensure that the portal name that you use here is not used for any other end-user portals.

Step 4 Use the **Language File** drop-down menu to export and import language files to use with the portal.

Step 5 Update the default values for ports, Ethernet interfaces, certificate group tags, endpoint identity groups, and so on in **Portal Settings**, and define behavior that applies to the overall portal.

Step 6 Update the following settings, which apply to each of the specific pages:

- **Acceptable Use Policy (AUP) Page Settings—**Require guests to accept an acceptable use policy.
- **Post-Access Banner Page Settings—**Inform guests of their access status and any other additional actions, if required.
- **VLAN DHCP Release Page Settings—**Release the guest device IP address from the guest VLAN and renew it to access another VLAN on the network.
- **Authentication Success Settings—**Specify what guests should see once they are authenticated.
- **Support Information Page Settings—**Help guests provide information that the Help Desk can use to troubleshoot network access issues.

Step 7 Click **Save**. A system-generated URL displays as the **Portal test URL**, which you can use to access the portal and test it.

What to Do Next

You must authorize the portal in order to use it. You can also customize your portal either before or after you authorize it for use.

Create a Sponsored-Guest Portal

You can provide a Sponsored-Guest portal to enable designated sponsors to grant access to guests.

You can create a new Sponsored-Guest portal, or you can edit or duplicate an existing one. You can delete any Sponsored-Guest portal, including the default portal provided by Cisco ISE.

Any changes that you make to the Page Settings on the **Portal Behavior and Flow Settings** tab are reflected in the graphical flow in the Guest Flow diagram. If you enable a page, such as the AUP page, it appears in the flow and the guest will experience it in the portal. If you disable it, it is removed from the flow and the next enabled page displays for the guest.

All these page settings enable you to display an Acceptable Use Policy (AUP) for a guest and require its acceptance:

- Login Page Settings
- Acceptable Use Policy (AUP) Page Settings
- BYOD Settings

Before You Begin

Ensure that you have the required certificates, external identity sources, and identity source sequences configured for use with this portal.

Step 1 Choose **Guest Access** > **Configure** > **Guest Portals** > **Create, Edit or Duplicate**.

Step 2 If creating a new portal, in the **Create Guest Portal** dialog box, select **Sponsored-Guest Portal** as the portal type and click **Continue**.

Step 3 Provide a unique **Portal Name** and a **Description** for the portal.
Ensure that the portal name that you use here is not used for any other end-user portals.

Step 4 Use the **Language File** drop-down menu to export and import language files to use with the portal.

Step 5 Update the default values for ports, Ethernet interfaces, certificate group tags, identity source sequences, authentication method, and so on in **Portal Settings**, and define behavior that applies to the overall portal.

Step 6 Update the following settings, which apply to each of the specific pages:

- **Login Page Settings—**Specify guest credential and login guidelines. If you select the **Allow guests to create their accounts** option, users will be able to create their own guest accounts. If this option is not selected, sponsors will be required to create guest accounts.

  Note Login Page Settings option will be disabled if you have selected an identity provider (IdP) in the Authentication Method field.

- **Acceptable Use Policy (AUP) Page Settings—**Add a separate AUP page and define the acceptable use policy behavior for guests, including employees who use the credentialed Guest portals.
- **Employee Change Password Settings—**Require guests to change their password after the first time they log in.

- **Guest Device Registration Settings—**Select whether Cisco ISE automatically registers guest devices or displays a page where guests can manually register their devices.
- **BYOD Settings—**Let employees use their personal devices to access the network.
- **Post-Login Banner Page Settings—**Notify guests of additional information before they are granted network access.
- **Guest Device Compliance Settings—**Route guests to the Client Provisioning page and require them to first download the posture agent.
- **VLAN DHCP Release Page Settings—**Release the guest device IP address from the guest VLAN and renew it to access another VLAN on the network.
- **Authentication Success Settings—**Specify what guests should see once they are authenticated.
- **Support Information Page Settings—**Help guests provide information that the Help Desk can use to troubleshoot network access issues.

Step 7 Click **Save**. A system-generated URL displays as the **Portal test URL**, which you can use to access the portal and test it.

What to Do Next

Note The test portal does not support RADIUS sessions, so you won't see the entire portal flow for all portals. BYOD and Client Provisioning are examples of portals that depend on RADIUS sessions. For example, a redirect to an external URL will not work.

You must authorize the portal in order to use it. You can also customize your portal either before or after you authorize it for use.

Create a Self-Registered Guest Portal

You can provide a Self-Registered Guest portal to enable guests to register themselves and create their own accounts so they can access the network. You can still require that these accounts be approved by a sponsor before access is granted.

You can create a new Self-Registered Guest portal, or you can edit or duplicate an existing one. You can delete any Self-Registered Guest portal, including the default portal provided by Cisco ISE.

Any changes that you make to the Page Settings on the **Portal Behavior and Flow Settings** tab are reflected in the graphical flow in the Guest Flow diagram. If you enable a page, such as the AUP page, it appears in the flow and the guest will experience it in the portal. If you disable it, it is removed from the flow and the next enabled page displays for the guest.

All these page settings enable you to display an Acceptable Use Policy (AUP) for a guest and require its acceptance:

- Login Page Settings
- Self-Registration Page Settings

- Self-Registration Success Page Settings
- Acceptable Use Policy (AUP) Page Settings
- BYOD Settings

Before You Begin

Ensure that you have configured the required certificates, external identity sources, and identity source sequences for this portal.

Step 1 Choose **Guest Access** > **Configure** > **Guest Portals** > **Create, Edit or Duplicate.**.

Step 2 If creating a new portal, in the **Create Guest Portal** dialog box, select **Self-Registered Guest Portal** as the portal type and click **Continue**.

Step 3 Provide a unique **Portal Name** and a **Description** for the portal.
Ensure that the portal name that you use here is not used for any other end-user portals.

Step 4 Use the **Language File** drop-down menu to export and import language files to use with the portal.

Step 5 In **Portal Settings**, update the default values for ports, Ethernet interfaces, certificate group tags, identity source sequences, authentication method,, and other settings that define behavior of this portal.
For more information about Portal Settings fields, see Portal Settings for Credentialed Guest Portals.

Step 6 Update the following settings, which apply to each of the specific pages:

- **Login Page Settings—**Specify guest credential and login guidelines. For more information, see Login Page Settings for Credentialed Guest Portals.
- **Self-Registration Success Page Settings—**Specify the information that will be displayed to the successfully self-registered guests on the Self-Registration Success page and their guest experience once they are registered in Cisco ISE.
- **Self-Registration Page Settings—**Specify the information self-registering guests will read and should enter on the Self-Registration form, in addition to the guest experience after they have submitted the form.
- **Acceptable Use Policy (AUP) Page Settings—**Add a separate AUP page and define the acceptable use policy behavior for guests, including employees who use the credentialed Guest portals.
- **Employee Change Password Settings—**Require guests to change their password after the first time they log in.
- **Guest Device Registration Settings—**Select whether Cisco ISE automatically registers guest devices or displays a page where guests can manually register their devices.
- **BYOD Settings—**Let employees use their personal devices to access the network.
- **Post-Login Banner Page Settings—**Notify guests of additional information before they are granted network access.
- **Guest Device Compliance Settings—**Route guests to the Client Provisioning page and require them to first download the posture agent.
- **VLAN DHCP Release Page Settings—**Release the guest device IP address from the guest VLAN and renew it to access another VLAN on the network.
- **Authentication Success Settings—**Specify where to direct guests after they are authenticated. If you redirect a Guest to an external URL after authentication, there may be a delay while the URL address is resolved and the session is redirected.

- **Support Information Page Settings—**Help guests provide information that the Help Desk can use to troubleshoot network access issues.

Step 7 Click **Save**. A system-generated URL displays as the **Portal test URL**, which you can use to access the portal and test it.

What to Do Next

Note The test portal does not support RADIUS sessions, so you won't see the entire portal flow for all portals. BYOD and Client Provisioning are examples of portals that depend on RADIUS sessions. For example, a redirect to an external URL will not work.

You must authorize the portal in order to use it. You can also customize your portal either before or after you authorize it for use.

Authorize Portals

When you authorize a portal, you are setting up the network authorization profiles and rules for network access.

Before You Begin

You must create a portal before you can authorize it.

Step 1 Set up a special authorization profile for the portal.

Step 2 Create an authorization policy rule for the profile.

Create Authorization Profiles

Each portal requires that you set up a special authorization profile for it.

Before You Begin

If you do not plan to use a default portal, you must first create the portal so you can associate the portal name with the authorization profile.

Step 1 Choose **Policy** > **Policy Elements** > **Results** > **Authorization** > **Authorization Profiles**.

Step 2 Create an authorization profile using the name of the portal that you want to authorize for use.

What to Do Next

You should create a portal authorization policy rule that uses the newly created authorization profile.

Create Authorization Policy Rules for Hotspot and MDM Portals

To configure the redirection URL for a portal to use when responding to the users' (guests, sponsors, employees) access requests, define an authorization policy rule for that portal.

The url-redirect takes the following form based on the portal type, where:

ip:port = the IP address and port number

PortalID = the unique portal name

For a Hotspot Guest portal:
https://*ip:port*/guestportal/gateway?sessionID=SessionIdValue&portal=*PortalID*&action=cwa&type=drw

For a Mobile Device Management (MDM) portal:
https://*ip:port*/mdmportal/gateway?sessionID=SessionIdValue&portal=*PortalID*&action=mdm

Step 1 Choose **Policy** > **Authorization** to create a new authorization policy rule under **Standard** policies.
If you enabled Policy Sets, choose **Policy** > **Policy Set**, pick the Policy Set you plan to use for this portal, expand Authorization Policy, and add a new rule.

Step 2 For **Conditions**, select an endpoint identity group that you want to use for the portal validation. For example, for the Hotspot Guest portal, select the default **GuestEndpoints** endpoint identity group and, for the MDM portal, select the default **RegisteredDevices** endpoint identity group.

Note Because the Hotspot Guest portal only issues a Termination CoA, do not use Network Access:UseCase EQUALS Guest Flow as one of the validation conditions in the Guest authorization policy. Instead, match the Identity Group that the endpoint belongs to for validation. For example,

- If "GuestEndpoint" + Wireless MAB then Permit Access
- If Wireless MAB then HotSpot Redirect

Step 3 For **Permissions**, select the portal authorization profile that you created.

Customize Guest Portals

You can customize the portal appearance and user (guests, sponsors, or employees as applicable) experience by customizing the portal themes, changing UI elements on the portal pages, and editing error messages and notifications that display to the users.

Sponsor Portals

The Sponsor portal is one of the primary components of Cisco ISE guest services. Using the Sponsor portal, sponsors can create and manage temporary accounts for authorized visitors to securely access the corporate network or the Internet. After creating a guest account, sponsors also can use the Sponsor portal to provide account details to the guest by printing, emailing, or texting. Before providing self-registering guests access to the company network, sponsors may be requested via email to approve their guests' accounts.

Configure a Sponsor Portal

You can use a default portal and its default settings such as certificates, endpoint identity group, identity source sequence, portal themes, images, and other details provided by Cisco ISE. If you do not want to use the default settings, you should create a new portal or edit an existing one to meet your needs. You can duplicate a portal if you want to create multiple portals with the same settings.

You may want to create multiple sponsor portals if your company has different branding for your corporate office and its retail locations, or if your company has different product brands, or if a city's offices want different themed portals for the fire, police, and other departments.

These are the tasks related to configuring a Sponsor portal.

Step 1 Enable Policy Services, on page 33.

Step 2 Add Certificates for Guest Services, on page 34.

Step 3 Create External Identity Sources, on page 34.

Step 4 Create Identity Source Sequences, on page 34.

Step 5 Create a Sponsor Portal, on page 35.

Step 6 (Optional) Customize Sponsor Portals, on page 36.
You can customize the portal if you want to change its appearance.

Enable Policy Services

To support the Cisco ISE end-user web portals, you must enable portal-policy services on the node on which you want to host them.

Step 1 Choose **Administration** > **System** > **Deployment**

Step 2 Click the node and click **Edit**.

Step 3 On the General Settings tab, check **Policy Service**.

Step 4 Check the **Enable Session Services** option.

Step 5 Click **Save**.

Add Certificates for Guest Services

If you do not want to use the default certificates, you can add a valid certificate and assign it to a certificate group tag. The default certificate group tag used for all end-user web portals is Default Portal Certificate Group.

Step 1 Chose **Administration** > **System** > **Certificates** > **System Certificates**.

Step 2 Add a system certificate and assign it to a certificate group tag that you want to use for the portal.
This certificate group tag will be available to select during portal creation or editing.

Step 3 Choose **Guest Access** > **Configure** > **Sponsor Portals** > **Create or Edit** > **Portal Settings**.

Step 4 Select the specific certificate group tag from the **Certificate Group Tag** drop-down list that is associated with the newly added certificate.

Create External Identity Sources

Cisco ISE can connect with external identity sources such as Active Directory, LDAP, RADIUS Token, and RSA SecurID servers to obtain user information for authentication and authorization. External identity sources also includes certificate authentication profiles that you need for certificate-based authentications.

Step 1 Choose **Administration** > **Identity Management** > **External Identity Sources**.

Step 2 Choose one of these options:

- **Certificate Authentication Profile** for certificate-based authentications.
- **Active Directory** to connect to an Active Directory as an external identity source (see Active Directory as an External Identity Source for more details).
- **LDAP** to add an LDAP identity source (see LDAP for more details).
- **RADIUS Token** to add a RADIUS Token server (see RADIUS Token Identity Sources for more details).
- **RSA SecurID** to add an RSA SecurID server (see RSA Identity Sources for more details).
- **SAML Id Providers** to add an identity provider (IdP), such as Oracle Access Manager (see SAMLv2 Identity Provider as an External Identity Source for more details).

Create Identity Source Sequences

Before You Begin

Ensure that you have configured your external identity sources in Cisco ISE.

To perform the following task, you must be a Super Admin or System Admin.

For allowing guest users to authenticate through Local WebAuth, you must configure both the Guest Portal authentication source and the identity source sequence to contain the same identity stores.

Step 1 Choose **Administration** > **Identity Management** > **Identity Source Sequences** > **Add**.

Step 2 Enter a name for the identity source sequence. You can also enter an optional description.

Step 3 Check the **Select Certificate Authentication Profile** check box and choose a certificate authentication profile for certificate-based authentication.

Step 4 Choose the database or databases that you want to include in the identity source sequence in the **Selected List** box.

Step 5 Rearrange the databases in the **Selected list** in the order in which you want Cisco ISE to search the databases.

Step 6 Choose one of the following options in the **Advanced Search List** area:

- **Do not access other stores in the sequence and set the AuthenticationStatus attribute to ProcessError** —If you want Cisco ISE to discontinue the search, if the user is not found in the first selected identity source.
- **Treat as if the user was not found and proceed to the next store in the sequence** —If you want Cisco ISE to continue searching the other selected identity sources in sequence, if the user is not found in the first selected identity source.

  While processing a request, Cisco ISE searches these identity sources in sequence. Ensure that you have the identity sources in the Selected list box listed in the order in which you want Cisco ISE to search them.

Step 7 Click **Submit** to create the identity source sequence that you can then use in policies.

Create a Sponsor Portal

You can provide a Sponsor portal to enable sponsors to create, manage, and approve accounts for guests who want to connect to your network to access the internet and internal resources and services.

Cisco ISE provides you with a default Sponsor portal that you can use without having to create another one. However, you can create a new Sponsor portal, or you can edit or duplicate an existing one. You can delete any of these portals, except the default Sponsor portal.

Any changes that you make to the Page Settings on the **Portal Behavior and Flow Settings** tab are reflected in the graphical flow in the Sponsor Flow diagram. If you enable a page, such as the AUP page, it appears in the flow and the sponsor will experience it in the portal. If you disable it, it is removed from the flow and the next enabled page displays for the sponsor.

Before You Begin

Ensure that you have the required certificates, external identity sources, and identity source sequences configured for use with this portal.

Step 1 Configure the **Portal Settings** page, as described in Portal Settings for Sponsor Portals.

Ensure that the portal name that you use here is not used for any other end-user portals.

Step 2 Configure the **Login Settings** page , as described in Login Settings for Sponsor Portals.

Step 3 Configure the **Acceptable Use Policy (AUP) Page Settings** page, as described in Acceptable Use Policy (AUP) Settings for Sponsor Portals .

Step 4 Configure the **Sponsor Change Password Settings** page, as described in Set the Guest Password Policy and Expiration, on page 13 and in Rules for Guest Password Policies, on page 12.

Step 5 Configure the **Post-Login Banner Page Settings** page, as described in Post-Login Banner Settings for Sponsor Portals.

Step 6 **Sponsor Portal Application Settings** refers you to the Portal Customization tab if you with to customize the portal.

Step 7 Click **Save**.

Customize Sponsor Portals

You can customize the portal appearance and user (guests, sponsors, or employees as applicable) experience by customizing the portal themes, changing UI elements on the portal pages, and editing error messages and notifications that display to the users.

Sponsors Cannot Log In to the Sponsor Portal

Problem

The following error message appears when a sponsor tries to log in to the Sponsor portal:

```
“Invalid username or password. Please try again.”
```

Causes

- The sponsor has entered invalid credentials.
- The sponsor is not valid because the user record is not present in the database (Internal Users or Active Directory).
- The sponsor group to which the sponsor belongs is disabled.
- The Sponsor's user account is not a member of an active/enabled Sponsor Group, which means the Sponsor user's Identity Group is not a member of any Sponsor Group.
- The sponsor’s internal user account is disabled (suspended).

Solution

- Verify the user’s credentials.
- Enable the sponsor group.
- Reinstate the user account if disabled.
- Add the sponsor user's Identity Group as a member of a Sponsor Group.

Monitor Guest and Sponsor Activity

Cisco ISE provides various reports and logs that allow you to view endpoint and user management information and guest and sponsor activity. Some of the Cisco ISE 1.2 reports have been deprecated, but the information can be viewed in other reports.

You can run these reports either on demand or on a scheduled basis.

Step 1 Choose **Operations** > **Reports**.

Step 2 Under the Report Selector, expand the **Guest Access Reports** and **Endpoints and Users** selections to view the various guest, sponsor, and endpoint related reports.

Step 3 Select the report and choose the data with which you want to search using the **Filters** drop-down list.
You can use filters on username, portal name, device name, endpoint identity group and other such data.

Step 4 Select the **Time Range** during which you want to view the data.

Step 5 Click **Run**.

Metrics Dashboard

Cisco ISE provides an at-a-glance view of **Authenticated Guests** and **Active Endpoints**in the network in a metrics dashboard that appears on the Cisco ISE Home page.

AUP Acceptance Status Report

The AUP Acceptance Status report displays the acceptance status of the Acceptable Use Policy (AUP) by guests from all the Guest portals. This report is available at: **Operations** > **Reports** > **Guest Access Reports** > **AUP Acceptance Status**.

You can use the report to track all the accepted and denied AUP connections for a given period of time.

Guest Accounting Report

The Guest Accounting report displays the guest login history for an indicated time period. This report is available at: **Operations** > **Reports** > **Guest Access Reports** > **Guest Accounting**.

Master Guest Report

The Master Guest report combines data from various reports into a single view enabling you to export data from different reporting sources. You can add more data columns and remove the ones you do not want to view or export. This report is available at **Operations** > **Reports** > **Guest Access Reports** > **Master Guest**. It now includes information that used to be in the deprecated Guest Activity Report.

This report collects all guest activity and provides details about the websites that guest users visit. You can use this report for security auditing purposes to see when guest users accessed the network and what they did on it. To view the guests' Internet activity, such as the URLs of the websites that they visited, you must first:

- Enable the passed authentications logging category. Choose **Administration** > **System** > **Logging** > **Logging Categories** and select Passed authentications.
- Enable these options on the firewall used for guest traffic:
  - Inspect HTTP traffic and send data to Cisco ISE Monitoring node. Cisco ISE requires only the IP address and accessed URL for the Guest Activity report; so, limit the data to include just this information, if possible.
  - Send syslogs to Cisco ISE Monitoring node.

Sponsor Login and Audit Report

The Sponsor Login and Audit report is a combined report that tracks:

- Login activity by the sponsors at the Sponsor portal.
- Guest-related operations performed by the sponsors in the Sponsor portal.

This report is available at **Operations** > **Reports** > **Guest Access Reports** > **Sponsor Login and Audit**.

Audit Logging for Guest and Sponsor Portals

During specific actions within the Guest and Sponsor portals, audit log messages are sent to the underlying audit system. By default, these messages appear in the /opt/CSCOcpm/logs/localStore/iseLocalStore.log file.

You can configure these messages to be sent by syslog to the monitoring and troubleshooting system and log collector. The monitoring subsystem presents this information in the appropriate sponsor and device audit logs and guest activity logs.

Guest login flow is logged in the audit logs regardless of whether the guest login has passed or failed.

Guest Access Deployment Scenarios

Cisco ISE supports several deployment options to enable secure guest access through Cisco ISE Guest and Web Authentication Services. You can provide wired or wireless guest connectivity using Local or Central Web Authentication and Device Registration Web Authentication.

- Central Web Authentication (Central WebAuth)—Applies to all Guest portals. Web authentication is done by a central Cisco ISE RADIUS server for both wired and wireless connection requests. Authentication of the guest device is done after an optional access code is entered by the guest at the Hotspot Guest portals and a username and password are entered by the guest at the Credentialed Guest portals.
- Local Web Authentication (Local WebAuth)—Applies to the Credentialed Guest portals. Serving of the web pages to the guest is done locally either on a network access device (NAD) such as a switch for a wired connection or by the wireless LAN controller (WLC) for a wireless connection. Authentication

of the guest device is done after a username and password are entered by the guest at the Credentialed Guest portals.

- Device Registration Web Authentication (Device Registration WebAuth)—Applies only to the Hotspot Guest portal. Web authentication is done after the guest device is registered and authorized for use by Cisco ISE. Guests are directed to the Hotspot Guest portal where they can gain access to the network through either a wired or wireless connection (without entering a username or password).

NAD with Central WebAuth Process

In this scenario, the network access device (NAD) makes a new authorization request to the Cisco ISE RADIUS server from an unknown endpoint connection. The endpoint then receives a url-redirect to Cisco ISE.

Note webauth-vrf-aware command is supported only in IOS XE 3.7E, IOS 15.2(4)E or later versions. Other switches do not support WebAuth URL redirect in virtual routing and forwarding (VRF) environment. In such cases, as a workaround, you can add a route in the global routing table to leak the traffic back into the VRF.

If the guest device is connected to a NAD, the guest service interaction takes the form of a MAC Authentication Bypass (MAB) request that leads to a Guest portal Central WebAuth login. The following is an outline of the subsequent Central Web Authentication (Central WebAuth) process, which applies to both wireless and wired network access devices.

1. The guest device connects to the NAD through a hard-wired connection. There is no 802.1X supplicant on the guest device.
2. An authentication policy with a service type for MAB allows a MAB failure to continue and return a restricted network profile containing a url-redirect for the Central WebAuth user interface.
3. The NAD is configured to authenticate MAB requests to the Cisco ISE RADIUS server.
4. The Cisco ISE RADIUS server processes the MAB request and does not find an endpoint for the guest device.

   This MAB failure resolves to the restricted network profile and returns the url-redirect value in the profile to the NAD in an access-accept. To support this function, ensure that an authorization policy exists and features the appropriate wired or wireless MAB (under compound conditions) and, optionally, “Session:Posture Status=Unknown” conditions. The NAD uses this value to redirect all guest HTTPS traffic on the default port 8443 to the url-redirect value.

   The standard URL value in this case is: https://ip:port/guestportal/gateway?sessionId=NetworkSessionId&portal=<PortalID>&action=cwa.
5. The guest device initiates an HTTP request to redirect URL via a web browser.
6. The NAD redirects the request to the url-redirect value returned from the initial access-accept.
7. The gateway URL value with action CWA redirects to the Guest portal login page.
8. The guest enters their login credentials and submits the login form.
9. The guest server authenticates the login credentials.
10. Depending on the type of flow, the following occurs:

- If it is a non-posture flow (authentication without further validation), where the Guest portal is not configured to perform client provisioning, the guest server sends a CoA to the NAD. This CoA causes the NAD to reauthenticate the guest device using the Cisco ISE RADIUS server. A new access-accept is returned to the NAD with the configured network access. If client provisioning is not configured and the VLAN needs to be changed, the Guest portal performs VLAN IP renew. The guest does not have to re-enter login credentials. The username and password entered for the initial login are used automatically.
- If it is a posture flow, where the Guest portal is configured to perform client provisioning, the guest device web browser displays the Client Provisioning page for posture agent installation and compliance. (You can also optionally configure the client provisioning resource policy to feature a "NetworkAccess:UseCase=GuestFlow" condition.)

Because there is no client provisioning or posture agent for Linux, the Guest portal redirects to the Client Provisioning portal, which in turn redirects back to a guest authentication servlet to perform optional IP release/renew and then CoA.

With redirection to the Client Provisioning portal, the Client Provisioning service downloads a non-persistent web agent to the guest device and performs a posture check of the device. (You can optionally configure the posture policy with a "NetworkAccess:UseCase=GuestFlow" condition.)

If the guest device is non-compliant, ensure that you have configured an authorization policy that features "NetworkAccess:UseCase=GuestFlow" and "Session:Posture Status=NonCompliant" conditions.

When the guest device is compliant, ensure that you have an authorization policy configured with the conditions "NetworkAccess:UseCase=GuestFlow" and "Session:Posture Status=Compliant." From here, the Client Provisioning service issues a CoA to the NAD. This CoA causes the NAD to reauthenticate the guest using the Cisco ISE RADIUS server. A new access-accept is returned to the NAD with the configured network access.

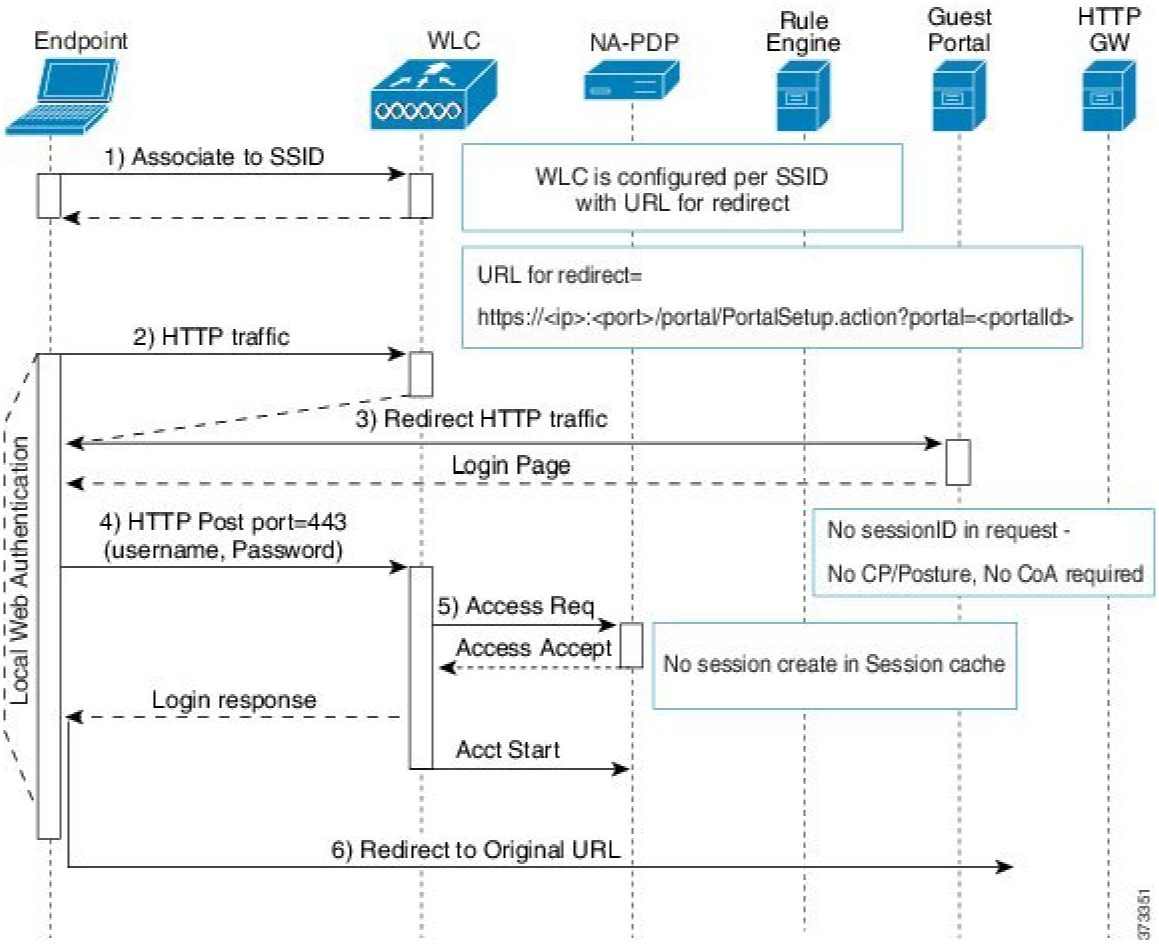
Note "NetworkAccess:UseCase=GuestFlow" can also apply for Active Directory (AD) and LDAP users who log in as guests.

Wireless LAN Controller with Local WebAuth Process

In this scenario, the guest logs in and is directed to the wireless LAN controller (WLC). The WLC then redirects the guest to a Guest portal, where they are prompted to enter their login credentials, accept an optional Acceptable Use Policy (AUP), and perform an optional password change. When this is complete, the guest device's browser is redirected back to the WLC to provide login credentials via a POST.

The WLC can now log the guest in via the Cisco ISE RADIUS server. When this is complete, the WLC redirects the guest device's browser to the original URL destination. The Wireless LAN Controller (WLC) and the network access devices (NAD) requirements to support the original URL redirect for guest portals are WLC 5760 and Cisco Catalyst 3850, 3650, 2000, 3000, and 4000 Series Access Switches running releases IOS-XE 3.6.0.E and 15.2(2)E.

Figure 1: WLC with Local WebAuth Non-Posture Flow


Endpoint
WLC
NA-PDP
Rule Engine
Guest Portal
HTTP GW
1) Associate to SSID
WLC is configured per SSID with URL for redirect
URL for redirect=
https://<ip>:<port>/portal/PortalSetup.action?portal=<portalId>
2) HTTP traffic
3) Redirect HTTP traffic
Login Page
Local Web Authentication
4) HTTP Post port=443 (username, Password)
No sessionID in request - No CP/Posture, No CoA required
5) Access Req
Access Accept
No session create in Session cache
Login response
Acct Start
6) Redirect to Original URL
373351

Wired NAD with Local WebAuth Process

In this scenario, the Guest portal redirects the guest login request to the switch (wired NAD). The login request is in the form of an HTTPS URL posted to the switch and contains the login credentials. The switch receives the guest login request and authenticates the guest using the configured Cisco ISE RADIUS server.

1. Cisco ISE requires a login.html file with the HTML redirect to be uploaded to the NAD. This login.html file is returned to the browser of the guest device for any HTTPS request made.
2. The browser of the guest device is redirected to the Guest portal where the guest’s login credentials are entered.
3. After the Acceptable Use Policy (AUP) and change password are processed, both of which are optional, the Guest portal redirects the browser of the guest device to post the login credentials on the NAD.

4 The NAD makes a RADIUS request to the Cisco ISE RADIUS server to authenticate and authorize the guest.

IP Address and Port Values Required for the Login.html Page

The IP address and port values must be changed in the following HTML code for the login.html page to those values being used by the Cisco ISE Policy Services nodes. The default port is 8443, but you can change this value, so ensure that the value you assign to the switch matches the setting in Cisco ISE.

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<HTML>
<head>
<title>ISE Guest Portal</title>
<meta Http-Equiv="Cache-Control" Content="no-cache">
<meta Http-Equiv="Pragma" Content="no-cache">
<meta Http-Equiv="Expires" Content="0">
<meta http-equiv="content-type" content="text/html; charset=ISO-8859-1">

<meta http-equiv="REFRESH"
content="0;url=https://ip:port/portal/PortalSetup.action?switch_url=wired">

</HEAD>
<BODY>

<center>
Redirecting ... Login
<br>
<br>
<a href="https://ip:port/portal/PortalSetup.action?switch_url=wired">ISE Guest Portal</a>
</center>

</BODY>
</HTML>
```

Because the custom login page is a public web form, consider these guidelines:

- The login form must accept user entries for the username and password and must show them as **uname** and **pwd**.
- The custom login page should follow best practices for a web form, such as page timeout, hidden password, and prevention of redundant submissions.

HTTPS Server Enabled on the NAD

To use web-based authentication, you must enable the HTTPS server within the switch using the **ip http secure-server** command.

Support for Customized Authentication Proxy Web Pages on the NAD

You can upload custom pages for success, expiry, and failure to the NAD. Cisco ISE does not require any specific customization, so you can create these pages using the standard configuration instructions included with the NAD.

Configure Web Authentication on the NAD

You need to complete the web authentication on the NAD by replacing the default HTML pages with your custom files.

Before You Begin

During web-based authentication, create four substitute HTML pages to use instead of the switch default HTML pages.

Step 1 To specify the use of your custom authentication proxy web pages, first store your custom HTML files on the switch flash memory. To copy your HTML files to the switch flash memory, run the following command on the switch: **copy tftp/ftp flash**

Step 2 After copying your HTML files to the switch, perform the following commands in global configuration mode:

a.	**ip admission proxy http login page file device**:*login-filename*	Specifies the location in the switch memory file system of the custom HTML file to use in place of the default login page. The device: is flash memory.
b.	**ip admission proxy http success page file device**:*success-filename*	Specifies the location of the custom HTML file to use in place of the default login success page.
c.	**ip admission proxy http failure page file device**:*fail-filename*	Specifies the location of the custom HTML file to use in place of the default login failure page.
d.	**ip admission proxy http login expired page file device**:*expired-filename*	Specifies the location of the custom HTML file to use in place of the default login expired page.

Step 3 Configure the customized authentication proxy web pages following the guidelines provided by the switch.

Step 4 Verify the configuration of a custom authentication proxy web page, as shown in the following example:

```
Switch# show ip admission configuration
Authentication proxy webpage
 Login page          : flash:login.htm
 Success page        : flash:success.htm
 Fail Page           : flash:fail.htm
 Login expired Page  : flash:expired.htm

Authentication global cache time is 60 minutes
Authentication global absolute time is 0 minutes
Authentication global init state time is 2 minutes
Authentication Proxy Session ratelimit is 100
Authentication Proxy Watch-list is disabled
Authentication Proxy Auditing is disabled
Max Login attempts per user is 5
```

Device Registration WebAuth Process

Using Device Registration Web Authentication (Device Registration WebAuth) and the Hotspot Guest portal, you can allow guest devices to connect to a private network without requiring usernames and passwords.

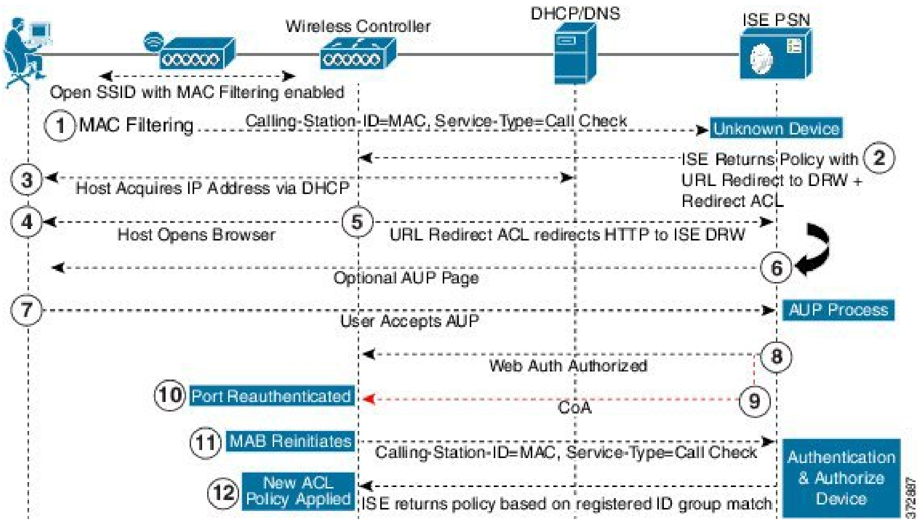
In this scenario, the guest connects to the network with a wireless connection. See Figure 2: Wireless Device Registration Web Authentication Flow for an example of the Device Registration WebAuth process flow. The following is an outline of the subsequent Device Registration WebAuth process, which is similar for both wireless and wired connections:

1. The network access device (NAD) sends a redirect to the Hotspot Guest portal.
2. If the MAC address of the guest device is not in any endpoint identity group or is not marked with an Acceptable Use Policy (AUP) accepted attribute set to true, Cisco ISE responds with a URL redirection specified in an authorization profile.
3. The URL redirection presents the guest with an AUP page (if enabled) when the guest attempts to access any URL.
    - If the guest accepts the AUP, the endpoint associated with their device MAC address is assigned to the configured endpoint identity group. This endpoint is now marked with an AUP accepted attribute set to true, to track the guest acceptance of the AUP.
    - If the guest does not accept the AUP or if an error occurs, for instance, while creating or updating the endpoint, an error message displays.
4. Based on the Hotspot Guest portal configuration, a post-access banner page (if enabled) with additional information may appear.
5. After the endpoint is created or updated, a Change of Authorization (CoA) termination is sent to the NAD.
6. After the CoA, the NAD re-authenticates the guest connection with a new MAC Auth Bypass (MAB) request. The new authentication finds the endpoint with its associated endpoint identity group, and returns the configured access to the NAD.
7. Based on the Hotspot Guest portal configuration, the guest is directed to the URL to which they requested access, or to a custom URL specified by the administrator, or to an Authentication Success Page.

The CoA type for both wired and wireless is Termination CoA. You can configure the Hotspot Guest portal to perform VLAN DHCP Release (and renew), thereby re-authorizing the CoA type for both wired and wireless to Change of Auth.

VLAN DHCP Release support is available for Mac OS and Windows on desktop devices only. It is not available for mobile devices. If the device being registered is mobile and the VLAN DHCP Release option is enabled, the guest is requested to manually renew their IP address. For mobile device users, we recommend using Access Control Lists (ACLs) on the WLC, rather than using VLANs.

Figure 2: Wireless Device Registration Web Authentication Flow


Wireless Controller
DHCP/DNS
ISE PSN
Open SSID with MAC Filtering enabled
1 MAC Filtering
Calling-Station-ID=MAC, Service-Type=Call Check
Unknown Device
ISE Returns Policy with URL Redirect to DRW + Redirect ACL
2
3
Host Acquires IP Address via DHCP
4
Host Opens Browser
5
URL Redirect ACL redirects HTTP to ISE DRW
6
Optional AUP Page
7
User Accepts AUP
AUP Process
8
Web Auth Authorized
10
Port Reauthenticated
9
CoA
11
MAB Reinitiates
Calling-Station-ID=MAC, Service-Type=Call Check
Authentication & Authorize Device
12
New ACL Policy Applied
ISE returns policy based on registered ID group match
372887