Administering Avaya Identity Engines Ignition Access Portal

Release 8.0 for IDE 8.0 and 9.0
NN47280-604
Issue 02.01
March 2014

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Chapter 1: Introduction

Purpose

The *Avaya Identity Engines Ignition Access Portal Administration* guide explains how to install and configure the Avaya Identity Engines Ignition Access Portal. This guide also explains how to configure the Ignition Server and Identity Engines Ignition Client for Accessing Secure Enterprise (CASE) to work with Access Portal. This guide is written for network administrators who need to install and configure Access Portal.

Related resources

Documentation

See the following related documents.

Title	Purpose	Link
Avaya Identity Engines Ignition Server Getting Started, NN47280–300	Installation and simple configuration	http://support.avaya.com/
Avaya Identity Engines Ignition Server Administration, NN47280–600	All configuration options	http://support.avaya.com/
Avaya Identity Engines Ignition Guest Manager Configuration, NN47280–501	Installation, configuration, and management	http://support.avaya.com/
Configuring and Managing Avaya Identity Engines Single-Sign-On, NN47280–502	Configuration, management, and deployment	http://support.avaya.com/

Title	Purpose	Link
Avaya Identity Engines Ignition CASE Administration, NN47280–603	Installation, configuration, and deployment	http://support.avaya.com/
Avaya Identity Engines Ignition Analytics	Installation, configuration, and maintenance	http://support.avaya.com/
Avaya Identity Engines Ignition Server Release Notes	Reference	http://support.avaya.com/

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Chapter 2: New in this release

The following sections detail what is new in *Avaya Identity Engines Ignition Access Portal Administration* Release 8.0.

Features

There are no changes to the feature content in this document.

Ignition Access Portal 8.0 is compatible with Avaya IDE 8.0 & IDE 9.0.

No new features nor enhancements are introduced, therefore no upgrade is required for Access Portal 8.0 to work with IDE 9.0.

Chapter 3: Avaya Identity Engines Ignition Access Portal

Avaya Identity Engines Ignition Access Portal is a virtual machine-based captive portal and firewall distribution that controls the access of client devices to the network. Access Portal blocks all traffic from client devices and allows network access only after successful authentication. Access Portal allows guests with non-802.1X compatible equipment to authenticate and connect to the network in your organization.

Access Portal does not require client-side software on the connecting user's PC. Like the sign-on portals that provide guest wireless access in many hotels, Access Portal uses the user's browser to prompt for and collect the user's credentials. This allows Access Portal to provide controlled network access to client devices that are incompatible with the 802.1X protocol or not configured to use it.

Access Portal also provides Device Profiling. Device Profiling works on a Device Fingerprint which is a compact summary of software and hardware settings collected from a client device. In the Avaya Identity Engines Ignition Server environment, Device Profiling is used as an automated way to register the devices with the Identity Engines Internal Store.

How Access Portal works

Users connected to a network where Access Portal is deployed must view and interact with the Access Portal login page before access to the network is granted. Upon successful authentication, Access Portal works with the Client for Accessing Secure Enterprise (CASE) application, the Ignition Server, and your network equipment to establish an appropriate network session for the user.

For example, Access Portal can host the Ignition Client for Accessing Secure Enterprise (CASE) application. On successful authentication, Access Portal can download the CASE application to the user's machine and the CASE application can configure the machine to use 802.1X. Then the user can directly connect to the network by authenticating with the Ignition Server. If the device is not capable of using 802.1X, Access Portal can provide in-line access to the network.

Related topics:

[How a guest user logs in](#) on page 12

How a guest user logs in

At runtime, Access Portal authentication works as follows:

Procedure

1. The guest receives a temporary user name and password from the reception desk personnel. (Typically, the receptionist uses Ignition Guest Manager to create the user account.)
2. The guest connects his/her laptop or other device to the network. For example, a guest with a laptop might launch the wireless network client software (the supplicant software) on his/her laptop and connect to the guest wireless network. In this example, the guest network identify itself with the SSID, `Guest`. This is a wide-open, iesguest-authentication SSID.
3. On the access point, the SSID, Guest, is associated with a restricted reach, authentication VLAN. For example, you might define a VLAN – VLAN 200 – on the Avaya 5500 switch. VLAN 200 is a local-access-only VLAN used only during the authentication process. The wired switch and wireless access point are trunked together using 802.1Q trunking.
4. The laptop's supplicant requests an IP address through DHCP.
5. The Avaya Access Portal handles the DHCP request and issues the laptop an address. The laptop is now on the authentication VLAN (in this example, VLAN 200).
6. The guest user opens a browser on his/her laptop. The Access Portal forces a redirect of the browser's web traffic, causing the browser to display the login page you defined as the Access Portal login page.
7. The user enters his/her temporary user name and password, and the Access Portal authenticates the user through the Ignition Server using RADIUS:
   a. If the CASE application is also deployed on the portal, then after successful authentication, the CASE application runs on the guest's machine and configures it to use 802.1X for authenticating to the network. If the CASE application is successful in doing this, the guest's laptop is switched to a compliant VLAN and all the network access is independent of the portal.
   b. If the authentication succeeds but there is no CASE application on the portal, the Access Portal tunnels the guest's network session to the Internet. Note that the Access Portal remains in-line in this case; that is, all traffic to and from the client travels through the Access Portal.
   c. If the authentication fails, the browser displays a failure notice and the laptop remains on VLAN 200, which provides no connection or limited connection to

the corporate network or the Internet, depending on the configured settings in the Access Portal.

Next steps

Important:

Access Portal does not support a proxy. To allow Access Portal to capture HTTP requests from a client device, you must either remove the proxy settings from the client browser, or choose the "**auto detect proxy setting for this network**" setting on the browser. If a proxy is configured, Access Portal is not able to direct HTTP requests to the Access Portal login page.

Access Portal administrator tasks

As the Avaya Identity Engines Ignition Server administrator, you can:

- Install Access Portal
- Configure Access Portal
- Perform Access Portal maintenance tasks
- Configure the Ignition Server to work with Access Portal
- Configure and test user access
- Configure the CASE application to work with Access Portal

Chapter 4: Installing Access Portal

This chapter describes how to install Avaya Identity Engines Ignition Access Portal. You install Access Portal as a virtual appliance on a VMware ESXi 4.x or 5.0 server. After you import the Access Portal virtual appliance, the virtual appliance becomes an Access Portal.

This chapter also explains how to backup, restore, and upgrade Access Portal.

Access Portal authentication components

The following components are required to deploy an Access Portal-based authentication with Ignition Server:

- Ignition Server
- Access Portal (VMware ESXi 4.x or 5.0 server)
- CASE application (optional but highly recommended)
- Ignition Guest Manager account creation tool (optional)
- Existing 802.1X-capable authenticators (switches and wireless access points)
- Existing firewall

Related topics:

VMware ESXi Server requirements on page 15
Preventing automatic VMware Tools updates: on page 16
Checking the VMware Tools status (ESXi 4.1) on page 17
Checking the VMware Tools status (ESXi 5.x) on page 18

VMware ESXi Server requirements

Hardware platforms supported by VMware's ESXi servers versions 4.x and 5.0 are supported. The VM requires an x86_32 capable environment, a minimum of 2 GB of memory, 10 GB of available disk storage, two CPUs, and preferably three NICs (a minimum of two physical NIC cards). VMware lists on its site supported hardware platforms for ESXi. (HTTP://WWW.VMWARE.COM/)

Installation on a VMware ESXi server is done using an OVF file which already incorporates the OS FreeBSD.

Note:

Avaya provides the Ignition Access Portal as a Virtual Appliance. Do not install or uninstall any software components unless Avaya specifically provides the software and/or instructs you to do so. Also, do not modify the configuration or the properties of any software components of the VMs (including VMware Tools) unless Avaya documentation and/or personnel specifically instructs you to do so. Avaya does not support any deviation from these guidelines.

Warning:

Do not install or configure VMware Tools or any other software on the VM shipped by Avaya:

- Avaya does not support manual or automated VMware Tools installation and configuration on Avaya supplied VMs.
- Turn off automatic VMware Tools updates if you have enabled them. Refer to the following instructions to disable automatic updates and to check if you have accidentally installed VMware tools.
- Avaya determines which VMware Tools to install and configure. When required, Avaya provides these tools as part of the installation or package upgrade procedures. Avaya provides these tools because VMware Tools configures the kernel and network settings and unless Avaya tests and approves these tools, Avaya cannot guarantee the VM will work after the tool is installed and configured.
- Avaya does not support the installation of any VMware specific, RHEL specific, or any third-party vendor package or RPM on its VM, other than what Avaya ships as a package, image, or OVF.

Preventing automatic VMware Tools updates:

To prevent automatic VMware Tools updates:

Procedure

1. Use the VI Client to log in to the ESXi Server hosting the Access Portal VM.
2. Go to **Getting Started** > **Edit Virtual Machine Settings** > **Options** > **VMware Tools** > **Advanced**, and ensure the **Check and upgrade Tools during power cycling** check box is not selected. This is the supported setting.
3. Click **OK**.

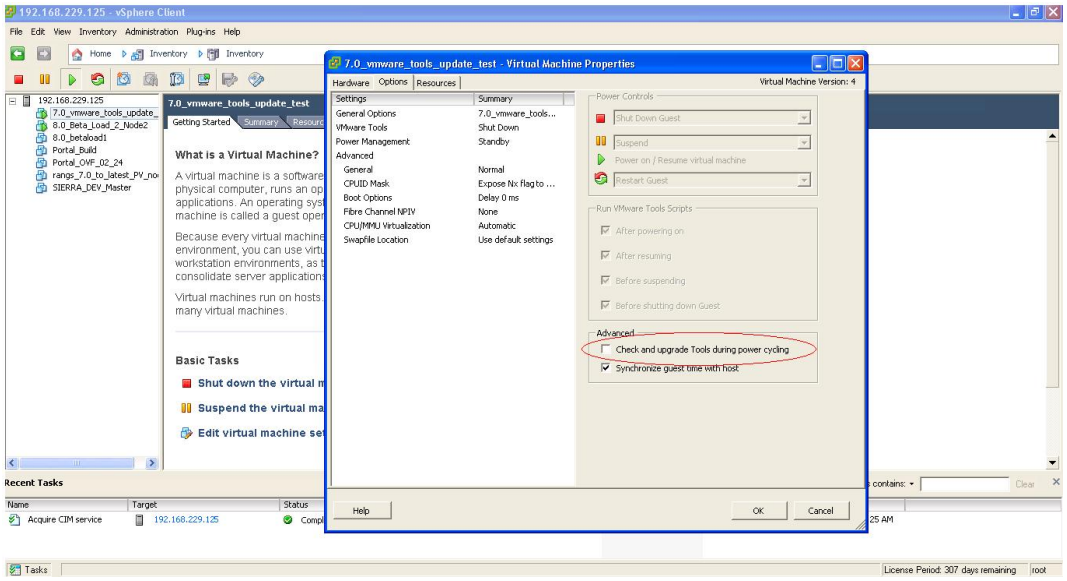


Figure 1: Preventing automatic VMware Tools updates

Checking the VMware Tools status (ESXi 4.1)

The **Summary** tab of the VM describes the VMware Tools status.

To check the VMware Tools status on an ESXi 4.1 server:

Procedure

1. Use the VI Client to log in to the ESXi Server hosting the Access PortalVM.
2. Go to the **Summary** tab.

   If you are using the vmware-tools supplied by Avaya and did not upgrade, the status displays as “VMware Tools: Out of date”.

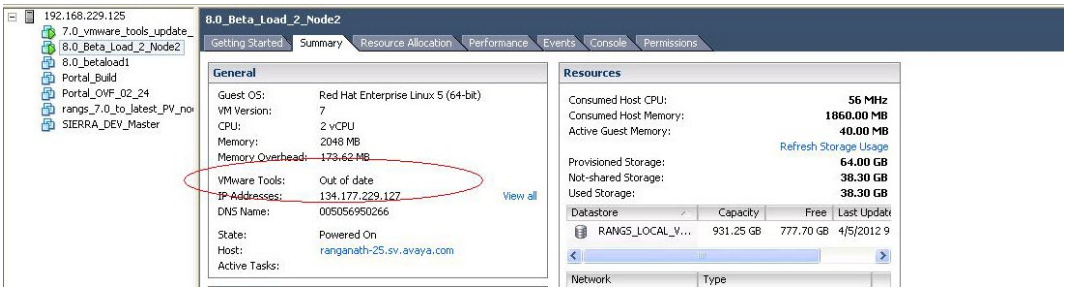


Figure 2: VMware Tools: Out of date

If you upgraded the VMware Tools, the status displays as “VMware Tools: OK”.

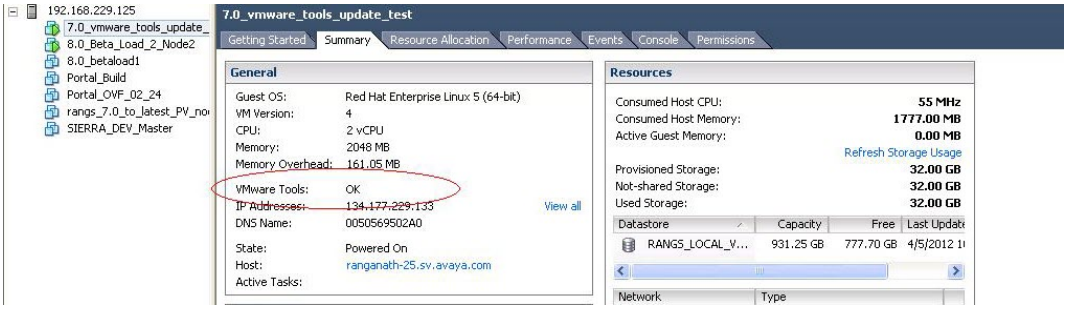


Figure 3: VMware Tools: OK

Checking the VMware Tools status (ESXi 5.x)

The **Summary** tab of the VM describes the VMware Tools status.

To check the VMware Tools status on an ESXi 5.x server:

Procedure

1. Use the VI Client to log in to the ESXi Server hosting the Access Portal VM.
2. Go to the **Summary** tab.

   If you are using the vmware-tools supplied by Avaya and did not upgrade, the status displays as “VMware Tools: Running (Out-of-date).

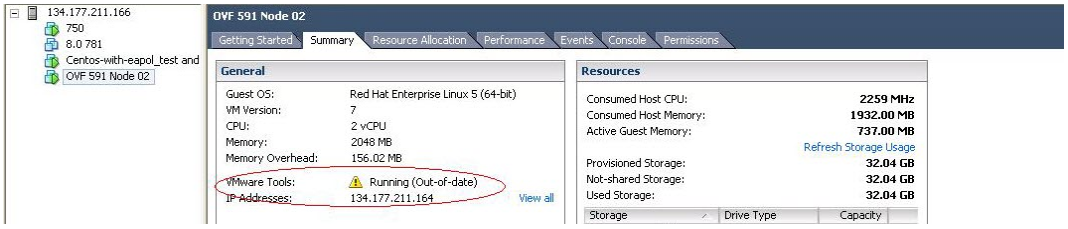


Figure 4: VMware Tools: Running (Out-of-date)

If you upgraded the VMware Tools, the status displays as “VMware Tools: Running (Current)”.

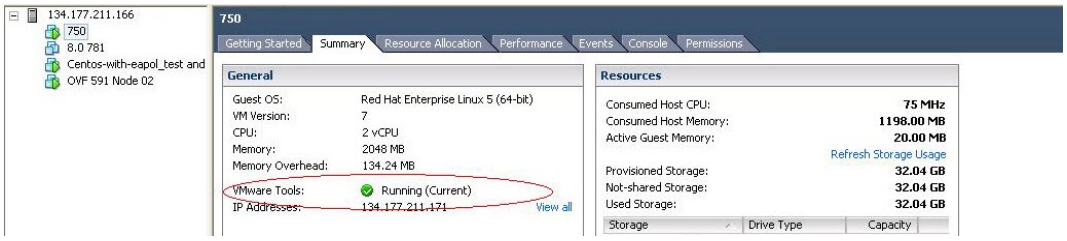


Figure 5: VMware Tools: Running (Current)

Network configuration for Access Portal-based authentication

As shown in the following figure, Access Portal has three network interfaces:

- **OUT** - The OUT interface provides connectivity to the Enterprise network / Internet.
- **ADMIN** - The ADMIN interface provides connectivity to the portal to perform administrative tasks.
- **IN** - The IN interface provides connectivity to the client network. This is the guest or unauthenticated client VLAN / network.

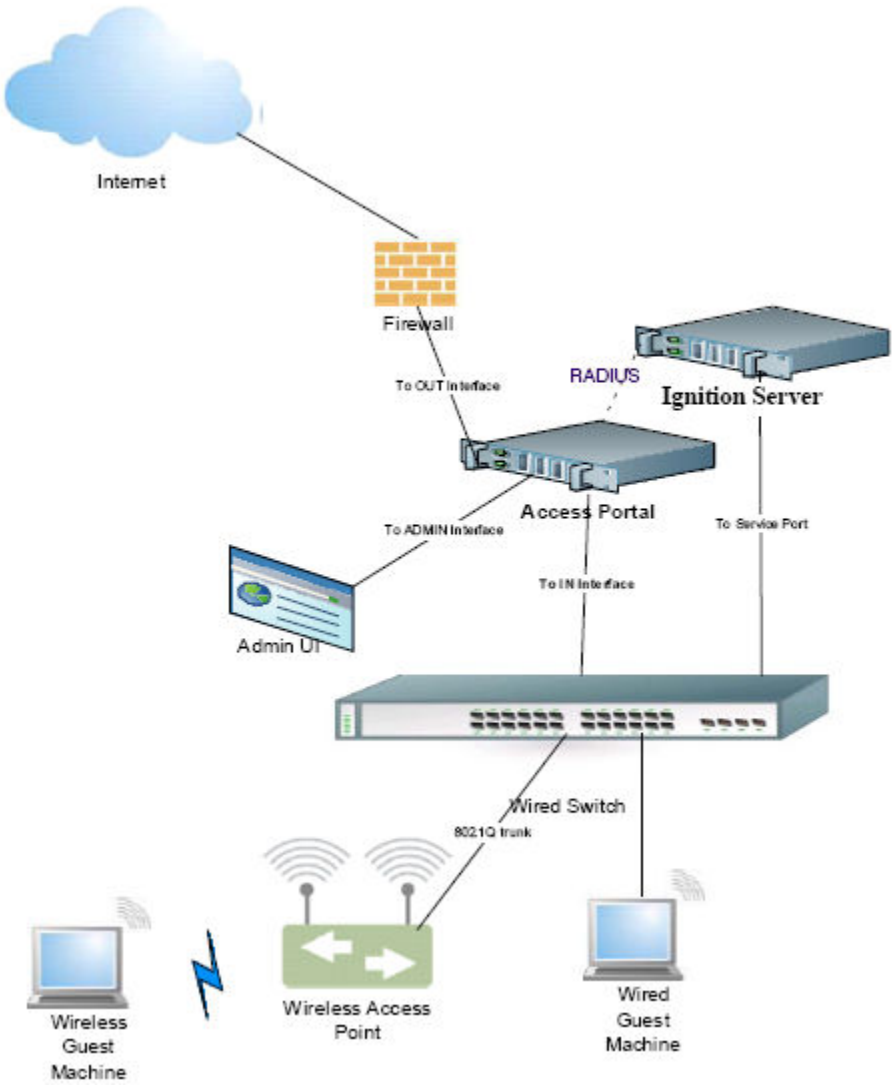


Figure 6: Network configuration for Access Portal-based authentication

Installing the Access Portal virtualization appliance

Avaya recommends that you use the VMware vSphere Client to import the VM into your system. Start the VMware vSphere Client and log in to the ESXi Server on which you want to install the Access Portal. Use the **Virtual Appliance Deploy OVF Template** option.

Procedure

1. From the VSphere Client, select **File** > **Deploy OVF Template**.

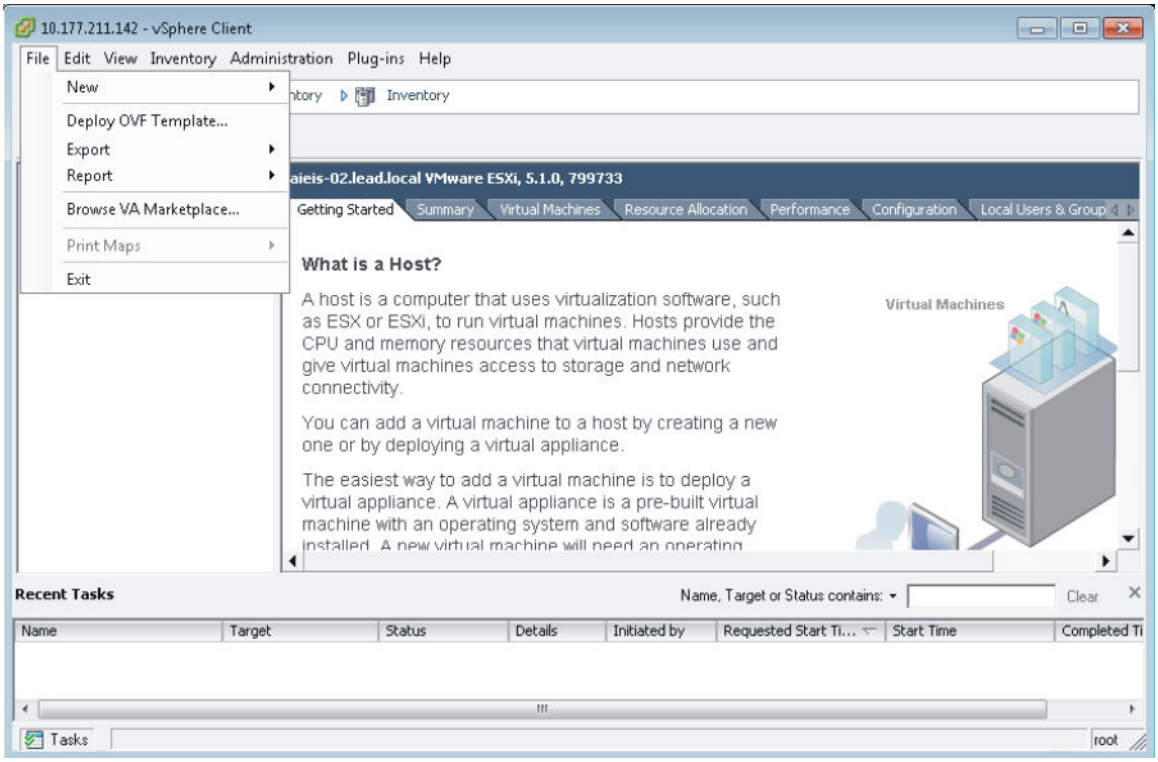


Figure 7: Deploy OVF Template

2. The **Source** screen displays. Select the location from which you want to import the Access Portal virtual appliance.

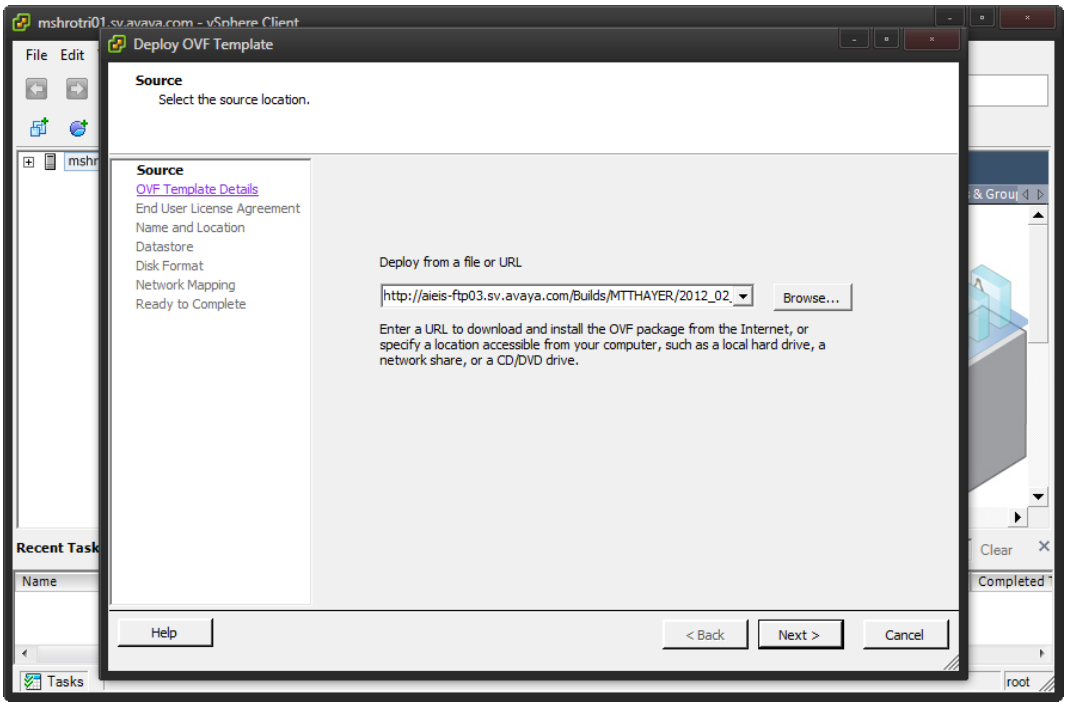


Figure 8: Source

3. Click **Next**.

   In the **OVF Template Details** screen, review your settings. Click **Back** to make changes, or click **Next** to continue.

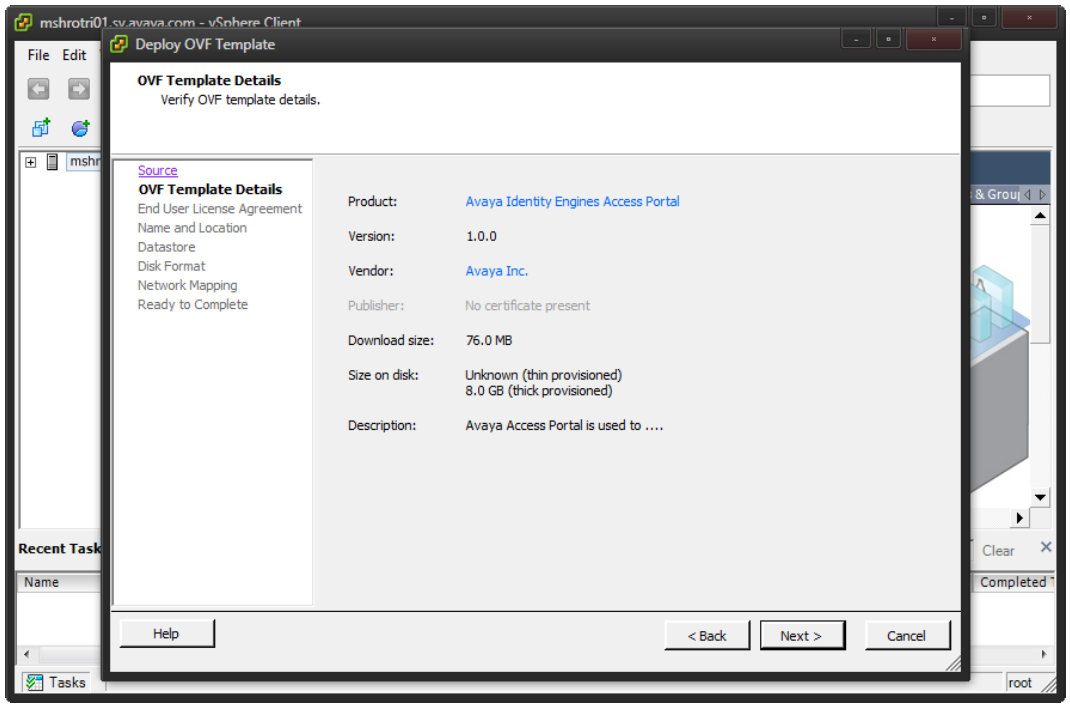


Figure 9: OVF Template Details

4. The **End User License Agreement** screen displays. Click **Accept** to accept the license and click **Next**.

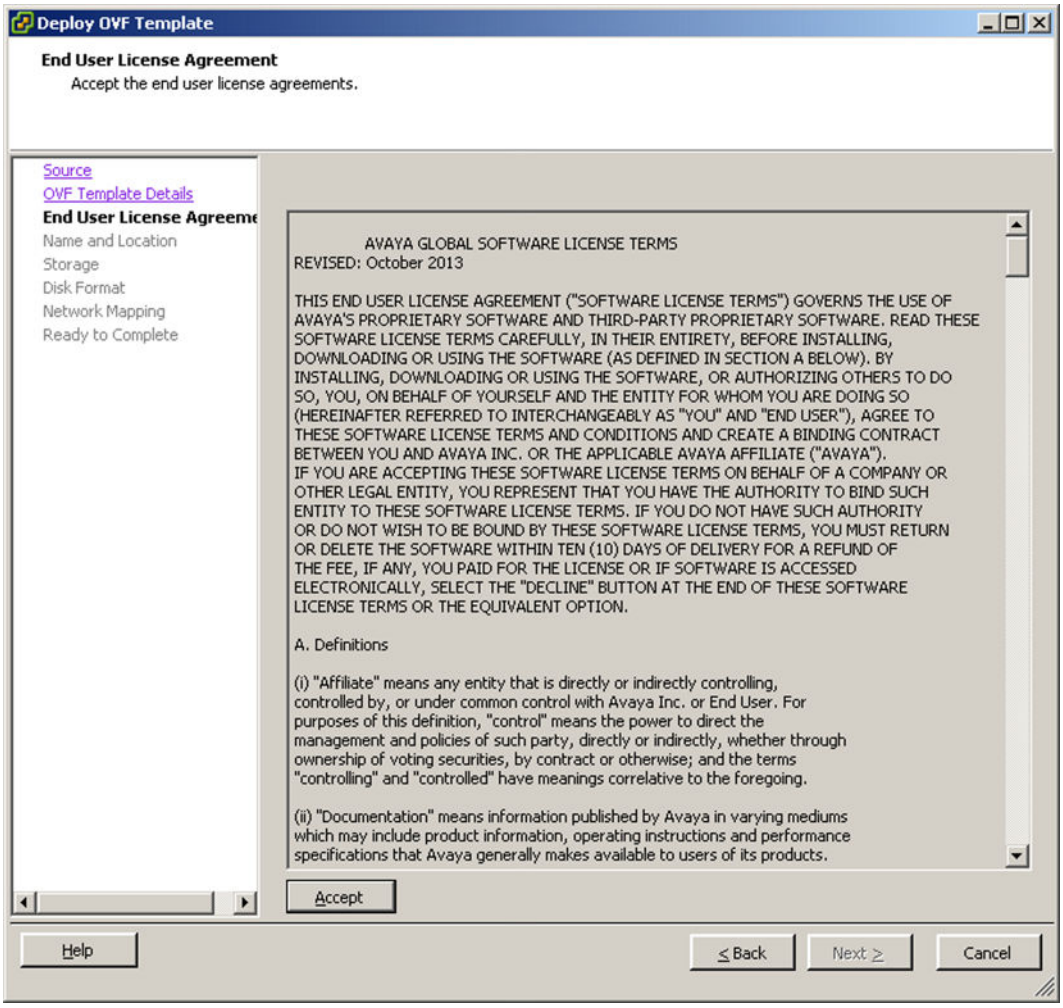


Figure 10: End User License Agreement

5. The **Name and Location** screen displays. Either accept the default name or choose to rename the virtual machine. Click **Next**.

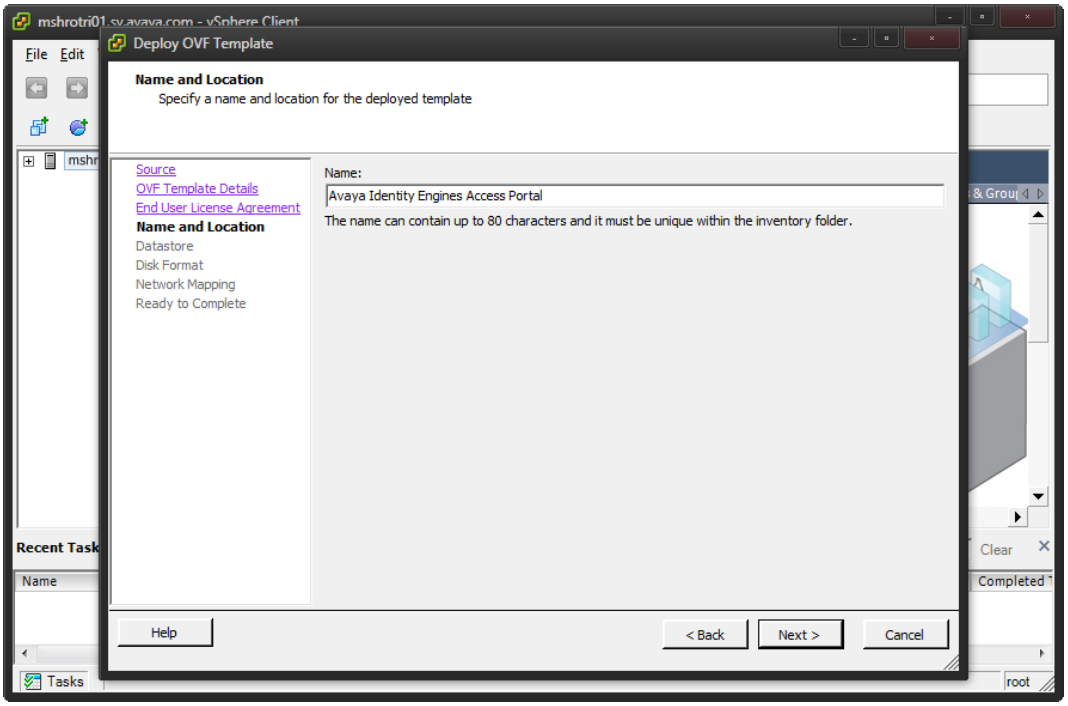


Figure 11: Name and Location

6. The **Datastore** screen displays. Select the location where you want to store the files for the virtual appliance and click **Next**.

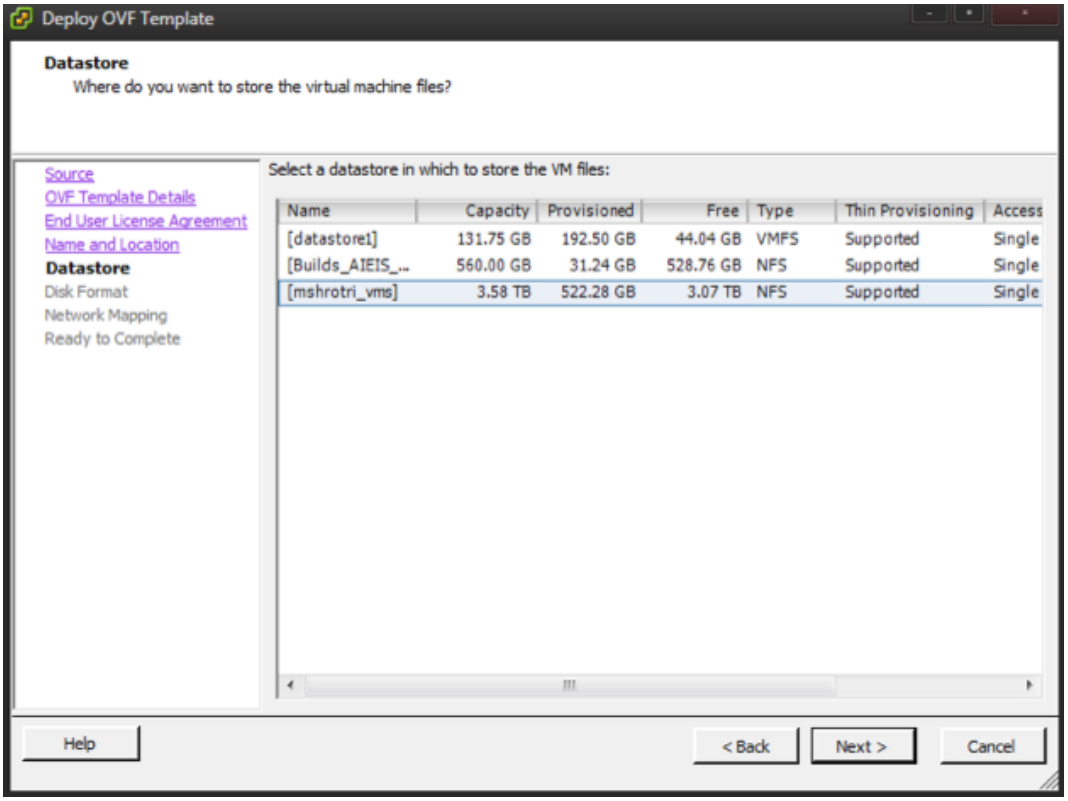


Figure 12: Datastore

7. The **Disk Format** screen displays. Select a format in which to store the virtual machine's virtual disks and click **Next**.

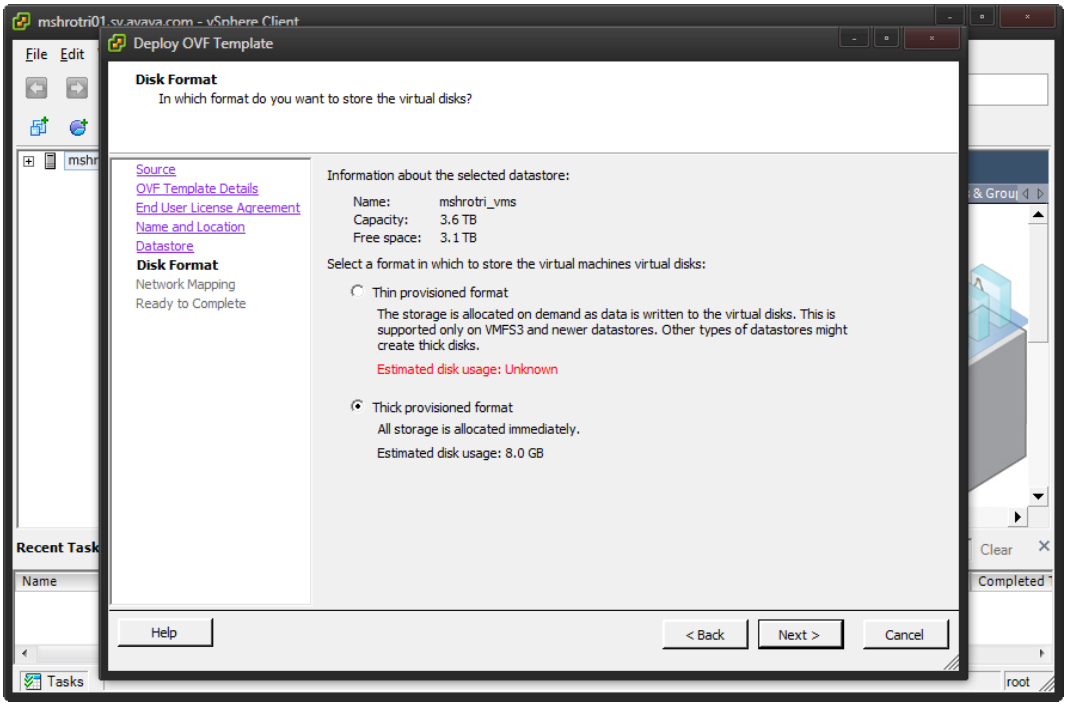


Figure 13: Disk Format

8. The **Network Mapping** screen displays. Associate the Access Portal NICs (OUT, ADMIN, and IN) to the correct VM Network, based on your site configuration.

Note:

Access Portal auto-configures itself to map OUT to em0, ADMIN to em1, and IN to em2, irrespective of how the OUT, ADMIN, and IN interfaces are mapped to VM Networks on the ESXi server. The Access Portal association of OUT to em0, ADMIN to em1, and IN to em2 is binding in Access Portal and will always be there. Changing the OUT, ADMIN, and IN mapping to ESXi server network mapping while deploying portal OVF does not affect the mapping done in Access Portal.

- **OUT**: This network provides access to the Internet. Map the Access Portal OUT interface to the VM network in your inventory that provides access to the Internet. In the following example, the Access Portal OUT interface is mapped to the RedLAN.
- **ADMIN**: This network is for administrative purposes. This network provides web access for administrating Access Portal and SSH access to the Access Portal console if needed. This network also provides connectivity to other servers such as the Ignition server or an external DHCP server if you are using one. Map the Access Portal ADMIN interface to the VM network in your inventory designated for administrative purposes. In the following example, the Access Portal ADMIN interface is mapped to the BLackLAN.
- **IN**: This is the network where client machines are present whose access to OUT network needs to be controlled by the portal. Map the Access Portal IN

interface to the VM network in your inventory that provides connectivity to the client network. In the following example, the Access Portal ADMIN interface is mapped to the ClientNetwork.

Note:

If your ESXi server only has 2 physical NICS, you can map the Access Portal logical OUT and ADMIN interfaces to the same physical NIC. However, you must map the Access Portal IN interface to its own separate NIC.

- Click **Next.**

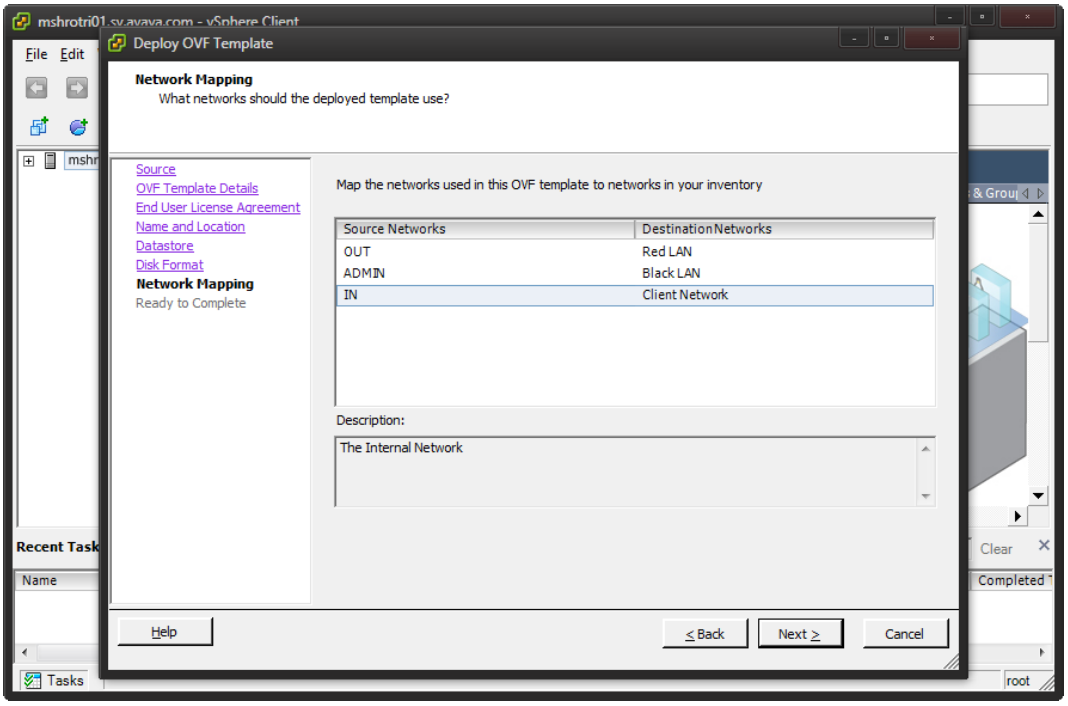


Figure 14: Network Mapping

9. On the **Ready to Complete** screen, review your settings. Use the **Back** button to make any changes or click **Finish** to start the import.

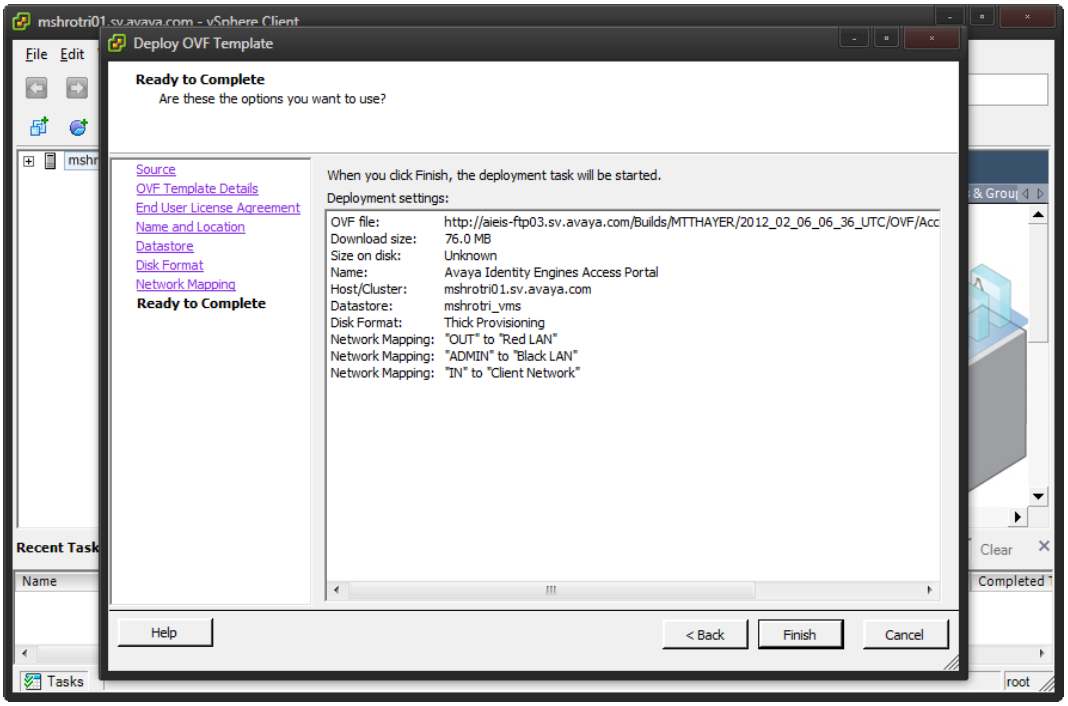


Figure 15: Ready to Complete

The Import now starts. When the import completes, a **Summary** window displays.

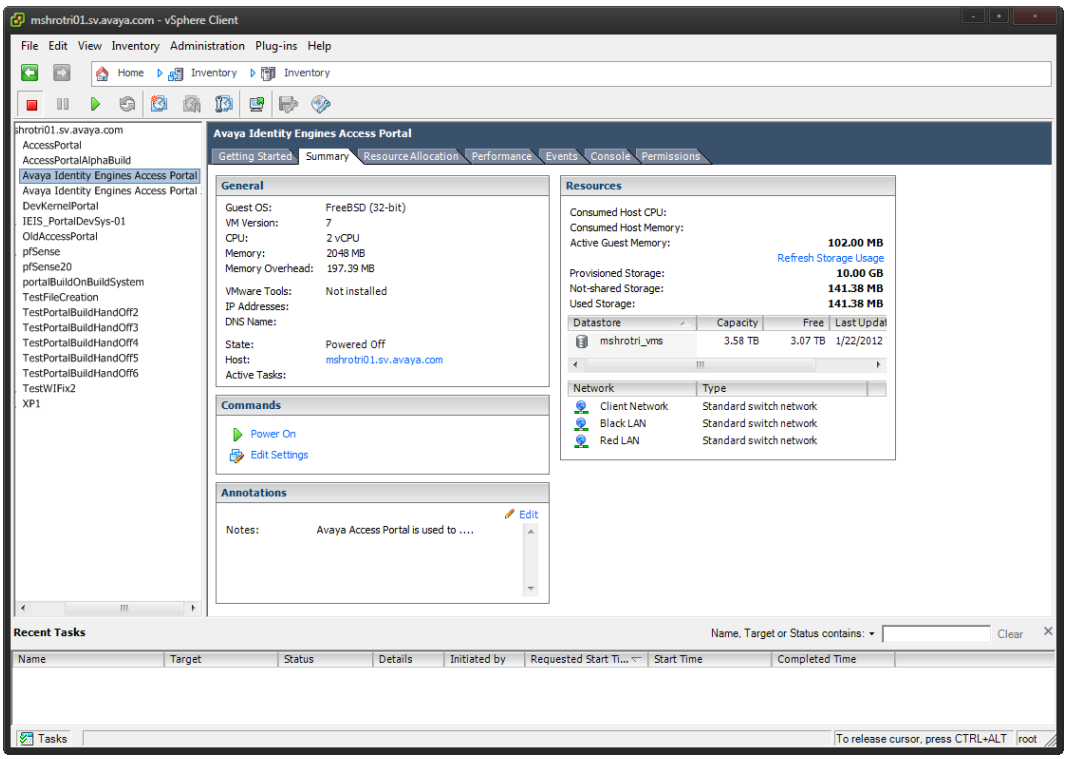


Figure 16: Summary

You are now ready to boot the Access Portal for the first time.

Configuring the Access Portal virtualization appliance

After the import completes, you need to verify and adjust some of the VM settings.

Procedure

1. Boot the Access portal.
   The Access Portal console displays the interface assignments.

   Figure 17: Interface assignments

2. From the Access Portal console menu, enter `2` and enter the `ADMIN IP address`..
   Press **Enter**

Figure 18: Entering the ADMIN IP address

3. Enter the `subnet mask` of the ADMIN IP address and press **Enter**.

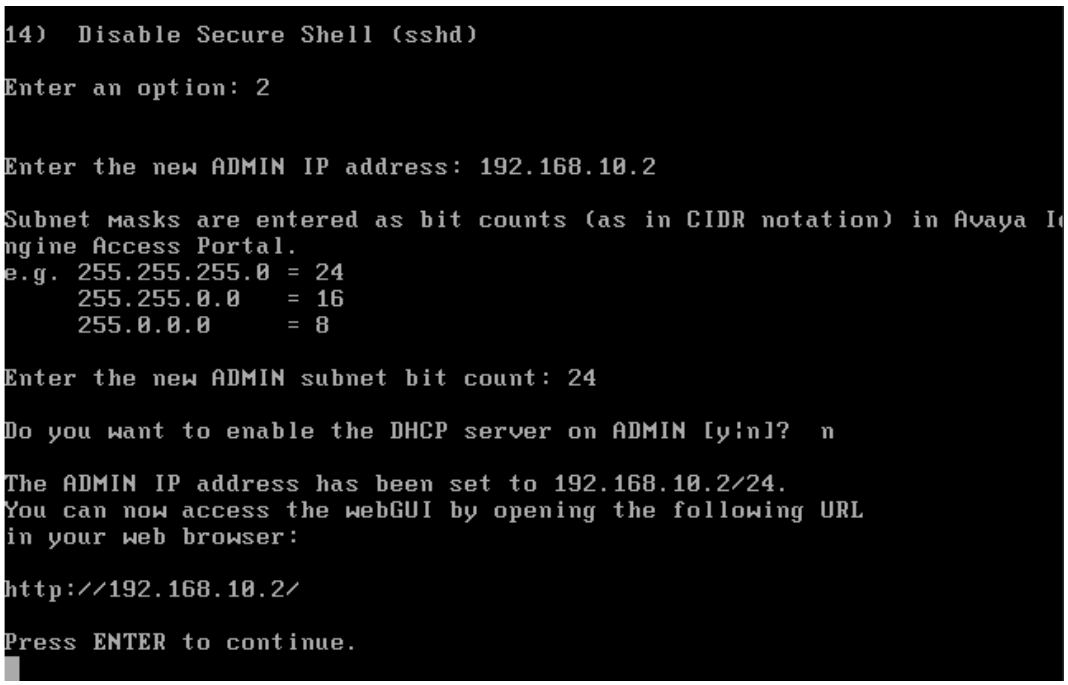


Figure 19: Entering the subnet mask of the ADMIN IP address

4. The Access Portal console displays the following prompt: `Do you want to enable the DHCP server on ADMIN [y:n]?`

   Enter `n` and press **Enter**.

   The Access Portal console displays the following message: `The ADMIN IP address has been set to <ADMIN IP/mask>`. You can now access the web GUI by opening the following URL in your web browser:

   `http://<ADMINIP>.`

5. Using another machine in your network, access the Access Portal Administration Web UI at http://<ADMIN IP>.

   The default credentials are username: `admin` and Password: `admin`.

   You might have to remove any proxy settings on the browser to access this UI.

   If it is not possible to have a machine on the Admin network to connect to the Access Portal Administration Web UI, then you can use the shell to add a static route to the network where the admin machine resides.

   Important:

   Using the shell to add the static route is only a workaround and is not an Avaya recommendation. *Avaya does not support Access Portal configuration through the shell*. You must perform all management actions through the Access Portal Administration Web UI. The only supported way to add a static route is, after installation, from the Access Portal Administration Web UI, go to **System > Static routes**.

6. A wizard launches the first time you access the Access Portal Administration Web UI. On the **General Information** Wizard page, the following displays:

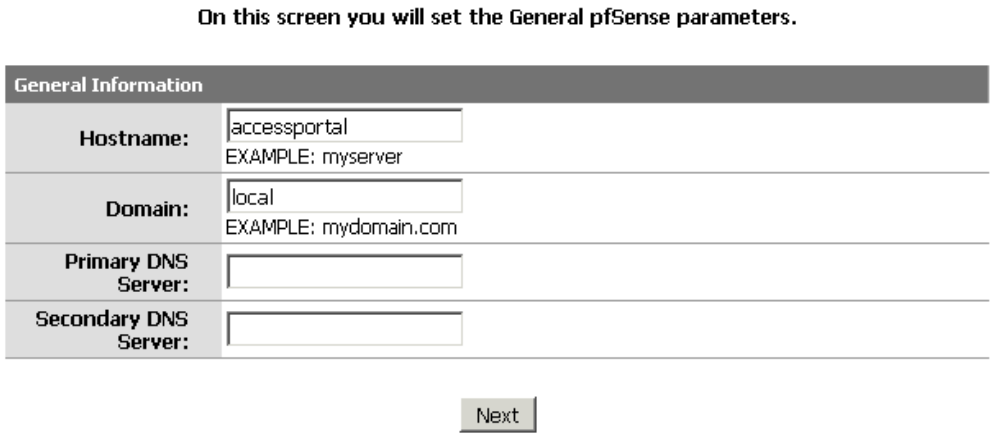


Figure 20: General Information page

- In the **Hostname** field, enter host name of the Access Portal.
- In the **Domain** field, enter the network domain that the Access Portal serves.

- In the **Primary DNS Server** field, enter the IP address of the primary DNS server.
- In the **Secondary DNS Server** field, enter the IP address of the secondary DNS server.

Click **Next**.

The **Time Server Information** page displays.

7. On the **Time Server Information** page, do the following:
   - In the **Time server hostname** field, enter the fully qualified name of your NTP server. This must be the same NTP server that your Ignition Server appliance uses.
   - From the **Timezone** drop-down list, select your time zone.

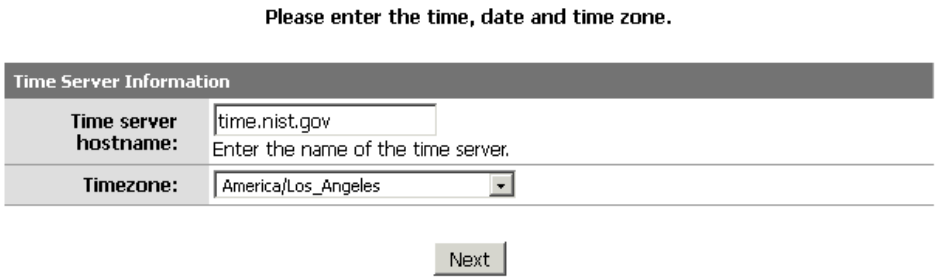


Figure 21: Time Server Information page

- Click **Next**.

The **Wide Area Network** information page displays.

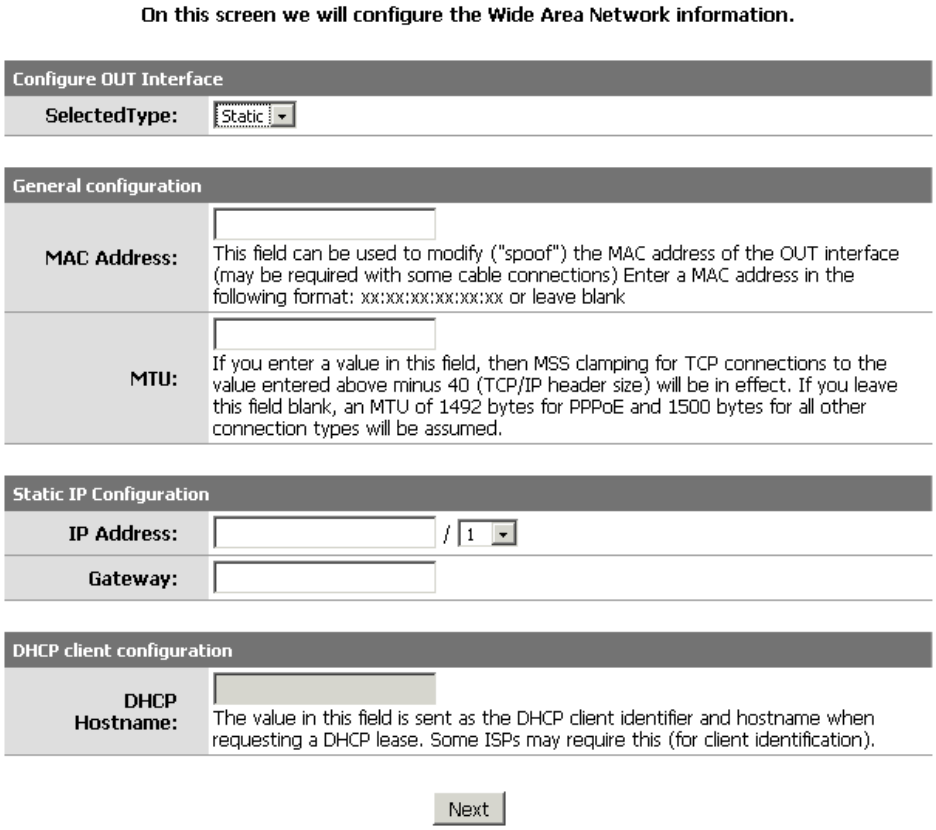


Figure 22: Wide Area Network information page

8. On the **Wide Area Network** information page, do the following:

   - From the **SelectedType** drop-down list, click **Static**.

     Most deployments require you to assign a static IP to the WAN interface of the Access Portal.

   - The **MAC Address** field is usually left blank. To modify (“spoof”) the MAC address of the WAN interface, enter a MAC address in the following format xx:xx:xx:xx:xx:xx. This may be required with some cable connections.

   - If you chose Static as the selected type for the WAN interface, in the **IP Address** field, assign an IP address to the port. Configure the subnet mask in the adjacent drop-down list. Choose the subnet mask, expressed as a bit count.

   - If you chose Static as the selected type for the WAN interface, in the **Gateway** field, enter the IP address of the default gateway for the firewall.

   - If you chose DHCP as the selected type for the WAN interface, in the DHCP Hostname field, enter the **DHCP Hostname**. The value in this field is sent as the DHCP client identifier and hostname when requesting a DHCP lease. Some ISPs require this for client identification.

- Click **Next**.

  The **Local Area Network** information page displays.

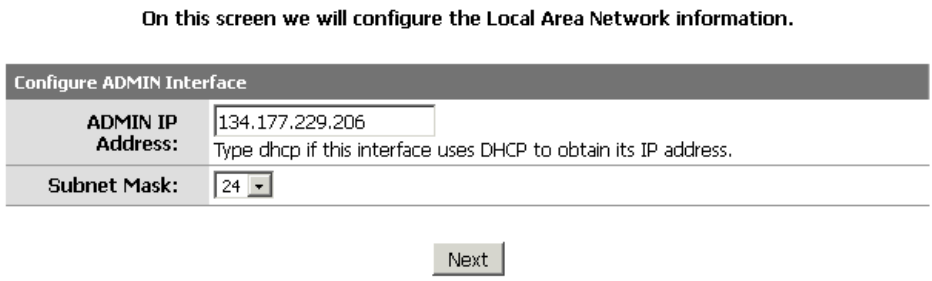


Figure 23: Local Area Network information page

9. (Optional) On the Local Area Network information page, do the following:
   - In the **LAN IP Address** field, enter the new LAN IP address.
   - From the **Subnet Mask** drop-down list, select the subnet mask, expressed as a bit count.
   - Click **Next**.

     The **Admin Password** page displays.

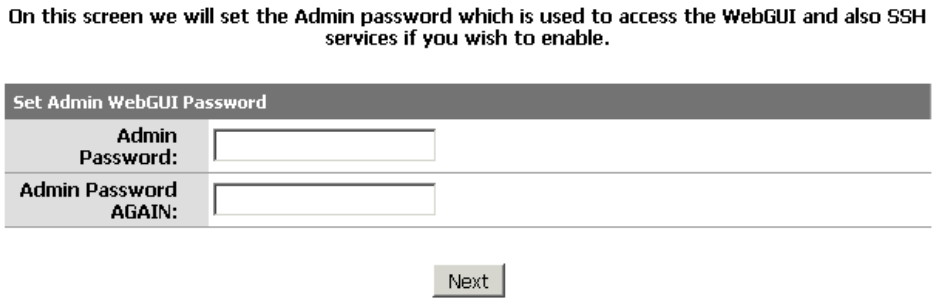


Figure 24: Admin Password page

10. (Optional) On the **Admin Password** page, do the following:
    - In the **Admin Password** field, enter the new password.
    - In the **Admin Password AGAIN** field, enter the new password again.
    - Click **Next**.

      The **Reload** page displays.

11. Click **Reload** to load the new settings.

    If you changed the password, Access Portal prompts you to log in again. The following message displays:

    ```
    A reload is now in progress. Please wait. The system will
    automatically try to access http://xxx.xxx.xxx.xxx in 120
    ```

seconds. You can click on the icon above to access the site more quickly.

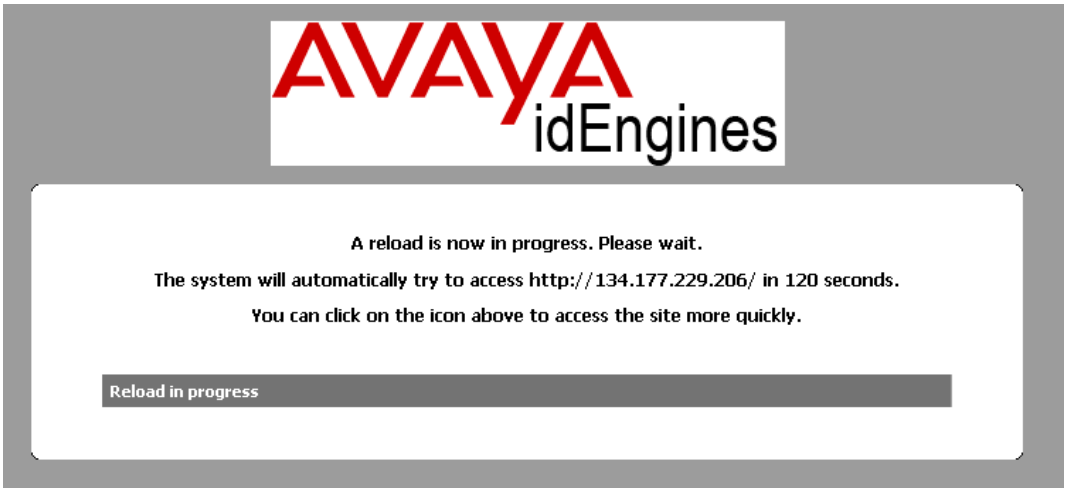


Figure 25: Reload in progress

After you click the Avaya icon, or wait for the page to refresh, the **System Overview** page displays.

You can now access the following Access Portal Administration Web UI main menu headings for further configuration:

- System
- Interfaces
- Firewall
- Services
- Status
- Diagnostics

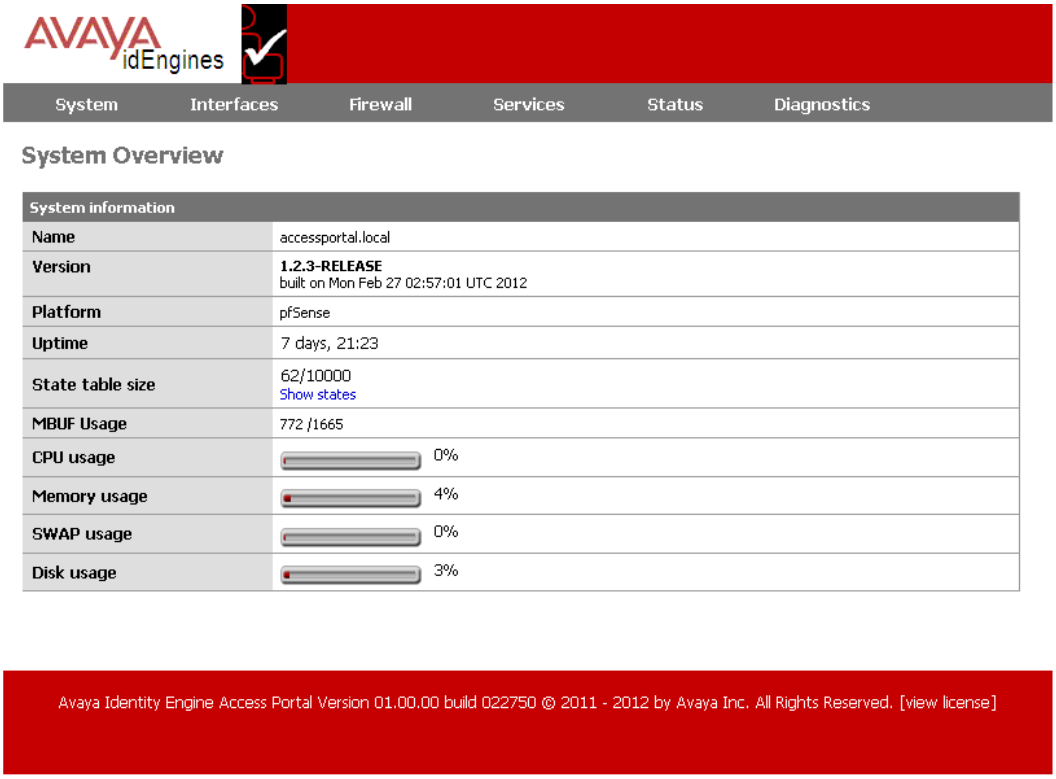


Figure 26: System Overview page

Related topics:

Setting up the Access Portal IN port on page 36
Setting up the Access Portal firewall rules on page 37
Setting up the Access Portal's DNS forwarder on page 40
Configuring the Access Portal DHCP server settings on page 40
Configuring the Appliance's Access Portal settings on page 42
Customizing user-visible pages on page 45
Providing access to servers or other computers from a client machine on page 49

Setting up the Access Portal IN port

Configure the IN port. The IN port of the Access Portal is the entry point by which guests enter your authentication VLAN. You configure the guest-accessible switches in your organization so that when a client attempts to connect to the network and fails (the 802.1X authentication attempt fails), the switch places his or her session on a restricted-reach VLAN that includes the Access Portal IN port. For VLAN configuration details, see Configuring VLANs on the wired switch on page 71.

To configure the IN port, use the following procedure.

Procedure

On the main Access Portal Administration Web UI page, click **Interfaces** > **IN** and do the following:

- In the **Description** field, enter a name for the interface.
- In the **IP address** field, enter the IP address of the IN interface.
- From the adjacent drop-down list, click the subnet mask of the IN interface.
- Click **Save**.

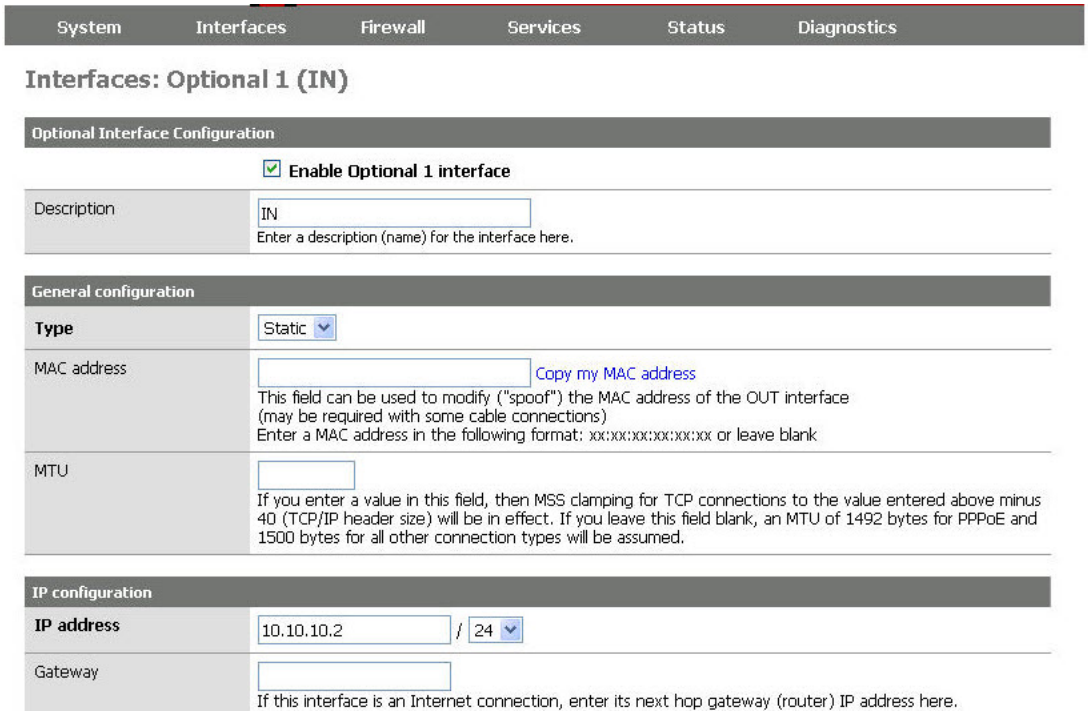


Figure 27: Assigning an IP address to the IN interface

Setting up the Access Portal firewall rules

The Access Portal firewall rules determine what traffic can travel to and from guest devices and what networks guests are allowed to reach.

When you install Access Portal, there is a default firewall rule populated that allows all traffic to pass. Only change the default firewall rule if you want to restrict the type of traffic allowed. For example, you could change the firewall rule to only allow TCP/UDP traffic.

Although the firewall is open on a default Access Portal installation, you cannot ping the IN interface. You can only ping the Admin interface. For more information, see Problem: You are unable to ping IN and OUT interfaces of Access Portal. on page 81.

Follow this procedure to configure the Access Portal firewall rules.

Procedure

1. On the main Access Portal Administration Web UI page, click **Firewall** > **Rules**.
2. On the **Firewall: Rules** page, click the **IN** tab to select the IN port, and on the right of the table, click the **e** icon to edit the current rule. If no rule exists, click the **+** icon to create one.

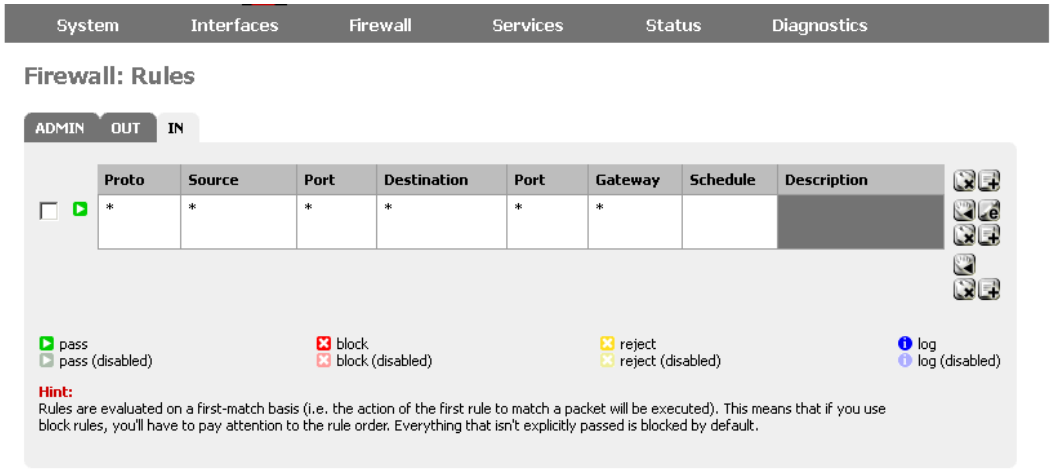


Figure 28: Firewall > Rules > IN

3. On the **Firewall: Rules: Edit** page, clear the **Disable this rule** check box and ensure that the rule **Action** is configured as **Pass**.
4. In the **Protocol** field, select the type of traffic to permit.

   Typically, this is TCP/UDP. The protocol choices are: TCP, UDP, TCP/UDP, ICMP, ESP, AH, GRE, IGMP, any, carp, and pfsync.
5. The **Source** field defines a filter that determines what traffic the IN port will accept. From the **Type** drop-down list, click **IN Subnet**.

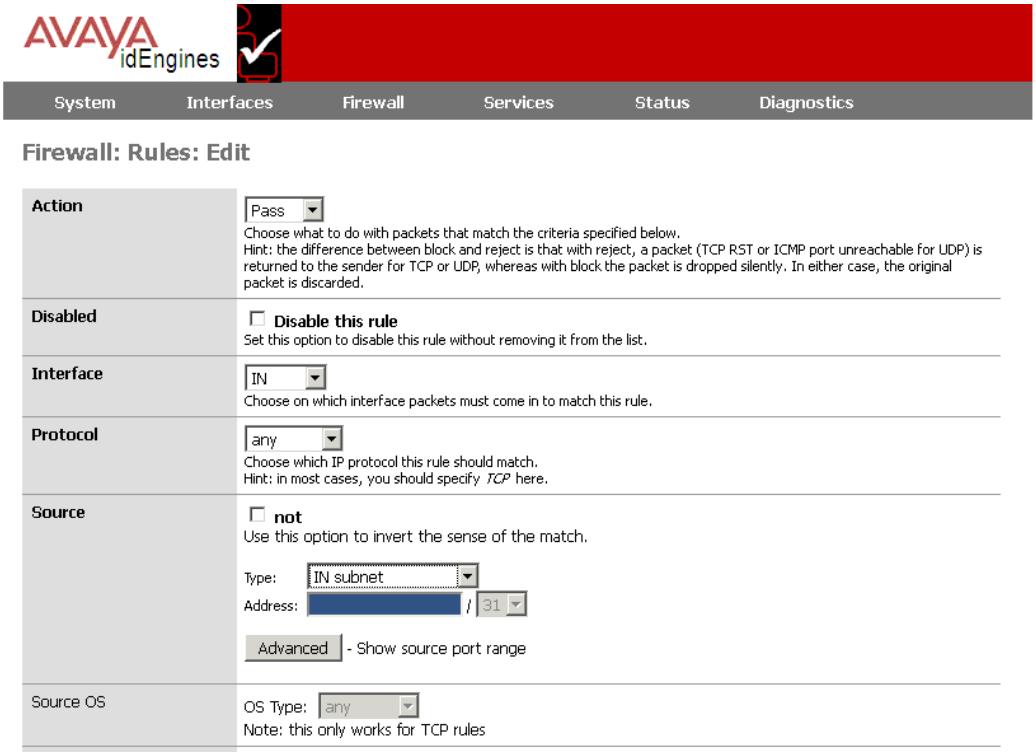


Figure 29: Firewall: rules: Edit page

6. Click **Save**.
   The **Firewall: Rules** page displays.
7. On the **Firewall: Rules** page, click **Apply changes**.

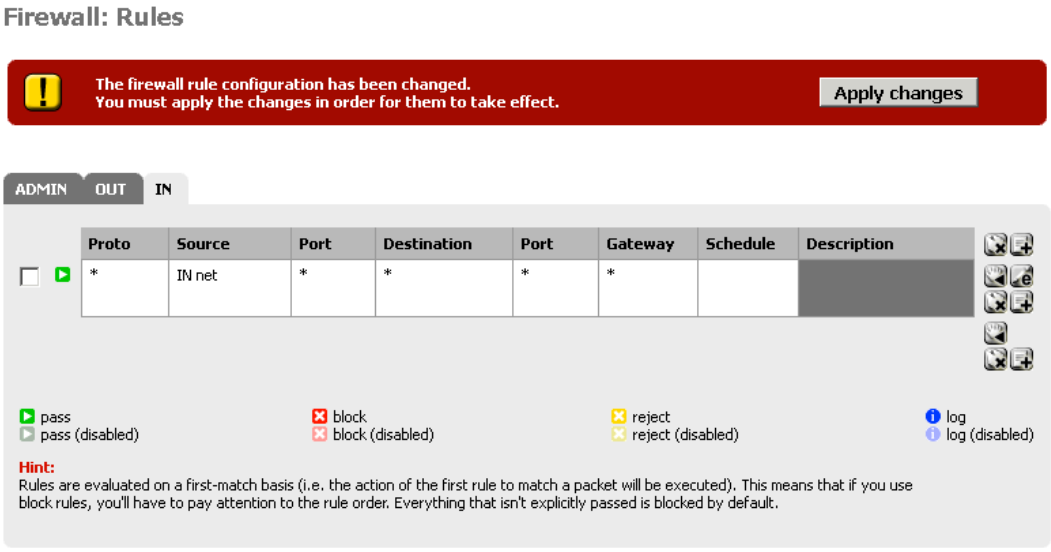


Figure 30: Applying the firewall rules

8. To apply the new or modified firewall rules to all captive portal sessions – existing in-line user sessions as well as new sessions – you must go to **Services** > **Captive Portal** and click **Save**.

Warning:

Clicking **Save** causes all existing clients to disconnect.

Setting up the Access Portal's DNS forwarder

Use the following procedure to configure the Access Portal's DNS forwarder.

Procedure

1. On the main Access Portal Administration Web UI page, click **Services** > **DNS forwarder**.

   The **DNS forwarder** page displays.

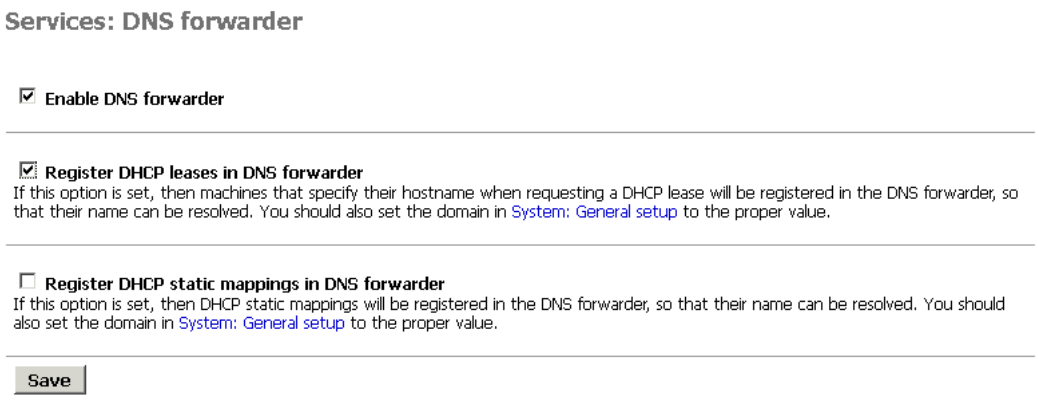


Figure 31: DNS forwarder page

2. Select the **Enable DNS forwarder** check box.
3. Select the **Register DHCP leases in DNS forwarder** check box.
4. Click **Save**.

Configuring the Access Portal DHCP server settings

The Access Portal DHCP server settings allow the Ignition Portal to provide an IP address to each guest user device upon connection to the network. By default, the DHCP server is

enabled on the IN interface. You can also configure Access Portal to use an external DHCP server.

Follow this procedure to configure Access Portal to act as a DHCP server for the client network (default setting).

Procedure

1. On the main Access Portal Administration Web UI page, click **Services** > **DHCP Server**.
2. On the **Services: DHCP server** page, click the **IN** tab.
3. Ensure that the **Enable DHCP Server on IN interface** check box is selected.
4. In the **Range** fields, enter the range of IP addresses that the DHCP server will assign to guest devices.
5. Click **Save**.

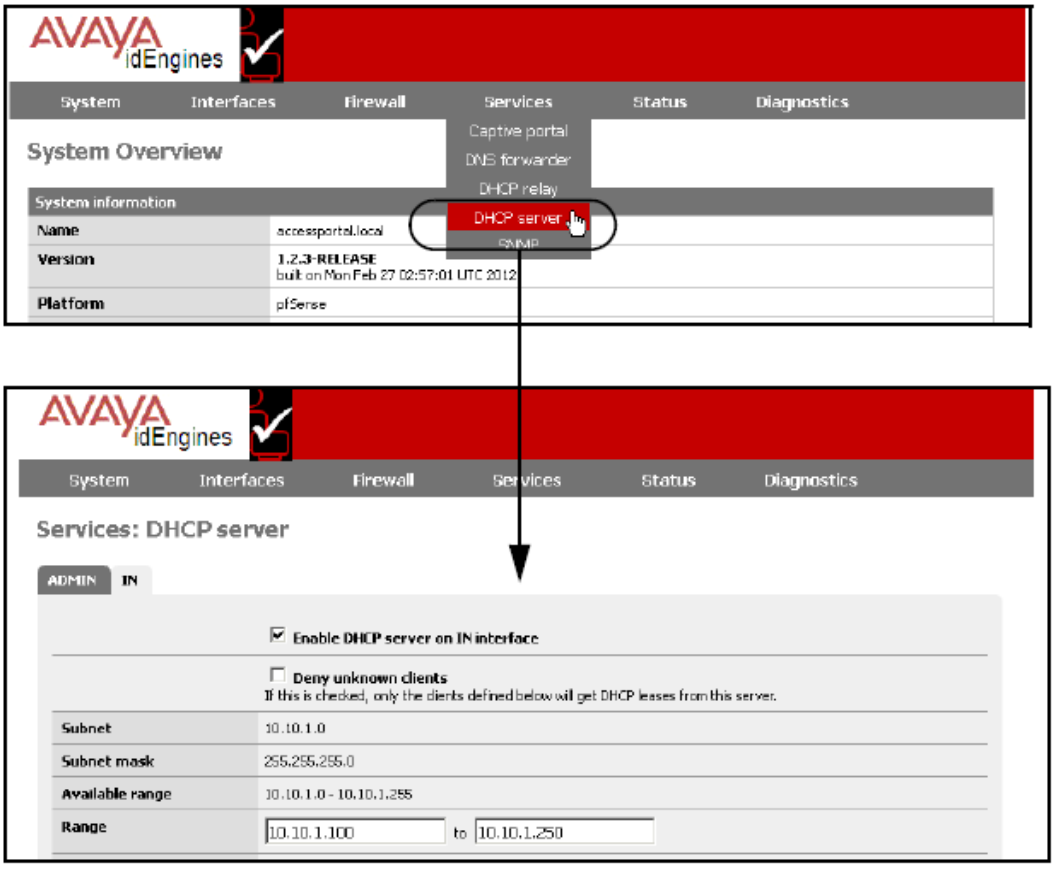


Figure 32: Configuring the Access Portal DHCP settings

To configure Access Portal to use an external DHCP server:

a. On the main Access Portal Administration Web UI page, click **Services > DHCP Relay**.

b. On the **Services: DHCP Relay** page, click the **IN** tab.

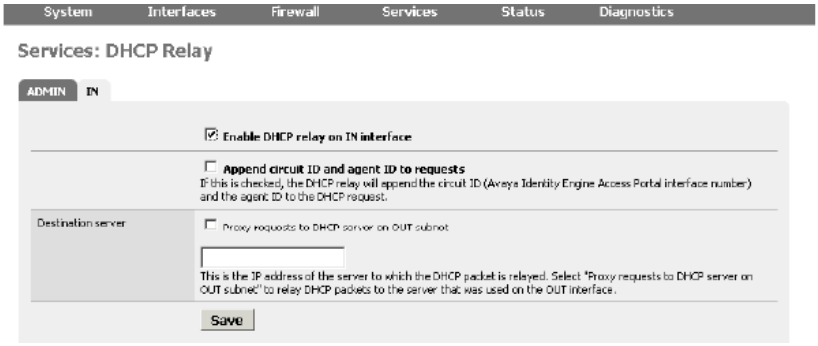


Figure 33: Enabling DHCP relay

c. Select the **Enable DHCP relay on IN interface** check box.

d. In the **Destination server** section, perform one of the following actions:

- If you want to relay DHCP packets to the server that was used on the WAN interface, select the **Proxy requests to DHCP server on WAN subnet** check box.
- If you do not want to relay DHCP packets to the server that was used on the WAN interface, enter the IP address of the server to which the DHCP packet is relayed.

e. Click **Save**.

Configuring the Appliance's Access Portal settings

The Captive Portal settings determine how Access Portal authenticates guests and how it enforces their session timeouts.

Procedure

1. On the main Access Portal Administration Web UI page, click **Services** > **Captive Portal** and click the **Captive Portal** tab. The **Services: Captive portal** page displays.

   Warning:

   Changing any settings on this page disconnects all clients.

2. On the **Services: Captive portal** page, do the following:
   - Ensure that the **Enable captive portal** check box is selected.
   - Ensure that the **Interface** field is set to **IN**.

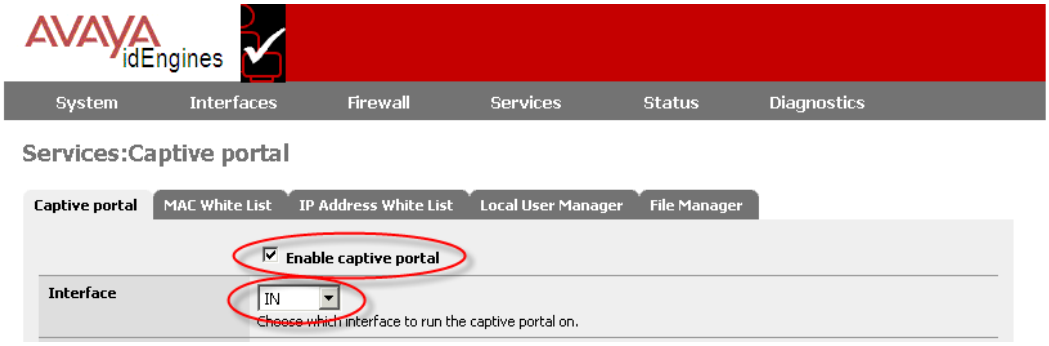


Figure 34: Ensuring Access Portal is enabled and active on the IN interface

3. In the **Idle timeout** field, enter the maximum amount of time, in minutes, the client can sit idle before being disconnected.
4. In the **Hard timeout** field, enter the maximum length of the session regardless of activity, in minutes.

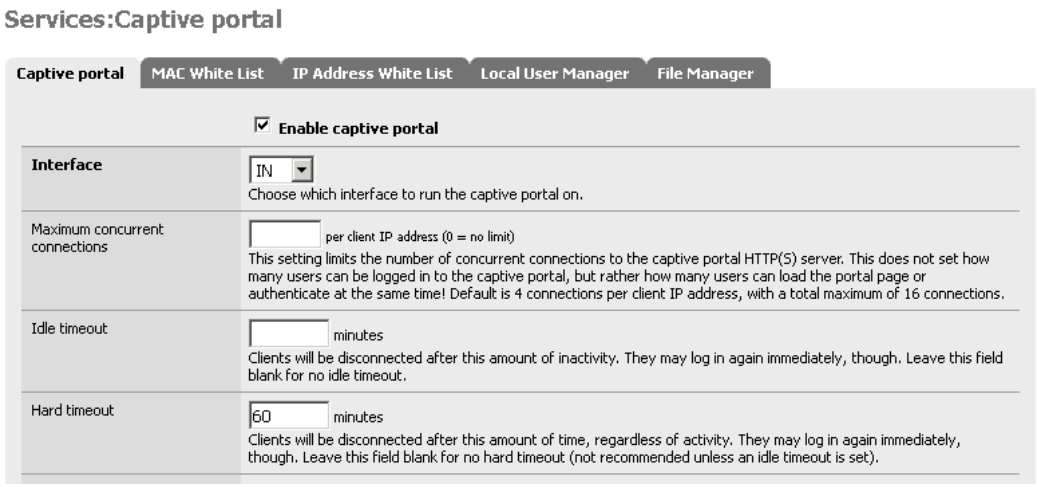


Figure 35: Setting timeouts

5. Scroll down to the **Authentication** section and do the following:
   - Select **RADIUS authentication**.
   - In the **First Ignition Server** section, in the **IP address** field, enter the IP address of the Ignition Server against which users of the Access Portal have to authenticate .
   - In the **Shared secret** field, enter the Ignition Server appliance shared secret.

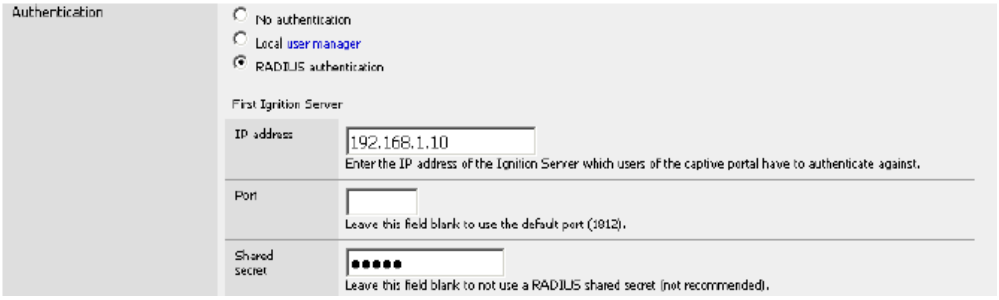


Figure 36: Setting Access Portal Authentication

- In the **Accounting** section, ensure that the **Send RADIUS accounting packets** check box is selected.

  Access Portal sends only the following standard RADIUS attributes:

  - Calling and Called station IDs
  - Framed IP address
  - NAS port
  - NAS port type and
  - Certain RADIUS VSAs for device profiling functionality

  Access Portal does not process any outbound attributes that the Ignition Server sends.

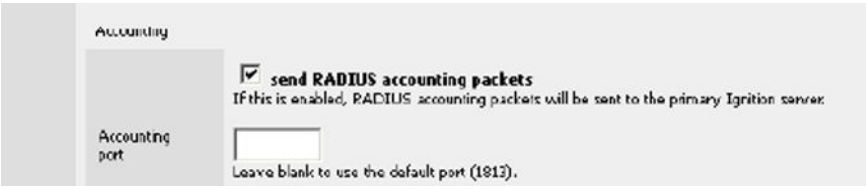


Figure 37: Accounting section

- Configure reauthentication to enforce the timeout of guest network sessions. (The session expiry periods are configured in your Ignition Server authorization policy.) To configure reauthentication, in the **Reauthentication** section, ensure that the **Reauthenticate connected users every 60 seconds** check box is selected.
- In the **Accounting updates** section, select **Stop/start accounting**.

Figure 38: Reauthentication and Accounting updates sections

There is an alternative to the reauthenticate-every-minute approach. You can, instead, configure the time-out directly using an Ignition provisioning policy. To use that approach, do **not** select the **Reauthenticate every minute** check box and create a provisioning policy that sends a RADIUS session time-out attribute value upon authentication of a guest. For more information, see the chapter “Session Provisioning” in *Avaya Identity Engines Ignition Server Administration*, NN47280-600.

6. Click **Save**.

Warning:

Changing any settings on this page disconnects all clients! Don't forget to enable the DHCP server on your captive portal interface! Make sure that the default/maximum DHCP lease time is greater than the time-out entered on this page. The DNS forwarder must be enabled for DNS lookups by unauthenticated clients to work.

Customizing user-visible pages

You can customize three user-visible pages: the login page, the success page,and the authentication error page. First, you create and upload the uservisible HTML pages, and then you select which login, success, and error pages Access Portal will display to users.

Related topics:

Creating customized user-visible pages on page 46
Uploading customized user-visible pages on page 46
Selecting the Access Portal Login page on page 47
Setting up the Success page on page 47
Selecting the Authentication error page contents on page 48

Creating customized user-visible pages

Use a text editor or HTML editor, to create customized user-visible pages.

Your login page must include the PORTAL_ACTION login form shown in the example code in the **Portal page contents** section under **Services** > **Captive Portal**.

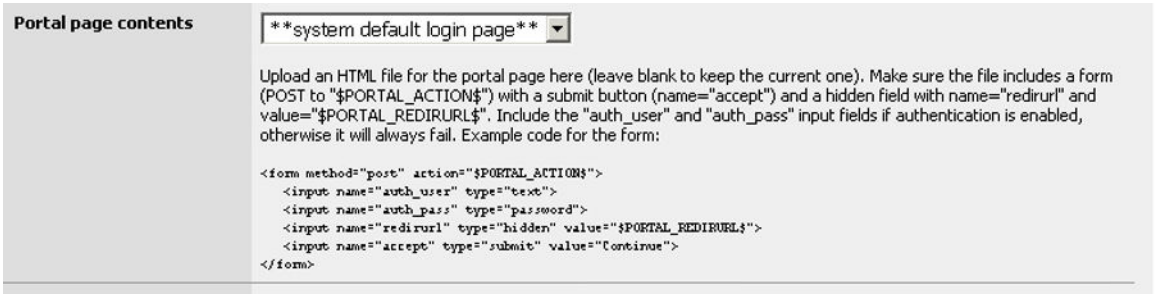


Figure 39: PORTAL_ACTION login form

Ensure that you save your customized pages in HTML format.

Uploading customized user-visible pages

After you save your customized pages in HTML format, you can upload the files into Access Portal. Use the following procedure to load your customized HTML pages into Access Portal.

Procedure

1. On the main Access Portal Administration Web UI page, click **Services** > **Captive Portal**, and click the **File Manager** tab. The window displays a table listing all the files that were previously uploaded.
2. Click the plus sign (**+**) to the right of the bottom row in the table.
3. Click **Browse**, navigate to the desired file, and click **Open**.
4. Click **Upload** to load the file.
5. Repeat Step 2 and Step 4 for each file you want to upload.

   If your customized HTML pages require supporting image files and Cascading Style Sheets (CSS) files, you can upload them using the preceding procedure.

   Any files that you upload here are made available in the root directory of the captive portal HTTP(S) server. You can reference them directly from your portal page HTML code using relative paths.

   Example: You uploaded an image with the name “test.jpg” using the File Manager. Then you can include it in your portal page like this:

<img src="test.jpg" width=... height=...>

You can also upload .php files for execution. You can pass the filename to your custom page from the initial page by using text similar to:

 Acceptable usage policy

The total size limit for all files is 256 KB. If your file size is larger than 256KB, use the Upload Big Files interface on the File Manager page to upload the large files.

The files you upload using the Upload Big Files interface, are not backed up. Use the interface above the Upload Big Files interface to upload files under 256KB.

Selecting the Access Portal Login page

To select the Access Portal login page:

Procedure

1. On the main Access Portal Administration Web UI page, click **Services** > **Captive Portal**.
2. Scroll down to the **Portal page contents** section.
3. From the drop-down list, select the HTML file you want to use for your login page.
4. Click **Save**.

   The portal page displays.

Warning:

Changing any settings on this page disconnects all clients!

Setting up the Success page

Follow this procedure to configure the **Success** page.

Procedure

1. On the main Access Portal Administration Web UI page, click **Services > Captive Portal**.
2. Scroll down to the **Success Page** section.

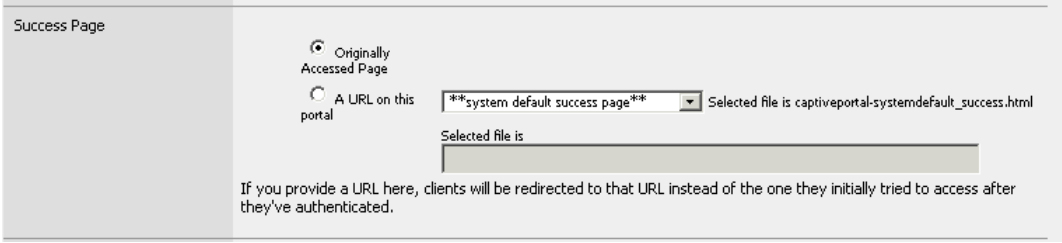


Figure 40: Success page

3. Perform one of the following actions to specify which URL to direct the client to after the client authenticates:
   - If, after clients authenticate, you want to direct them to the URL they initially tried to access, select **Originally Accessed Page**.
   - If, after clients authenticate, you want to direct them to an URL on this portal, select **A URL on this portal** , and specify the URL in the **Selected file is** field .
4. From the drop-down list, perform one of the following actions:
   - To use your customized Success page, select the HTML file you want to use. The guest user sees this page upon successful authentication.
   - To redirect clients, after they have authenticated, to an URL other than the one they initially tried to access, click **On Other Servers: Specify URL below**, and specify the URL in the field below.
5. Click **Save**.

Warning:

Changing any settings on this page disconnects all clients!

Selecting the Authentication error page contents

To select the Authentication error page contents:

Procedure

1. On the main Access Portal Administration Web UI page, click **Services** > **Captive Portal**.
2. Scroll down to the **Authentication error page contents** section.
3. From the drop-down list, select the HTML file you want to use for your authentication failure page. The guest user sees this page if his or her authentication attempt fails.

4. Click **Save.**

Warning:

Changing any settings on this page disconnects all clients!

Providing access to servers or other computers from a client machine

Normally, when Access Portal deploys, a client machine on the IN network issues an HTTP request, Access Portal captures this request, and displays the Access Portal login page, if that client machine is not already authenticated through the portal.

However, in certain situations, you may want to let clients access some servers even before they authenticate. For example, you might want to allow access to Guest Manager from client machines before authenticating with Access Portal. The guests can first access Guest Manager's self provisioning portal to register themselves and get a temporary user name and password. Guests can then log in to Access Portal with those credentials.

To allow this kind of access before Access Portal authentication, add the IP address of your server (Guest Manager in this use case) to the IP White List.

To add an IP address to the IP White List:

Procedure

Go to **Services** > **Captive Portal** and click the **IP White List** tab.

Warning:

Changing any settings on this page disconnects all clients!

Backing up and restoring Access Portal

This section explains how to back up and restore Access Portal.

Related topics:

Introduction to backing up and restoring Access Portal on page 50
Creating a backup on page 50

Introduction to backing up and restoring Access Portal

You can save your Access Portal configuration to a backup file and later restore the configuration by loading the saved file. Having a backup file ensures you can recover from accidental data loss or administrator error. You can also use backup files to set up a replacement Access Portal or to upgrade to a newer version of Access Portal.

Access Portal allows you to backup and restore the entire configuration or parts of the configuration. The backup and restore areas include:

- Aliases
- Firewall Rules
- NAT
- Captive Portal
- Interfaces
- DHCP Server
- Syslog
- System
- or ALL

Creating a backup

Follow this procedure to create a backup of the data on your Access Portal.

Procedure

1. On the main Access Portal Administration Web UI page, click **Diagnostics** > **Backup/Restore**.
2. In the **Backup configuration** section, from the **Backup area** drop-down list, choose the configuration areas you want to back up. Choose **ALL** to back up the entire configuration.
3. Click **Download configuration**.

   The browser prompts you to open or save the file.

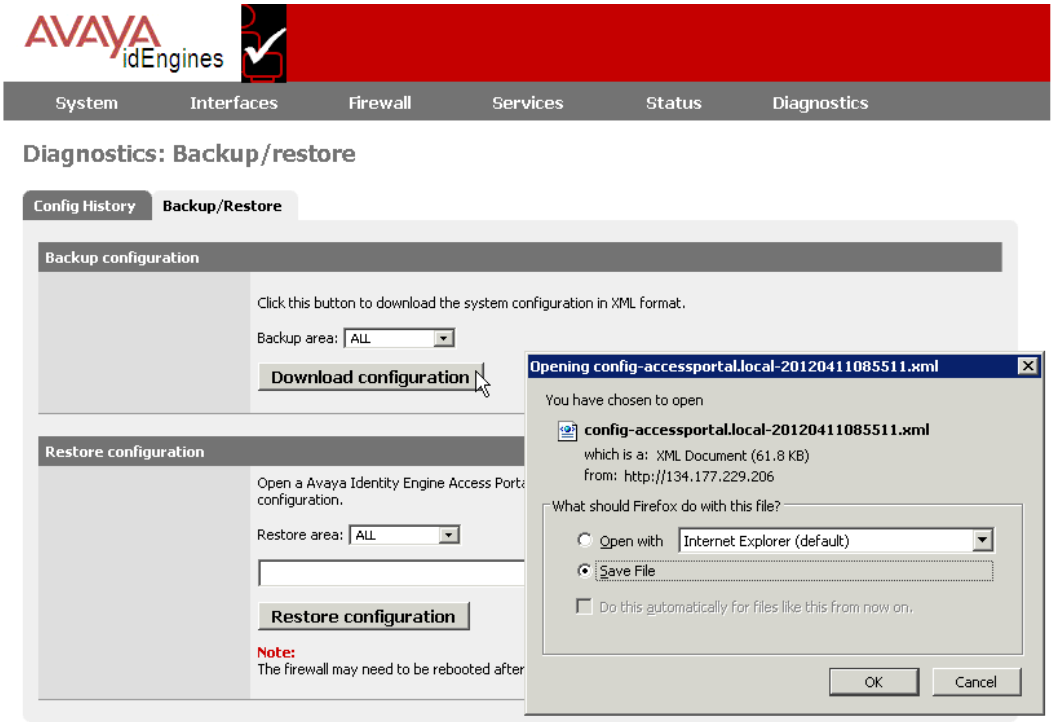


Figure 41: Creating a backup

4. Select **Save File** and click **OK**.
5. Browse to the desired location on your computer, and click **Save**.

Restoring from a backup file

When you perform a restore on Access Portal, the restoration process overwrites the configuration on the Access Portal. Access Portal allows you to restore the entire configuration or parts of the configuration.

Admin interface IP address warning

Warning:

When restoring from a backup file, if you choose **All** to restore the entire configuration or if you choose **interfaces** to restore the interfaces configuration, your Admin port IP address and other network settings are set to the settings from the backup file. Make sure that you know which IP address the ADMIN interface is going to use. If the IP address is different

from the current ADMIN IP, the Access Portal Administration Web UI will no longer be able to function. You will have to point your browser to the new ADMIN IP address.

Admin password warning

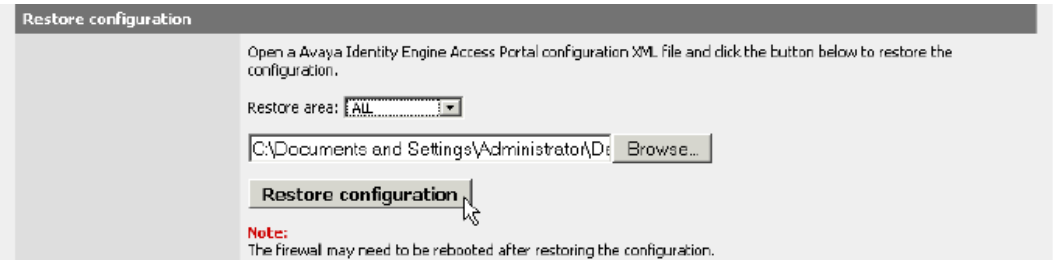
Warning:

If your backed up configuration contains an admin password that is different from the current password, after restoring, you may have to login again with the new password.

Follow this procedure to restore your Access Portal from a backup file.

1. On the main Access Portal Administration Web UI page, click **Diagnostics** > **Backup/Restore**.
2. In the **Restore configuration** section, from the **Restore area** drop-down list, choose the configuration areas you want to restore. Choose **ALL** to restore the entire configuration.
3. Click **Browse** to specify the path and filename for the backup file from which you are restoring the data, and select the file.
4. Click **Restore Configuration**.

   Access Portal may need to reboot the firewall after restoring the configuration.



5. Admin port IP address: If you chose **All** to restore the entire configuration or if you chose **interfaces** to restore the interfaces configuration in Step 2, then the backup file contains an IP address assignment for the Admin Port. The restoration process applies this IP address to the Admin Port of the virtual appliance that you are restoring. If the Admin IP address changes when restoring from a backed up configuration, you must reconnect to the Administration Web UI on the new ADMIN IP interface. If the admin password in the backed up configuration is different from the default *admin*/*admin*, you must use the new password to connect to the Administration Web UI after restoration.

Upgrading Access Portal

Access Portal does not support an in-line upgrade. The only way to upgrade is to deploy a new OVF and restore the new OVF with the configuration backed up from the earlier version of the Portal OVF.

To upgrade Access Portal to the latest version:

Procedure

1. Create a backup of the existing configuration. See Creating a backup on page 50.
2. Make a note of the admin IP address and netmask. You will assign this to the new OVF.
3. Shut down this instance of Access Portal either through the Access Portal Administration Web UI (**Diagnostics** > **Halt System**) or through the console option 4.
4. Install a fresh OVF. See Installing the Access Portal virtualization appliance on page 20.
5. Use the console to assign the admin IP address that you noted in Step 2.
6. Point to the URL http://<admin ip>> and use username: `admin` and password :`admin` to log in.
7. Restore the backed up configuration. See Restoring from a backup file on page 51.
8. After the restore, you must use the password that was in effect when you took the backup of the configuration to log in to the Access Portal Administration Web UI at http://<<admin ip>>.

Chapter 5: Configuring the Ignition Server

This chapter explains how to configure the Ignition Server to work with the Access Portal and how to configure and test user access.

Configuring the Ignition Server to work with the Access Portal

Now that you have finished configuring your Access Portal, you must configure the Ignition Server to work with the Access Portal.

Make sure your Ignition Server is running and accessible on the network. Run Dashboard and configure as shown in the steps below. Note that this is a basic configuration that assumes you will store the guest user accounts locally, on the Ignition Server appliance.

Related topics:

Activating the Access Portal license on page 55
Configuring Access Portal server details on page 56
Editing Access Portal server details on page 58
Introduction to device profiling on page 58
Introduction to MAC authentication on page 60
Configuring MAC authentication on Access Portal on page 61
Configuring the guest access policy in the Ignition server on page 67
Registering authenticators that provide regular user access in the Ignition Server on page 69

Activating the Access Portal license

Access Portal is a licensed feature. You must activate the Access Portal license to enable this feature.

The Access Portal license must match the level of the Ignition Server base license: LARGE, SMALL, or LITE. You can deploy multiple Access Portals under the same single license.

To activate the Access Portal license:

Procedure

1. In the Dashboard **Configuration** tree, click the name of your site.
2. Click the **Licenses** tab.
3. Click **Install**.
4. Find the Access Portal license you received from support and open it in your e-mail tool or text editor. Highlight and copy the text of your license. Copy the whole license including “BEGIN IGNITION LICENSE CERTIFICATE” and “END IGNITION LICENSE CERTIFICATE”.
5. Return to the License Installation window of Dashboard and click **Paste** to paste the license text there. Click **OK**.

Configuring Access Portal server details

After you activate the Access Portal license, you can configure the Access Portal server details. This procedure registers the Access Portal as an authenticator in the Ignition server.

Procedure

1. In the Dashboard Configuration tree, expand the **Access Portal** node, and click on **Access Portal Servers**.
2. Click **New**.

   The **Access Portal Server Details** window displays.

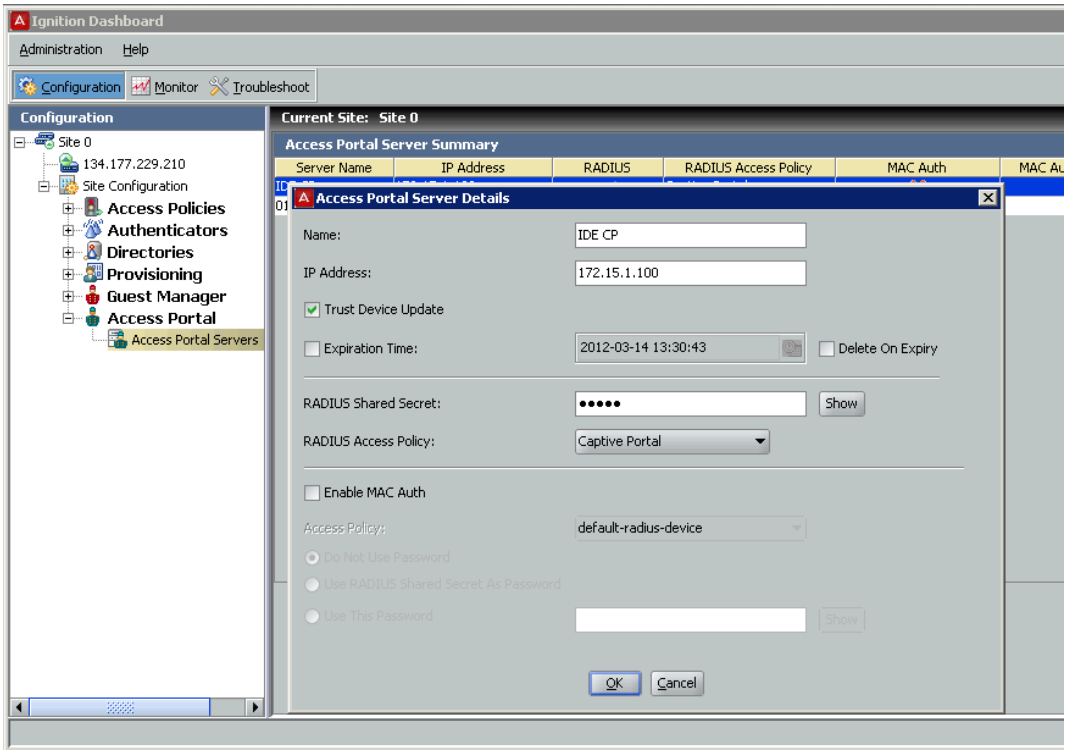


Figure 42: Access Portal Server Details window

3. In the **Access Portal Server Details** window, specify the following:

   - **Name**: Enter a name for the Access Portal.
   - **IP Address**: Enter the IP address of the Access Portal. Ensure that you enter the IP address of the ADMIN interface. Also make sure that Access Portal's ADMIN interface is reachable from the Ignition Server.
   - **Trust Device Update**: Select this check box if you want to use this Access Portal Server for device learning or automatic registration of devices. Note: If you select this check box, you must go to the Access Portal Administration Web UI, click **Services > Captive Portal**, and select the **Enable Device Fingerprinting** check box.
   - **Expiration Time**: Select this check box if you want to specify an expiry date for the devices learned through Access Portal. Click the clock and-calendar icon and use the arrow keys to set the date and time it expires. Click outside the clock and calendar dialog to close it.
   - **Delete On Expiry**: Select this check box if you want the Ignition Server to delete learned devices after the expiry date.
   - **RADIUS Shared Secret**: Enter the Shared Secret that you configured for RADIUS server in Configuring the Appliance's Access Portal settings on page 42
   - **RADIUS Access Policy**: The RADIUS access is enabled by default. Select the Ignition Server access policy that regulates RADIUS access requests

relayed by Access Portal. If you do not select an access policy, Access Portal uses the default access policy (default-radiususer).

- **Enable MAC Auth**: Select this check box to provide authentication based on the MAC address of the device that is trying to connect. See Introduction to MAC authentication on page 60and Configuring MAC authentication on Access Portal on page 61 for information on configuring MAC authentication on Access Portal.

4. Click **OK**.

   The **Access Portal Server Summary** page displays.

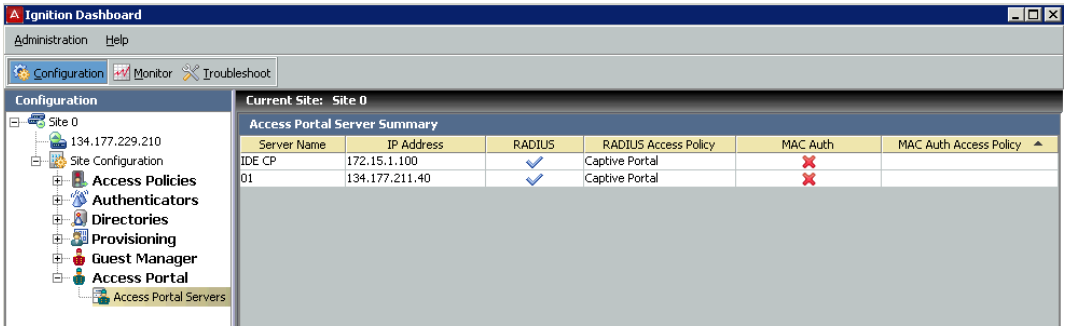


Figure 43: Access Portal Server Summary

Editing Access Portal server details

You can edit the details of the Access Portal server from the Access Portal Server Summary page.

Procedure

1. In the Dashboard **Configuration** tree, expand the **Access Portal** node, and click on **Access Portal Servers**. A list of Access Portals appears.
2. From the list of Access Portals, click on the Access Portal you want to edit.
3. Click **Edit**, and make the required changes.
4. Click **OK**.

Introduction to device profiling

With Bring Your Own Device (BYOD) to work becoming a common scenario in the Enterprise, Enterprise IT needs to support all the unmanaged and untrusted “smart” devices trying to

access the enterprise network. The Avaya Identity Engines Ignition Server (AIEIS) Device Profiling feature addresses this need.

Device Profiling works on a Device Fingerprint which is a compact summary of software and hardware settings collected from a client device. In the AIEIS environment, Device Profiling is used as an automated way to register the devices with the Identity Engines Internal Store.

A user trying to gain network access using a personal or unmanaged device is transitioned to an Access Portal where the portal profiles the device; that is, it.learns the necessary device attributes such as device type, sub type, operating system, and version, and updates the Ignition Server with the device information.

Device profiling allows administrators to write policies based not only on the user that is attempting to connect, but also on the type of device that is being used to connect to the network. The administrator can define policies based on the device attributes; for example, setting bandwidth limitation based on the type of device, allowing laptops to have unlimited access while iPads would not, and setting application-specific QoS, such as allowing only Internet and e-mail access for mobile devices.

Related topics:

Configuring device profiling on page 59

Configuring device profiling

Follow this procedure to configure device profiling.

Procedure

1. From Dashboard, configure Access Portal as an authenticator as a trusted source to learn the devices. See Configuring the Access Portal Server Details to support MAC Auth on page 63. When specifying Access Portal Server details, select the **Trust Device Update** checkbox.
2. From the Access Portal Administration Web UI, click **Services** > **Captive Portal** and select the **Enable Device Fingerprinting** check box.

   Either enable **Trust Device Update** on the Ignition Server and **Device Fingerprinting** on Access Portal, or disable both, as a mismatch can result in unintended updates to the device records.

   Device Profiling can work with MAC Authentication. If you want device profiling to work with MAC Authentication, you must first add the device to the internal store. See Creating a device record on page 64. You can add the device by just specifying the MAC address, and not specifying any other device attributes. When the user tries to login through Access Portal using that device, Identity Engines updates the other device record attributes such as device type, sub type, and OS .

Introduction to MAC authentication

MAC authentication, or MAC address checking, verifies that the MAC address submitted by a connecting client device matches an entry on your list of known MAC addresses. Based on your policies, Ignition Server allows the device to connect to your network (and optionally assigns it to a VLAN) or rejects the device. The list of known MAC addresses is stored in the Ignition Server internal data store (you cannot use an LDAP or AD store for this).

MAC authentication is typically employed on 802.1X-authenticated networks as an 802.1X bypass mechanism for devices that are incapable of performing 802.1X authentication. For example, if your environment contains printers that cannot authenticate using 802.1X, you can configure Ignition Server to allow those devices to connect without performing an 802.1X authentication and to place them on an appropriate, limited-access VLAN.

To enforce MAC authentication, create device records that specify your set of allowed MAC addresses, and create “MAC Auth” rules in Ignition Server that determine which devices are allowed to connect, as well as where and how they are allowed to connect. Typically, these rules also force the device onto the appropriate VLAN.

Important:

Do not confuse MAC authentication with Windows machine authentication and asset correlation, which uses Windows machine authentication. See *Avaya Identity Engines Ignition Server Administration*, NN47280-600.

Warning:

Allowing MAC Authentication Can Reduce Network Security.

Using MAC authentication incorrectly can reduce the overall security of your network. When you activate MAC authentication on an authenticator along with one or more 802.1X authentication methods, the default behavior of most switches means that, even though you have specified 802.1X authentication, the typical switch attempts MAC authentication if the 802.1X user authentication fails. As a result, an ill-intentioned user can exploit the weakness of the less secure MAC authentication to bypass the 802.1X authentication.

In some cases, MAC authentication can be less secure than 802.1X user authentication if it is configured to use only the client device’s MAC address as the credential (instead of using a shared secret as a password). In such a case, if an ill-intentioned user acquires the MAC address of one of your allowed devices, he can pass that MAC address in his access request and gain access to the resources that your policy lists as available through MAC Auth in the applicable access policy.

Avaya recommends you take the following precautions: First, for switches that support per-port configuration of MAC authentication, enable MAC authentication on only those ports that require it, such as ports to which printers and other non-802.1X-compliant devices

connect. Second, place all MAC- authenticated devices on a limited-access VLAN, as explained in the sections that follow.

Configuring MAC authentication on Access Portal

This section shows you how to configure MAC authentication on Access Portal. The required steps are:

- Creating a MAC-Auth policy on page 61
- Configuring Access Portal server details on page 56
- Creating a device record on page 64
- Editing the device template to support MAC authentication on page 66
- Enabling RADIUS MAC authentication on Access Portal on page 67

Related topics:

Creating a MAC-Auth policy on page 61
Configuring the Access Portal Server Details to support MAC Auth on page 63
Creating a device record on page 64
Editing the device template to support MAC authentication on page 66
Enabling RADIUS MAC authentication on Access Portal on page 67

Creating a MAC-Auth policy

This procedure shows you how to write a device authorization policy for client devices such as laptops and printers. We refer to these policies as “MAC-Auth policies.” The MAC-Auth policy identifies each device by means of its MAC address and authorizes it appropriately.

Important:

Do not include any outbound attributes for the Access Portal MAC-Auth policy. Access Portal cannot process any outbound values that the Ignition server sends.

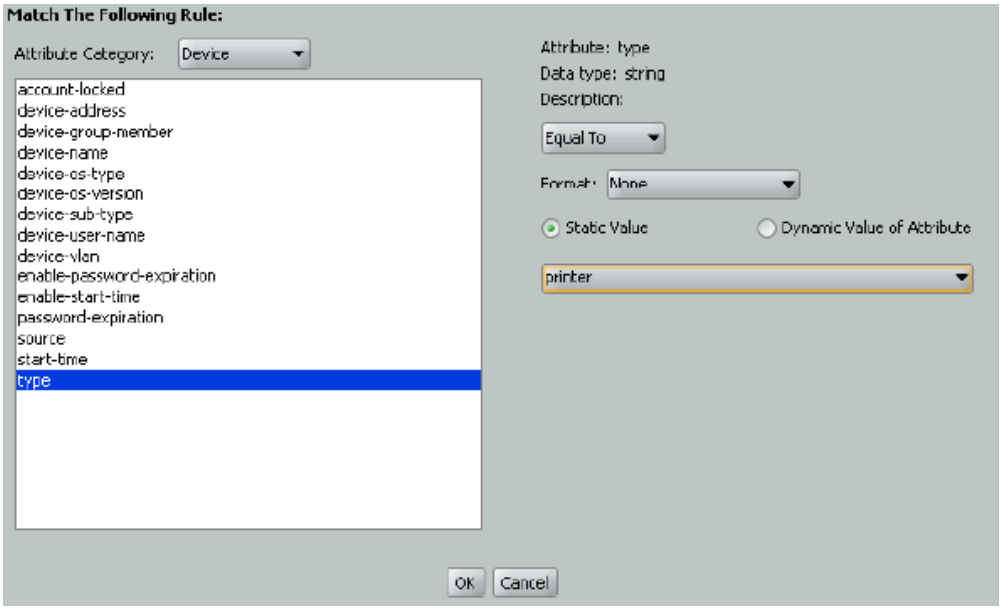
Procedure

1. In the Configuration tree, expand **Access Policies**.
2. Expand **MAC Auth**.
3. Click **New**.
   You can edit an existing policy by clicking its name in the Configuration tree and clicking **Edit** on the right side of the window.
4. Enter a name for the policy and click **OK**.

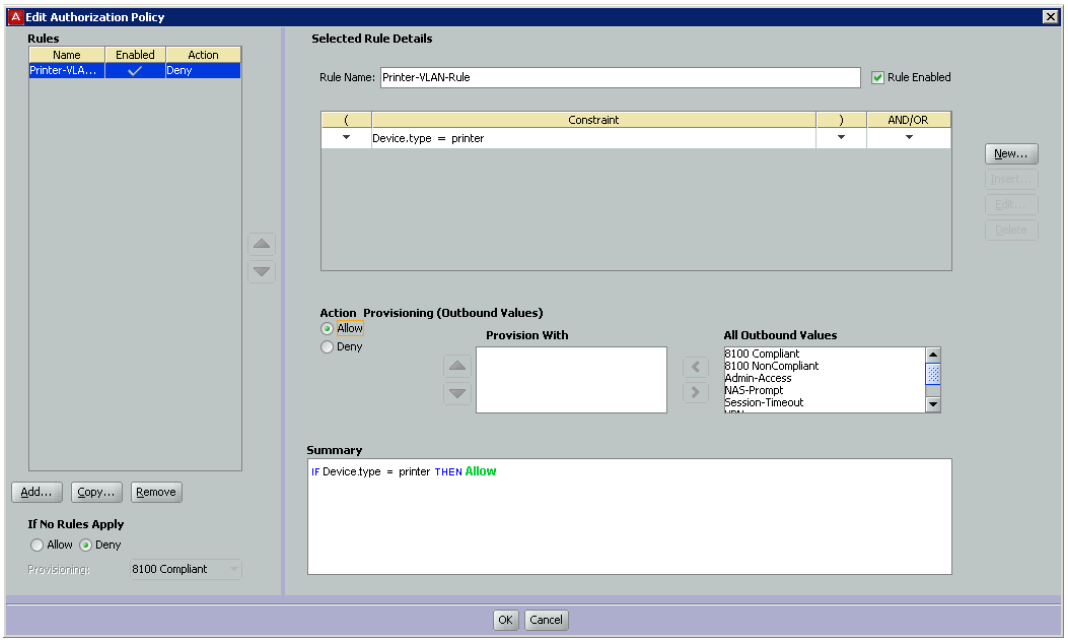
5. Click the policy name in the tree and click **Edit** on the right side of the window.
6. In the **Edit Authorization Policy** window, configure a MAC-Auth policy just as you would a RADIUS user authorization policy. For information on using that window, see *Avaya Identity Engines Ignition Server Administration*, NN47280-600 for details.

   Typically, your MAC-Auth rules evaluates attributes of the connecting device. To configure a MAC Auth rule:

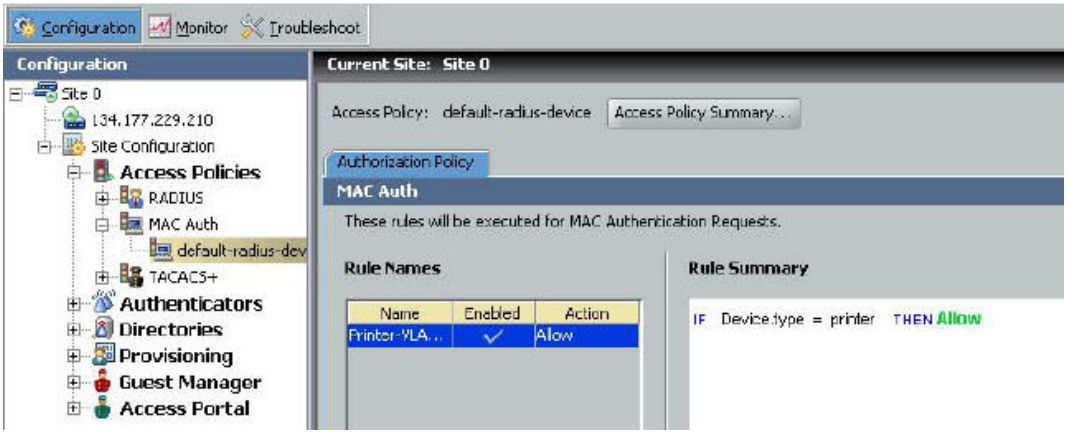
   - In the **Edit Authorization Policy** window, click the **Add** button below the **Rules** list.
   - In the **New Rule** dialog, give the rule a name and click **OK**. For example, you might call the rule, “Printer-VLAN-Rule”,
   - In the **Edit Authorization Policy** window, in the **Selected Rule** details section, click **New** to add a constraint. (You can add as many constraints as you like.)



   - In the **Constraint Details** window, go to the **Attribute Category** dropdown list and click **Device**. In the list below this, choose **type**. In the drop-down list on the right, click **Equal To**. Select the **Static Value** check box. In the drop-down list below this, click **printer**. Click **OK**.
   - In the **Edit Authorization Policy** window, with your “Printer-VLAN-Rule” still selected, under **Action Provisioning** select **Allow**. Click **OK**.



Your policy has been saved.



If your situation requires that your rules evaluate more detailed information, you can store and evaluate additional device information as shown in *Avaya Identity Engines Ignition Server Administration*, NN47280-600.

Configuring the Access Portal Server Details to support MAC Auth

Configure the Access Portal Server Details to support MAC authentication. These settings tell Ignition Server that Access Portal relays MAC authentication requests from devices to the Ignition Server RADIUS service.

Follow this procedure to configure the Access Portal Server Details to support MAC authentication.

Procedure

1. In the Dashboard **Configuration** tree, expand the **Access Portal** node, and click on **Access Portal Servers**. Create or edit the Access Portal Server Details:
   - To create a new Access Portal entry, click **New**.
   - To edit an existing Access Portal entry, from the list of Access Portals, click on the Access Portal you want to edit and click **Edit**.
2. Use the **Access Portal Server Details** window to make these settings:
   - Select the **Enable MAC Auth** check box.
   - In the **Access Policy** drop-down list, click the name of the MAC Auth policy you configured in Creating a MAC-Auth policy on page 61.
   - Specify how the authenticator password should be checked.

     Caution:

     Do not select the **Do not use password** check box. Access Portal requires a password. To use the authenticator's shared secret as the password, select the **Use authenticator's shared secret as password** check box. To specify a password, select the **Use this password** check box, and type the password in the text field.
3. Click **OK**.

Creating a device record

Create a device record for each device allowed to connect to the network. Each device record is a record of a known MAC address. These records are stored in the Ignition Server internal data store; you cannot retrieve device information from an external store. (If you need to create many device definitions, you may prefer to create them in bulk as shown in *Avaya Identity Engines Ignition Server Administration*, NN47280-600.)

To create a device record in Ignition:

Procedure

1. In Dashboard's Configuration hierarchy tree, click your site, expand Site Configuration, expand **Directories**, expand **Internal Store**, and click **Internal Devices**. Click **New**.

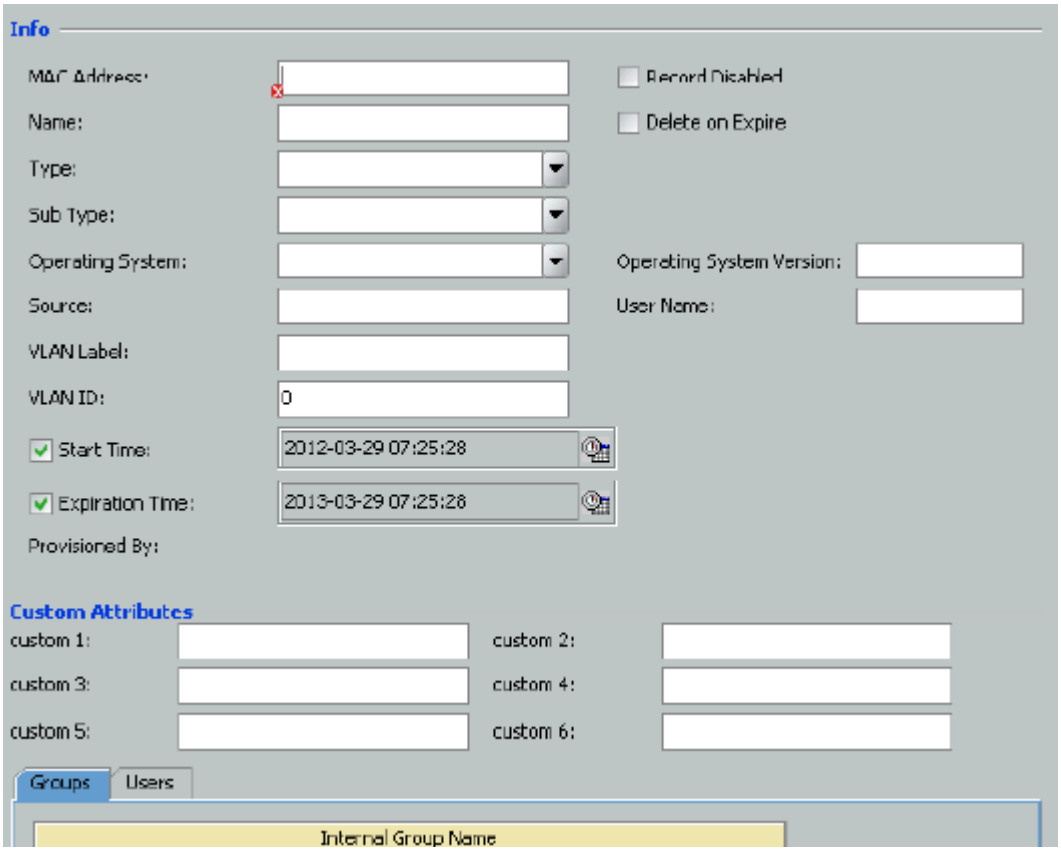


Figure 44: Creating a device record

2. In the **MAC Address** field, specify the MAC address of the device. Enter the address as a string of six octets. You can write the twelve characters without separators, or you can separate the octets with period, colon, or hyphen characters. Do not mix separator characters.
3. If you want to disallow this device from connecting to the network, select the **Record Disabled** check box.
4. In the **Name** field, type a name for the device. This name identifies the device in logs and when you associate it with agroup or user.
5. If you want Ignition Server to delete this record automatically after its expiration date, select the **Delete on Expire** check box. Ignition Server checks hourly for device records in the internal store that have been expired for at least one week. Upon finding such an expired record, Ignition Server checks its **Enable Auto Deletion** setting, and, if the record is set for automatic deletion, deletes it. Deletions take place as time permits. For large sets of records, deletions are spread over a period of hours. Each deletion is logged in the Ignition Server logs.
6. In the **Type** drop-down list, designate what sort of device this is, such as a laptop, printer, or handheld device. You can choose one of the preset values or type your own value.

7. In the **Sub Type** drop-down list, define the details of the device from one of the preset values. For example, if you chose **mobile** as your device Type, you can define the **Sub Type** as iPhone, blackberry, or android phone, and so on.
8. In the **Operating System** drop-down list, select the operating system of the device. You can choose one of the preset values.
9. In the **Operating System Version** field, enter the version of the operating system.
10. In the **User Name field**, enter the name of the user of this device.
11. The **Source** field is typically used only for bulk-imported device records (see “Importing Device Records” in *Avaya Identity Engines Ignition Server Administration*, NN47280-600). The Source indicates the origin of this record. Usually this is the name of the file from which the device record was imported.
12. If you want to have Ignition Server automatically assign this device to a VLAN, enter the VLAN name in the **VLAN Label** field and enter the integer VLAN number in the **VLAN ID** field. If you do not want to assign it to a VLAN, leave these fields blank.
13. Select the **Start Time** check box if you want to specify when the account is to be activated. Click the clock-and-calendar icon and use the arrow keys to set the date and time to enable the account. Click outside the clock and calendar dialog to close it.
14. Select the **Expiration Time** check box if you want to specify an expiry date for the device record. Click the clock-and-calendar icon and use the arrow keys to set the date and time it expires. Click outside the clock and calendar dialog to close it. When an account expires, Ignition Server may delete it, depending on the **Delete on Expire** setting. (See Step 5.)
15. The **Custom Attributes** fields allow you to record additional information about the device. See *Avaya Identity Engines Ignition Server Administration*, NN47280-600.
16. Click **Save** to store the device record.

Editing the device template to support MAC authentication

Ensure that the default device template you are using points to “genericdefault”. Or, if you are using the “generic-avaya” device template, ensure that your MAC Address Source is not set to “Inbound-Calling-Station-Id”. If your MAC Address Source is set to “Inbound-Calling-Station-Id”, change the MAC Address Source to “Inbound-User-Name” to ensure that MAC address recognition will work.

Follow this procedure to change the MAC Address source field to “Inbound-User-Name”.

Procedure

1. In the Dashboard **Configuration** tree, expand the **Site Configuration** node, expand the Provisioning node, and click **Vendors/VSAs**.
2. In the **Vendors** panel, double-click **Avaya** and then click **Device Templates** to display the list of templates.
3. In the list on the right, select **generic-Avaya** and click **Edit**. The **Edit Device Template** window displays.
4. Click **Edit**. The **Edit Device Template Details** window displays.
5. From the **MAC Address Source field**, select **Inbound-User-Name**.
6. Click **OK** and then click **Done**.

Enabling RADIUS MAC authentication on Access Portal

After you set up MAC authentication on Access Portal using Dashboard, you must enable RADIUS MAC authentication on Access Portal using the Access Portal Administration Web UI page.

Follow this procedure to enable RADIUS MAC authentication on Access Portal.

Procedure

1. On the main Access Portal Administration Web UI page, click **Services** > **Captive Portal** and scroll down to the **Authentication** section.
2. In the **RADIUS MAC authentication** section:
   - Select the **Enable RADIUS MAC** authentication check box.
   - In the **Shared secret** field, enter the Ignition Server shared secret.
3. Click **Save**.

Configuring the guest access policy in the Ignition server

Your guest access policy determines how, when, and where guests can connect to your network, and what sections of your network they can use. If you will use Ignition Guest Manager to create guest user accounts, consult *Avaya Identity Engines Ignition Server Administration*, NN47280-600 for instructions.

Tto create a basic guest access policy, perform the following tasks in Dashboard.

Procedure

1. Configure your guest user access policy in the Access Policy panel. In the **Configuration hierarchy** tree, expand the **Access Policy** node, expand **RADIUS**, and click **New** (or, if you wish to edit an existing policy, click its name in the tree).
2. Configure your tunnel policies.

   In the **Access Policy** window, click the **Authentication Policy** tab, and click **Edit**. In the **Authentication Protocols** window, make your tunnel settings. Ensure that you select **PAP** under **None**.
3. Configure your identity routing policy to enable the Ignition Server to find guest user accounts in the Ignition Server embedded user store. To edit this policy, in the **Access Policy** window, click the **Identity Routing** tab and click **Edit**.
   - If you already have an identity routing policy that you wish to use, add the Directory Set, “default set” to your policy, and click **OK** to save the policy. Proceed to Step 4.
   - If you wish to create a new identity routing policy, do the following:
     - In the **Identity Routing Policy** window, click **New**.
     - In the **Realm-Directory Set Map** window configure the Ignition Server to use the embedded user store (or any other target directory): in the **Match Realm** section, select **Realm Not Specified**; in the **Directory Set** section, select **default set** (or any other target set that you wish to use); and in the **Match Authenticator Container** section, select **Disable Authenticator Container Matching**. Click **OK**.
     - In the **Identity Routing Policy** window, select the **Enable Default Directory Set** check box and select **default set** as the Directory Set. Click **OK**.
4. Configure your authorization rules. During user log-in, the Ignition Server checks the user’s credentials (for example, password) to authenticate them, and if authentication succeeds, the Ignition Server evaluates the authorization rules before it grants access.

   The following example steps create an authentication-only rule so that authentication alone is sufficient to gain access. (If you wish to add rules that enforce your company’s network access policy, see the chapter, “User Authorization Policy” in *Avaya Identity Engines Ignition Server Administration*, NN47280-600.)

   To create a basic authorization policy, perform the following tasks.
   - In the **Access Policy** window, click the **Authorization Policy** tab.
   - In the **RADIUS Authorization Policy** section of the window, click **Edit**.
   - In the **Rules** section, click **Add**.
   - In the **New Rule** window, type the name “allow-all” and click **OK**.

- With your rule selected, go to the buttons to the right of the **Constraint** list and click **New**.
- In the **Attribute Category** drop-down list, select the attribute category **System**. In response, the list shows all the attributes for **System**. In the list, select the attribute **True**.
- Click **OK** to close the Constraint Details window and return to the Edit Authorization Policy window.
- In the **Action** section of the **Edit Authorization Policy** window, click **Allow**, and click **OK**.

Registering authenticators that provide regular user access in the Ignition Server

A typical Access Portal deployment runs on the same equipment as the Ignition deployment that authenticates your regular users (for example, your employees). Make sure that your regular user access is configured in Ignition as well.

Related topics:

Wired access for non-guest users on page 69
Wireless access for non-guest users on page 69

Wired access for non-guest users

Make sure that regular user access is configured on the wired switch. This is typically the same switch that you configure for guest user access in Configuring guest access on the wired switch on page 70.

Configure your wired switches as authenticators in the Ignition Server, configuring each to require 802.1X authentication. If authentication fails, the user is mapped to the authentication VLAN network that you create later in this procedure.

Wireless access for non-guest users

Make sure that regular user access is configured on your wireless access points (APs). While this set can include the AP that you configure for guest user access in Configuring wireless guest access on page 72, note that you do not configure the guest SSID for regular users. The SSID that you configure for guest access is a wide-open SSID. For all other SSIDs,

configure 802.1X authentication as usual on the Ignition Server appliance. (See *Avaya Identity Engines Ignition Server Administration*, NN47280-600).

Now that you have created your guest and non-guest access policies, your Ignition Server configuration is complete. For further instructions, consult *Avaya Identity Engines Ignition Server Administration*, NN47280-600 and *Avaya Identity Engines Ignition Guest Manager Configuration*, NN47280-501.

Configuring guest access on the wired switch

Related topics:

Cabling the wired switch on page 70
Configuring VLANs on the wired switch on page 71
Configuring wired switch Ethernet ports on page 71

Cabling the wired switch

On the wired switch that will support guest user connections, make the following cable connections. These steps provide examples based on an Avaya Ethernet Routing Switch 5520.

Procedure

1. Connect the Ignition server appliance to the network. For example, connect the Ignition server appliance's Service Port A to port 1/7 of the Avaya Ethernet Routing Switch 5520
2. Connect the switch to the IN port of the Access Portal appliance. For example, connect switch port 1/11 to the IN port of the Access Portal.
3. Connect the Access Portal to the firewall that will provide an Internet connection for guest users. For example, you might connect the Access Portal WAN port to the WAN1 port of a Fortinet firewall.
4. To provide wireless guest access, connect the wired switch to your guestaccessible wireless access point (AP). For example, connect switch port0/1 to the AP's IN port. This will be an 802.1Q trunk connection.

Configuring VLANs on the wired switch

At a minimum, you need two VLANs to support Access Portal-based authentication:

- *A restricted-reach VLAN* that connects only the guest-accessible wired switches, the guest-accessible wireless access points, and the IN port on the Access Portal. (Note: You set the IP address of the Access Portal IN port in this section: “Setting up the Access Portal IN port” on page 34.)
- One or more *authenticated-access VLANs* that provide the level of access you wish to grant users after they successfully authenticate to Ignition.

Follow this procedure to configure your VLANs.

Procedure

1. Configure your restricted-reach VLAN. In this example, we have created a VLAN called Vlan200 for this. Its VLAN ID is 200. On the example Avaya Ethernet Routing Switch 5520, the Vlan200 settings are:

   ```
   vlan create 200 name Restricted type port
   ```

2. Configure your authenticated-access VLAN. This example uses a VLAN called Vlan1 for this, and we have configured Vlan1 to connect to the Internet through the firewall. Its VLAN ID is 1. On the example Avaya Ethernet Routing Switch 5520, the settings of Vlan1 are:

   ```
   ip address 172.16.100.9 255.255.255.0
   ```

Configuring wired switch Ethernet ports

Perform the following configuration on each guest-accessible wired switch.

Procedure

1. Configure each guest-accessible Ethernet port on the wired switch to require 802.1X authentication. Regular users will authenticate through 802.1X, and guests with non-802.1X compatible hardware will authenticate through the Access Portal. Ports set up for 802.1X supplicant traffic must be assigned to the restricted-reach (guest) VLAN.

   In this example, we use port 1/12 on an Avaya Ethernet Routing Switch 5520, and the VLAN is VLAN 200. The example Avaya Ethernet Routing Switch 5520 settings are:

   ```
   5520-48T-PWR(config)#interface fastEthernet 1/12
   5520-48T-PWR(config-if)#eapol guest-vlan enable
   5520-48T-PWR(config-if)#eapol guest-vlan 200
   ```

```
520-48T-PWR(config-if)#eapol quiet-interval 15
5520-48T-PWR(config-if)#eapol transmit-interval 15
```

2. If guests will connect over wireless, configure the wired switch's Ethernet port that connects to the wireless access point. Configure this port for 802.1Q trunking to the access point. Configure the trunk to carry both the restrictedreach VLAN and authenticated-access VLAN. On the example Avaya Ethernet Routing Switch 5520, the settings are:

```
5520-48T-PWR(config)#vlan ports 1 tagging enable
5520-48T-PWR(config)#vlan ports 1 tagging tagall
5520-48T-PWR(config)#vlan members add 1 1
5520-48T-PWR(config)#vlan members add 200 1
```

3. Configure the wired switch's Ethernet port that connects to the Access Portal appliance's IN port. This port should be configured to carry only the restrictedreach VLAN. In this example, we have designated VLAN 200 for this purpose. Example settings for an Avaya Ethernet Routing Switch 5520 are:

```
5520-48T-PWR(config)#vlan members add 200 11
5520-48T-PWR(config)#vlan ports 1 pvid 200
```

Configuring wireless guest access

To provide wireless guest access, you create a wide-open SSID on a wireless access point (AP). This SSID does not require authentication and places the user on a restricted-reach VLAN. No initial 802.1X session is attempted.

The guest user's supplicant associates with the SSID in open mode (no authentication). The supplicant is automatically mapped to the restricted reach VLAN (the SSID is statically mapped on the AP). This VLAN is the authentication VLAN network, which forces authentication through the Access Portal. In this architecture, the Access Portal is defined as the authenticator in the Ignition server appliance.

The following sections provide generic instructions.

Before you begin

Make sure the wired switch is configured and connected to the wireless access point (AP).

Log into the management screen for your wireless access point and make the following settings.

Procedure

1. Configure the AP's **Primary DNS Server Address** to the IP address of the Access Portal IN port.
2. Configure the AP's **Default Router Address** to the IP address of the Access Portal IN port.

3. Configure the AP's DHCP **Server Address**.

   For most APs, use the IP address of the Access Portal IN port as your **DHCP Server Address**.

4. Create VLAN and SSID definitions on the AP for the restricted-reach VLAN you configured in Configuring VLANs on the wired switch on page 71. This is your guest authentication VLAN / SSID.

   - Configure Layer 2 security to **None** on the VLAN.
   - Configure Layer 3 security to **None** on the VLAN.
   - Give the guest authentication SSID a name that your guest users will easily recognize. In this example, we use the name "Guest" for this SSID.
   - Configure the guest authentication SSID to beacon.

5. Create VLAN and SSID definitions on the AP for the authenticated-access VLAN you configured in this section Configuring VLANs on the wired switch on page 71.

   This is the VLAN / SSID your guests use after successfully authenticating.

   - Typically you leave beaconing turned off for this SSID.

Creating guest user accounts

Create your guest user accounts using either:

- Ignition Guest Manager, as explained in *Avaya Identity Engines Ignition Guest Manager Configuration*, NN47280-501.
- Ignition Dashboard, as explained in *Avaya Identity Engines Ignition Server Administration*, NN47280-600. To allow your front desk personnel to continue creating guest user accounts, configure each front desk clerk as a provisioner in Guest Manager.

Testing wireless guest access

Important:

Access Portal does not support proxy. To allow Access Portal to capture HTTP requests from a client machine, you must either remove the proxy settings from the client browser, or choose the "**auto detect proxy setting for this network**" setting on the browser. If a

proxy is configured, Access Portal is not able to direct HTTP requests to the Access Portal login page.

Follow this procedure to test the wireless guest access.

Procedure

1. Using a laptop with wireless capability, connect to the “guest” SSID that you created in this procedure: Configuring wireless guest access on page 72.
2. Open a web browser on the laptop.
3. Browse to any site.

   For example, type “http://www.yahoo.com”.
4. If correctly configured, the Access Portal forces the browser to display a login page. Enter your Ignition-generated guest user name and password. After authentication, the browser is able to access the Internet.

Testing wired guest access

Important:

Access Portal does not support proxy. To allow Access Portal to capture HTTP requests from a client machine, you must either remove the proxy settings from the client browser, or choose the “**auto detect proxy setting for this network**” setting on the browser. If a proxy is configured, Access Portal is not able to direct HTTP requests to the Access Portal login page.

Follow this procedure to test wired guest access.

Procedure

1. Connect your PC’s Ethernet cable to a port connected to the switch you configured in Configuring guest access on the wired switch on page 70. Make sure that either:
   - the PC has no 802.1X supplicant software installed, or
   - if the PC has an 802.1X supplicant, then make sure you provide an incorrect user name and password, causing authentication to fail.
2. Wait one minute.

   The DHCP negotiation for a wired connection can take up to one minute.

If you do not want to wait, and if you are using a Windows- based PC, then at the DOS prompt, enter: **>ipconfig /release** and then enter **>ipconfig /renew**.

3. Open a web browser on the PC.
4. If correctly configured, the Access Portal forces the browser to display a login page. Enter your Ignition-generated guest user name and password. After authentication, the browser is able to access the Internet.

   Some enterprises can require you to configure the proxy on the browser to access the Internet. If so, configure the proxy after authentication.

   Important:

   When you start a new session, you must remove the proxy to get redirected to the portal login page.

   Network access should be available from the client machine. Other internal sites on the intranet should be accessible.

Chapter 6: Configuring CASE

This chapter explains how to configure Avaya Identity Engines Ignition Client for Accessing Secure Enterprise (CASE) to work with Access Portal.

Configuring the CASE to work with Access Portal

After you deploy Access Portal, you must configure CASE to work with Access Portal. Use the CASE Administrative Console to create a CASE package for your network and to deploy the CASE package to the Access Portal.

Related topics:

CASE Administrative Console overview on page 77
Creating a network profile on page 77
Creating a deployment package on page 78
Deploying packages on page 78

CASE Administrative Console overview

The CASE Administrative Console is a web-based application. The network administrator uses the CASE Administrative Console to build a configuration that specifies the end-user settings for specific network access. This configuration is called a network profile.

Network administrators can define multiple network profiles, each with its own configuration and behavior settings. The network administrator then builds deployment packages that contain one or more network profiles and deploys these packages directly to Access Portal.

Creating a network profile

To create a network profile, see the “Creating a network profile” procedure in the *Avaya Identity Engines Ignition CASE Administration*, NN47280-603.

Creating a deployment package

To create a deployment package, see the “Creating a deployment package” procedure in *Avaya Identity Engines Ignition CASE Administration*, NN47280-603.

Deploying packages

To deploy a package, see the Deploying packages procedure in *Avaya Identity Engines Ignition CASE Administration*, NN47280-603.

Chapter 7: Troubleshooting

This chapter lists solutions for common errors that can occur when configuring Access Portal.

Troubleshooting common problems

The following sections offer solutions and workarounds for commonly reported issues:

Related topics:

Miscellaneous troubleshooting tips on page 81

Problem: Cannot access the Access Portal

You can get to the portal login page from the client machine's browser, by specifying any URL with an IP address, but not when specifying a URL containing the DNS name.

Possible cause: The issue is with DNS name resolution.

Solution

Procedure

1. Make sure that the DNS servers specified in the Access Portal Administration Web UI are correct and the DNS forwarder is configured.
2. Make sure that the connectivity is working.

Problem: You are unable to authenticate a user

Solution

- Under **Services** > **Captive Portal**, verify that your Identity Engines RADIUS server address is correct and the shared secret is identical.
- Under **Status** > **Captive Portal**, remove older sessions and unwanted session(s).
- When connecting from a client, make sure that you close any older browser windows to clear out older sessions. Browser cookies can feed stale data to Access Portal.

Problem: MAC Authentication fails

Solution

- Verify that MAC Authentication is enabled on both the Access Portal Administration Web UI and the Ignition Server.
- Make sure that the shared secret is identical.
- Make sure that your MAC Address Source is not set to “Inbound-Calling-Station-Id”. If it is, change your MAC Address Source to “Inbound-User-Name” or MAC address recognition will not work.

Problem: Cannot launch the Access Portal Administration Web UI

Solution

- Remove any proxy settings on the browser.
- If the machine you are using to connect to the Access Portal Administration Web UI is not on the Admin network, you can add a static route to the network where the machine resides.

Problem: Client is unable to communicate with Access Portal

Solution

- Make sure that the proxy configuration on your Web GUI for the Access Portal Server, as well as the client machine, are turned off.
- Make sure that 802.1x is turned off.
- Make sure that the IP selection is not configured as static. Access Portal is designed to be used in conjunction with a DHCP server.
- Make sure the client's default gateway is pointing towards the IN interface IP address of the Access Portal and they are able to talk to each other.

Problem: You are unable to ping IN and OUT interfaces of Access Portal.

Cause: The Access Portal IN and OUT interfaces do not respond to ping requests, only the ADMIN interface responds to PING requests.

Solution

To check for connectivity on IN and OUT networks, originate ping requests from the IN and OUT interfaces pinging other hosts on the network, rather than pinging from other hosts to these interfaces.

Problem: In Dashboard, you do not see "Access Portal" as the last option in the Configuration list

Solution

You need to install the new FEATURE_PORTAL license.

Miscellaneous troubleshooting tips

- To disable device profiling, turn off device profiling on the Access Portal Administration Web UI as well as in the Ignition Server's Access Portal configuration (that is, clear the "Trusted Device Update" check box). If you turn off device profiling only on the Access

Portal, that only prevents Access Portal from sending attribute information to the Ignition Server. The Ignition Server still attempts to learn devices.

- If you want to specify a RADIUS server that is not accessible through the default gateway configured in the WAN interface, go to **System > Static Route** and add a route to the network where the RADIUS server is present.
- You can view the overall health of your Captive Portal under **Status > System**.
- Under the **Status** heading, you can also view the following:
  - DHCP
  - Interfaces
  - Services
  - System logs
- Under the **Diagnostics** heading, you can view:
  - DHCP leases
  - ARP Table data
  - Routing table diagnostics
- Under the **Diagnostics** heading, you can perform the following actions:
  - Reset state tables
  - Halt system
  - Ping Test
  - Traceroute

Appendix A: Appendix A: Access Portal deployment example

This section covers basic Access Portal configuration, deployment, and verification tasks. This section assumes you are familiar with setting up and maintaining networks and network security.

Planning your deployment

The following is a summary of the process to set up and run Access Portal.

Related topics:

[Determine what kinds of SSIDs exist on your wireless network](#) on page 83
[Determine what kinds of VLANs exist on your wired network](#) on page 83

Determine what kinds of SSIDs exist on your wireless network

Is there a single, secure service set identifier (SSID) for everyone, or are there multiple SSIDs? If there is one SSID, you can define this SSID as the Access Portal network for guest users.

Determine what kinds of VLANs exist on your wired network

Is there a single, secure VLAN for everyone, or are there multiple VLANs? If there are multiple VLANs, you can define the VLANs as different networks for different users. In this case, if 802.1x is enabled, you can deploy the guest VLAN as an Access Portal VLAN in case 802.1x authentication fails.

Network requirements

To deploy Access Portal, you will need the following:

- At least one of the following edge devices:

  - A switch capable of guest/default VLAN
  - An access point capable of one or multiple SSIDs
- A configured Ignition Server supporting providing RADIUS authentication.
- For testing, you will also need a laptop (running Windows XP SP3 or later) with wired and wireless NICs.

Once the network is configured, Avaya recommends that you go through the process manually to verify that the configuration is correct. Before you start using Access Portal, use your wired/wireless-equipped laptop to run the following tests:

1. Connect to the open SSID or guest VLAN. Verify that the laptop receives an IP address from DHCP.
2. Connect to an edge switch. Verify that the laptop receives an IP address from DHCP.

Background

In this example, as shown in the following figure, the network is divided into two logical networks: a wireless guest network, and a wired guest network.

The hardware in the environment includes the following:

- Router (Avaya ERS 8600)
- Avaya ERS 5500 switch
- Avaya Wireless Controller 8100
- Avaya Access Point
- Identity Engines Ignition (RADIUS) server
- Ignition Access Portal

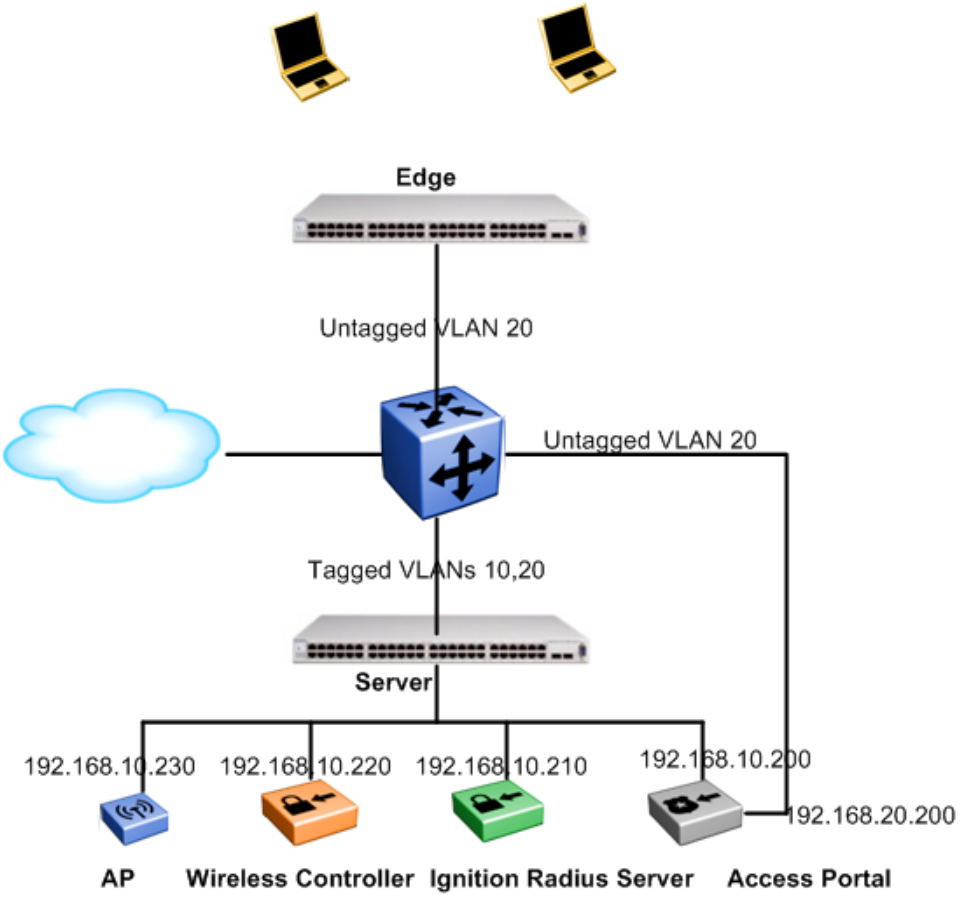


Figure 45: Network configuration

Table 1: Network configuration

	Interface Admin	IN Interface (Access Portal Clients)	OUT interface
Access Portal	192.168.10.200/24	192.168.20.200/24	134.177.213.200/24
Ignition RADIUS Server	192.168.10.210/24		
Wireless Controller	192.168.10.220/24		
Access Point	192.168.10.230/24		

The first logical network is an **open network**. This network acts as the entry point for unconfigured end-users. It is available from both wireless connections and wired connections, using the wireless SSID “open@enterprise.com” — an open, broadcast SSID. It is an Internet-only network and requires web-based login. It does not enforce any application-specific settings, such as firewall. However, the web-hijack mechanism on this SSID encourages end-

users accessing this network to use one of the secure networks. This network is the 192.168.20.0/24 network.

Configuring the Ignition (RADIUS) Server

The RADIUS server is an Identity Engines Ignition Server installation with Ignition RADIUS installed. The RADIUS server authenticates access portal users after users join the open network. It resides at 192.168.10.210 and has a RADIUS authentication port of 1812. It is configured to allow PAP authentication. Several user accounts were created and stored locally.

Under the Access Portal section, add 192.168.10.200 as the Access Portal Server with “test” as the shared secret.

Configuring the Ignition Access Portal (web server)

The following steps explain how to configure the Ignition Access Portal:

Procedure

1. Configure the Admin interface.

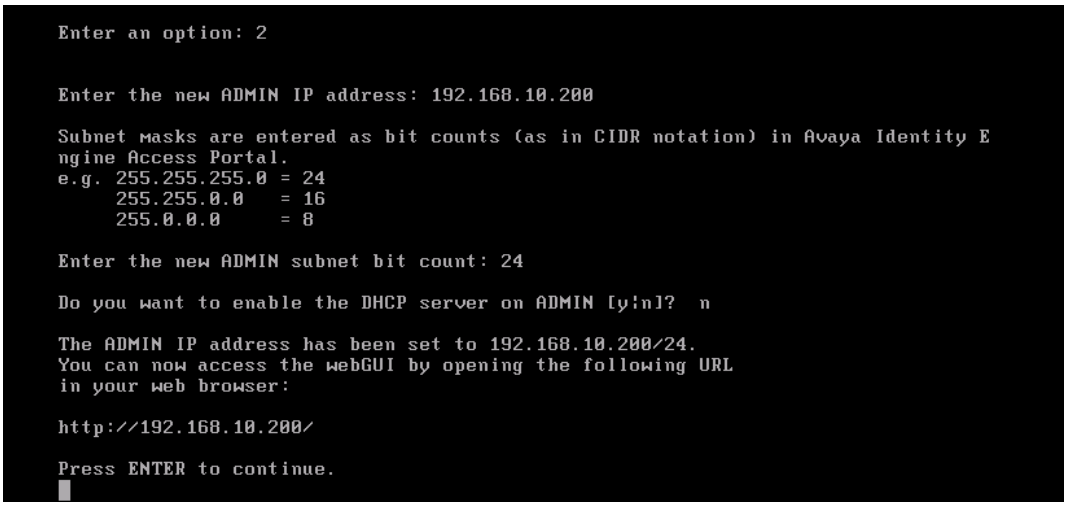


Figure 46: Configuring the admin interface

After configuring the admin interface, use a client machine in same 192.168.10.0/24 network to access the Access Portal Administration Web UI at http://

192.168.10.200. Use the Access Portal Administration Web UI to perform the following steps.

2. Configure the DNS server and the OUT interface.

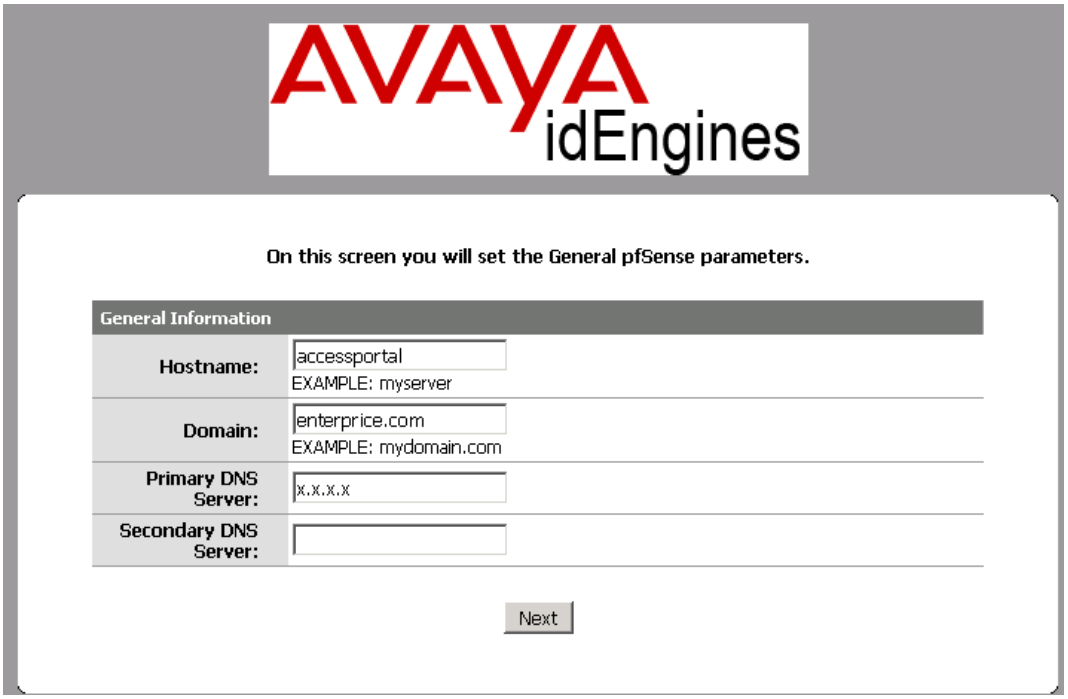


Figure 47: Configuring the DNS server

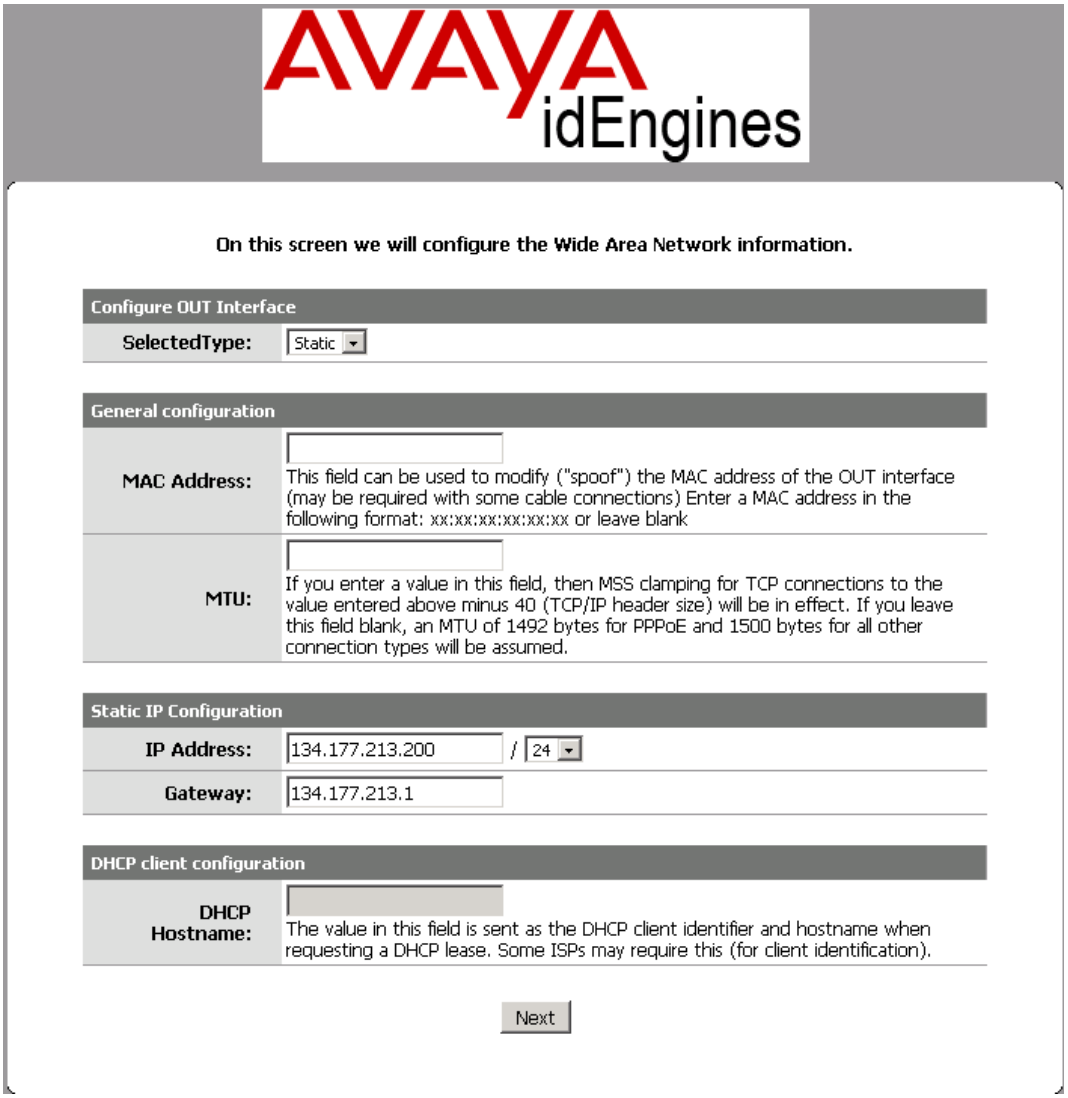


Figure 48: Configuring the OUT interface

Make sure that your DNS is reachable from the OUT Interface.

Click **Next** to accept all the default values, and then click **Reload**.

Access Portal redirects you to the Access Portal main page after 120 seconds or you can click on the Avaya icon to reach the Access Portal main page immediately.

3. Configure the IN interface.

   Click **Interfaces** > **IN**. Configure the IN interface and click **Save**.

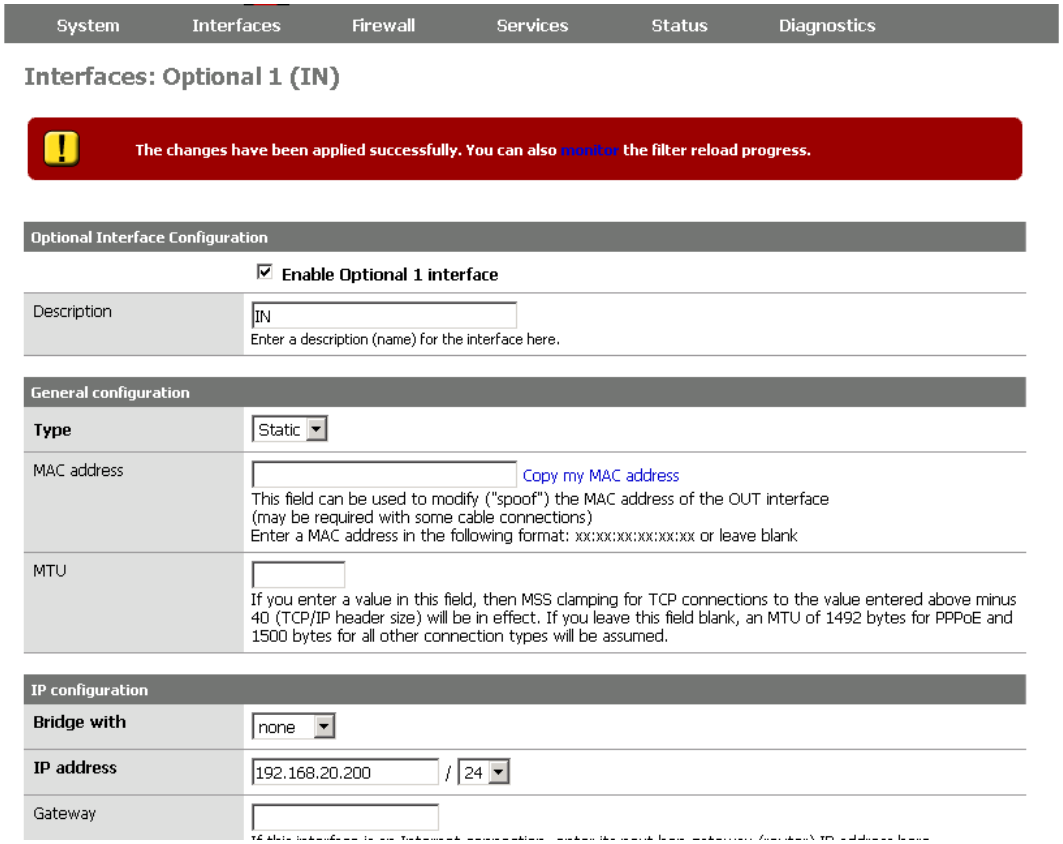


Figure 49: Configuring the IN interface

4. Configure DHCP.

   If you chose Access Portal as a DHCP Server for the Access Portal Client network, click **Services** > **DHCP Server** > **IN**, and then select the **Enable DHCP server on IN interface** check box.

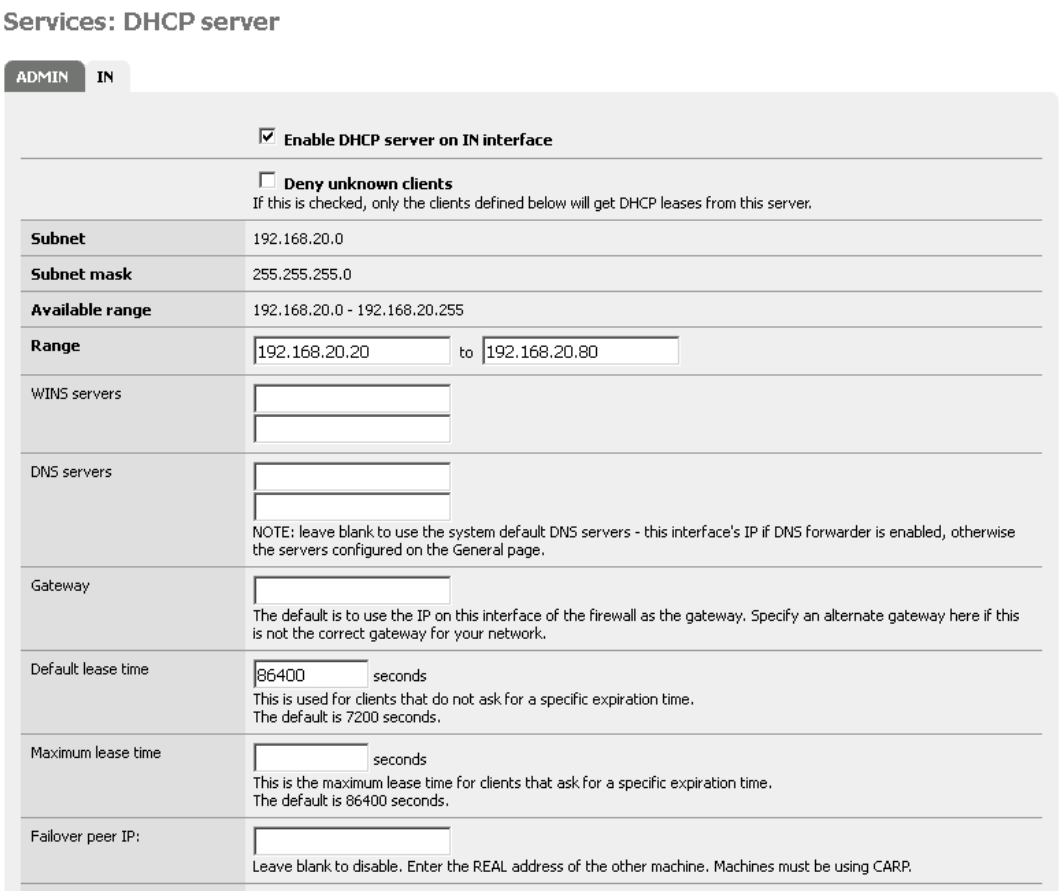


Figure 50: Configuring DHCP

If you want to configure external DHCP, select the **Enable DHCP relay** check box on the IN interface and enter your DHCP Server IP address. In addition, configure 192.168.20.200 as the default gateway and DNS for this subnet.

5. Enable Captive Portal on the IN interface.

   Click **Services** > **Captive Portal** and do the following:

   - Select the **Enable captive portal** check box.
   - From the **Interface** drop-down menu, select **IN**.

6. If you want to authenticate all Access Portal clients against the Ignition RADIUS Server, scroll down to the **Authentication** section and do the following:

   - Select the **RADIUS authentication** radio button.
   - In the **First Ignition Server section**, in the **IP address** field, enter 192.168.10.210.
   - In the **Shared Secret** field, enter “**test**”.

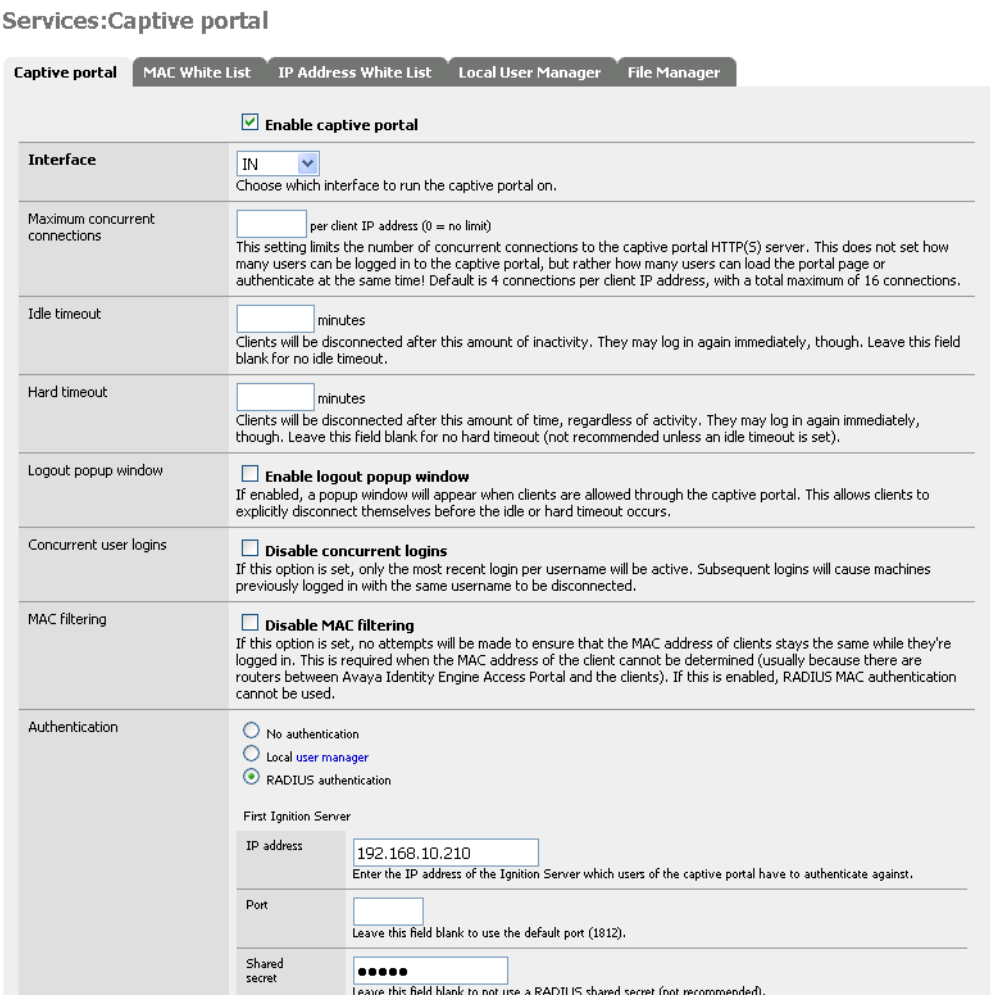


Figure 51: Enabling Captive portal on the IN interface

Configuring the Avaya wireless controller

When an end-user accesses the SSID, the end-user traffic needs to be sent out through an interface on the controller. We need to create an interface for this SSID. In doing so, we will use VLAN 20.

- Configure guest VLAN 20 on WC8100 and map it to “open” mobility VLAN
- Configure open SSID mapped to this VLAN

SSID

open@enterprise.com

WC8180(config-wireless)#network-profile 1

WC8180(config-network-profile)#profile-name Open

WC8180(config-network-profile)#ssid open@enterprise.com

WC8180(config-network-profile)#mobility-vlan open

Configuring the edge switch

To configure the edge switch, you must:

- Configure guest VLAN 20
- Assign all the port to this VLAN

5520-48T-PWR(config)#vlan create 20 name guest type port

5520-48T-PWR(config)#vlan members add 20 1-48

5520-48T-PWR(config)#vlan ports 1-48 pvid 20

Verification

Follow this procedure to verify your configuration.

Procedure

1. Connect your laptop to a wireless or wired connection and check the IP address settings.

   The gateway and DNS IP address must be 192.168.20.200.

   Table 2: Ethernet adapter external

Connection-specific DNS Suffix	enterprise.com
Description	Realtek RTL8139 Family PCI Fast Ethernet NIC
Physical Address	00-40-F4-35-05-C8
DHCP Enabled	Yes
IP Address	192.168.20.80
Subnet Mask	255.255.255.0

Default Gateway	192.168.20.200
DNS Servers	192.168.20.200

2. Open a web browser and try to access any web page.
   Access Portal redirects to the **Ignition Access Portal Login** page.

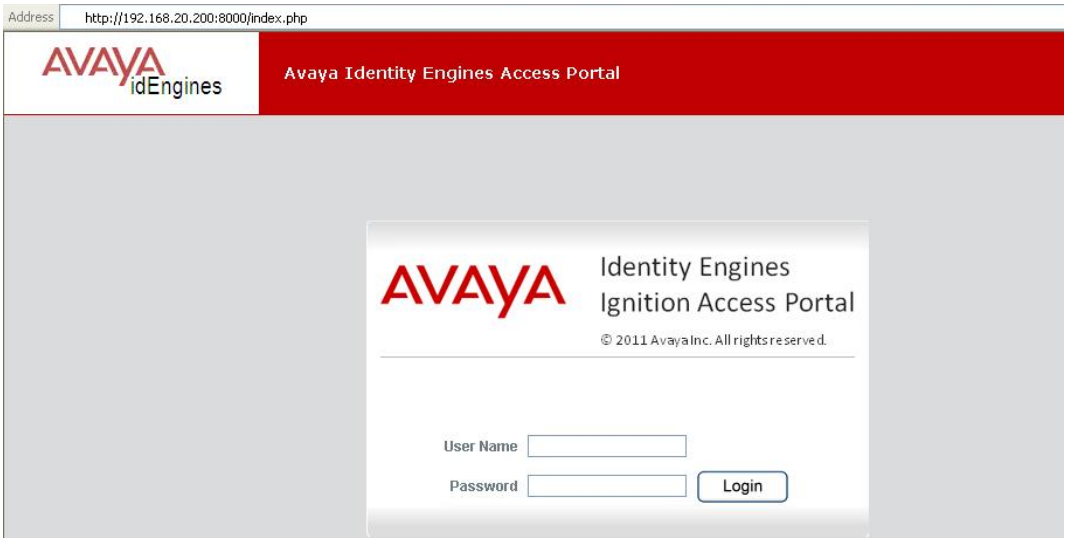


Figure 52: Access Portal login page

3. On the **Access Portal Login** page, enter the User Name and Password that you created on the Ignition RADIUS Server and click Login.
   Access Portal displays a success page.

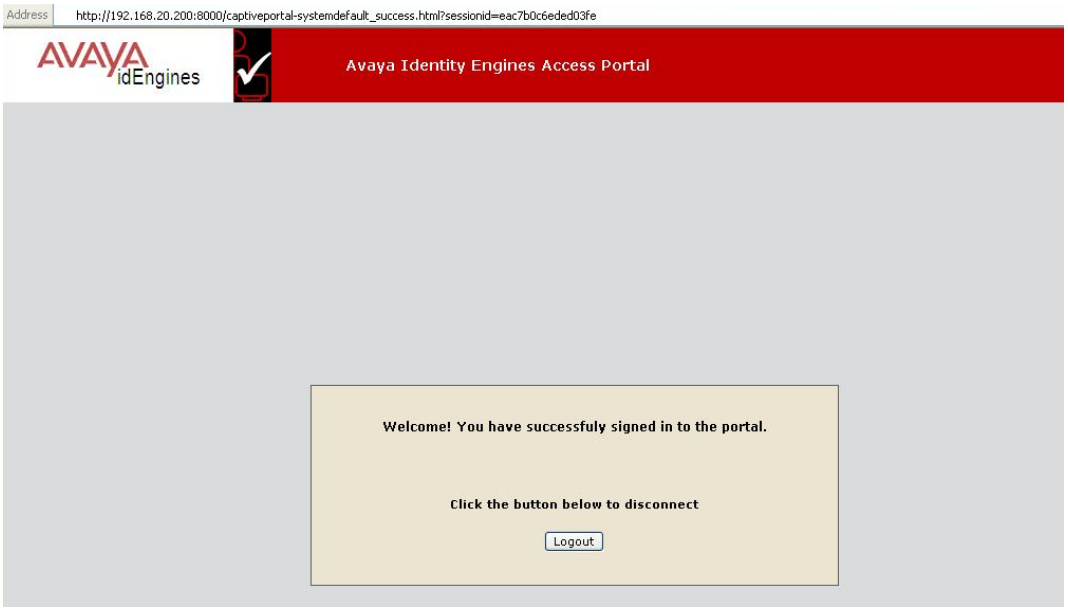


Figure 53: Access Portal success page