Classify End-Users for Policy Application

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Overview of Classify Users and Client Software

Identification Profiles let you classify users and user agents (client software) for these purposes:

- Group transaction requests for the application of policies (except SaaS)
- Specification of identification and authentication requirements

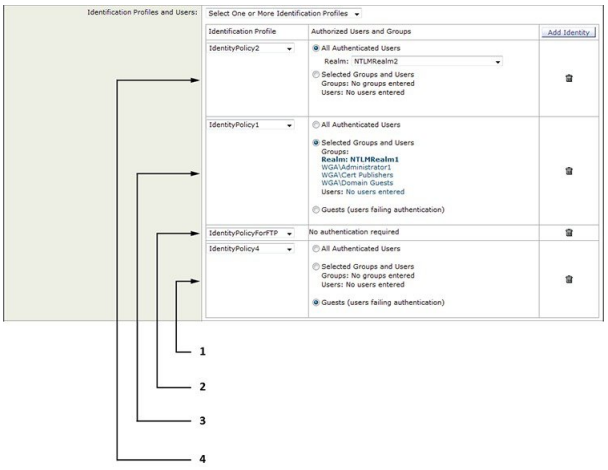
AsyncOS assigns an Identification Profile to every transaction:

- Custom Identification Profiles — AsyncOS assigns a custom profile based on that identity's criteria.
- The Global Identification Profile — AsyncOS assigns the global profile to transactions that do not meet the criteria for any custom profile. By default, the global profile does not require authentication.

AsyncOS processes Identification Profiles sequentially, beginning with the first. The global profile is the last profile.

An Identification Profile may include only one criterion. Alternately, Identification Profiles that include multiple criteria require that all the criteria are met.

One policy may call on multiple Identification Profiles:



1	This Identification Profile allows guest access and applies to users who fail authentication.
2	Authentication is not used for this Identification Profile.
3	The specified user groups in this Identification Profile are authorized for this policy.
4	This Identification Profile uses an authentication sequence and this policy applies to one realm in the sequence.

Classify Users and Client Software: Best Practices

- Create fewer, more general Identification Profiles that apply to all users or fewer, larger groups of users. Use policies, rather than profiles, for more granular management.
- Create Identification Profiles with unique criteria.
- If deployed in transparent mode, create an Identification Profile for sites that do not support authentication. See Bypassing Authentication.

Identification Profile Criteria

These transaction characteristics are available to define an Identification Profile:

Option	Description
Subnet	The client subnet must match the list of subnets in a policy.
Protocol	The protocol used in the transaction: HTTP, HTTPS, SOCKS, or native FTP.
Port	The proxy port of the request must be in the Identification Profile's list of ports, if any are listed. For explicit forward connections, this is the port configured in the browser. For transparent connections, this is the same as the destination port.

Option	Description
User Agent	The user agent (client application) making the request must be in the Identification Profile's list of user agents, if any are listed. Some user agents cannot handle authentication, therefore creating an profile that does not require authentication is necessary. User agents include programs such as updaters and browsers, such as Internet Explorer and Mozilla Firefox.
URL Category	The URL category of the request URL must be in the Identification Profile's list of URL categories, if any are listed.
Authentication requirements	If the Identification Profile requires authentication, the client authentication credentials must match the Identification Profile's authentication requirements.

Classifying Users and Client Software

Before you begin

- Create authentication realms. See How to Create an Active Directory Authentication Realm (NTLMSSP and Basic) or Creating an LDAP Authentication Realm .
- Be aware that when you commit changes to Identification Profiles, end-users must re-authenticate.
- If you are in Cloud Connector mode, be aware that an additional Identification Profile option is available: Machine ID. See Identifying Machines for Policy Application.
- (Optional) Create authentication sequences. See Creating Authentication Sequences
- (Optional) Enable Secure Mobility if the Identification Profile will include mobile users.
- (Optional) Understand authentication surrogates. See Tracking Identified Users .

Procedure

Step 1 Choose **Web Security Manager** > **Identification Profiles**.

Step 2 Click **Add Profile** to add a profile.

Step 3 Use the **Enable Identification Profile** check box to enable this profile, or to quickly disable it without deleting it.

Step 4 Assign a unique profile **Name**.

Step 5 A **Description** is optional.

Step 6 From the **Insert Above** drop-down list, choose where this profile is to appear in the table.

Note
Position Identification Profiles that do not require authentication above the first Identification Profile that requires authentication.

Step 7 In the **User Identification Method** section, choose an identification method and then supply related parameters; displayed options vary according to the method chosen.

a) Choose an identification method from the **User Identification Method** drop-down list.

Option	Description
Exempt from authentication/ identification	Users are identified primarily by IP address. No additional parameters are required.
Authenticate users	Users are identified by the authentication credentials they enter.
Transparently identify users with ISE	Available when the ISE service is enabled (Network > Identity Services Engine). For these transactions, the user name and associated Secure Group Tags will be obtained from the Identity Services Engine. In ISE-PIC deployments, ISE groups and users information is received. For more information, see Tasks for Integrating the ISE/ISE-PIC Service.
Transparently identify users with authentication realm	This option is available when one or more authentication realms are configured to support transparent identification.

Note
When at least one Identification Profile with authentication or transparent identification is configured, the policy tables will support defining policy membership using user names, directory groups, and Secure Group Tags.

Note
Context Directory Agent (CDA) has reached End of Support. It is recommended configuring ISE/ISE-PIC for transparent user authentication instead of CDA.

b) Supply parameters appropriate to the chosen method. Not all of the sections described in this table are visible for each choice.

Fallback to Authentication Realm or Guest Privileges	If user authentication is not available from ISE: • **Support Guest Privileges** – The transaction will be allowed to continue, and will match subsequent policies for Guest users from all Identification Profiles. • **Block Transactions** – Do not allow Internet access to users who cannot be identified by ISE. • **Support Guest privileges** – Check this box to grant guest access to users who fail authentication due to invalid credentials.

Authentication Realm	**Select a Realm or Sequence**—Choose a defined authentication realm or sequence. **Select a Scheme**—Choose an authentication scheme: • **Kerberos**—The client is transparently authenticated by means of Kerberos tickets. • **Basic** – The client always prompts users for credentials. After the user enters credentials, browsers typically offer a check box to remember the provided credentials. Each time the user opens the browser, the client either prompts for credentials or resends the previously saved credentials. Credentials are sent unsecured as clear text (Base64). A packet capture between the client and Web Security Appliance can reveal the user name and passphrase. • **NTLMSSP**—The client transparently authenticates using its Windows login credentials. The user is not prompted for credentials. However, the client prompts the user for credentials under the following circumstances: • The Windows credentials failed. • The client does not trust the Web Security Appliance because of browser security settings. Credentials are sent securely using a three-way handshake (digest style authentication). The passphrase is never sent across the connection. • **Header Based Authentication** —The Client and the Web Security Appliance considers the user as authenticated and does not prompt again for authentication or user credentials. The X-Authenticated feature works when the Web Security Appliance acts as an upstream device. After successful authentication, the downstream device sends the user name and user groups (optional) to the Web Security Appliance through the X-Authenticated-User and X-Authenticated-Groups (optional) extended HTTP headers. The X-Authenticated-Groups header will be considered, only if you configure the **Use Groups in X-Authenticate-Groups Header/Custom Header for matching Access Policies** option in the appliance (**Network** > **Authentication** > **Edit Global Settings**). **Note** X-Authenticated headers are applicable only on Access Policies or Routing Policies. However, associating the Identification Profile that has **Header Based Authentication** enabled, to a decryption policy will not be matched. • **Support Guest privileges** – Check this box to grant guest access to users who fail authentication due to invalid credentials.
Realm for Group Authentication	• **Select a Realm or Sequence** – Choose a defined authentication realm or sequence.

Authentication Surrogates	Specify how transactions will be associated with a user after successful authentication (options vary depending on Web Proxy deployment mode): • **IP Address** – The Web Proxy tracks an authenticated user at a particular IP address. For transparent user identification, select this option. • **Persistent Cookie** – The Web Proxy tracks an authenticated user on a particular application by generating a persistent cookie for each user per application. Closing the application does not remove the cookie. • **Session Cookie** – The Web Proxy tracks an authenticated user on a particular application by generating a session cookie for each user per domain per application. (However, when a user provides different credentials for the same domain from the same application, the cookie is overwritten.) Closing the application removes the cookie. • **No Surrogate** – The Web Proxy does not use a surrogate to cache the credentials, and it tracks an authenticated user for every new TCP connection. When you choose this option, the web interface disables other settings that no longer apply. This option is available only in explicit forward mode and when you disable credential encryption on the Network > Authentication page. • **Apply same surrogate settings to explicit forward requests** – Check to apply the surrogate used for transparent requests to explicit requests; enables credential encryption automatically. This option appears only when the Web Proxy is deployed in transparent mode. **Note** • You can define a timeout valve for the authentication surrogate for all requests in Global Authentication Settings. • If you have configured the Identification Profiles to use different authentication surrogates (IP address, persistent cookie, session cookie, and so on), then the access is authenticated using the IP address surrogate even though the access matches Identification Profiles with other surrogates.

Step 8 In the **Membership Definition** section, supply membership parameters appropriate to the chosen identification method. Note that all of the options described in this table are not available to every User Identification Method.

Membership Definition	
Define Members by User Location	Configure this Identification Profile to apply to: **Local Users Only**, **Remote Users Only**, or **Both**. This selection affects the available authentication settings for this Identification Profile.
Define Members by Subnet	Enter the addresses to which this Identification Profile should apply. You can use IP addresses, CIDR blocks, and subnets. **Note** If nothing is entered, the Identification Profile applies to all IP addresses.

Define Members by Protocol	Select the protocols to which this Identification Profile should apply; select all that apply: • **HTTP/HTTPS** – Applies to all requests that use HTTP or HTTPS as the underlying protocol, including FTP over HTTP, and any other protocol tunneled using HTTP CONNECT. • **Native FTP** – Applies to native FTP requests only. • **SOCKS** – Applies to SOCKS Policies only
Define Members by Machine ID	• **Do Not Use Machine ID in This Policy** – The user is not identified by machine ID. • **Define User Authentication Policy Based on Machine ID** – The user is identified primarily by machine ID. Click the Machine Groups area to display the Authorized Machine Groups page. For each group you want to add, in the Directory Search field, start typing the name of the group to add and then click Add. You can select a group and click Remove to remove it from the list. Click Done to return to the previous page. Click the Machine IDs area to display the Authorized Machines page. In the Authorized Machines, field, enter the machine IDs to associate with the policy then click Done. **Note** Authentication using Machine ID is supported only in Connector mode and requires Active Directory.

Advanced	Expand this section to define additional membership requirements. • **Proxy Ports** – Specify one or more proxy ports used to access the Web Proxy. Enter port numbers separated by commas. For explicit forward connections, the proxy port is configured in the browser. For transparent connections, this is the same as the destination port. Defining identities by port works best when the appliance is deployed in explicit forward mode, or when clients explicitly forward requests to the appliance. Defining identities by port when client requests are transparently redirected to the appliance may result in some requests being denied. • **URL Categories** – Select user-defined or predefined URL categories. Membership for both is excluded by default, meaning the Web Proxy ignores all categories unless they are selected in the Add column. If you need to define membership by URL category, only define it in the Identity group when you need to exempt from authentication requests to that category. • **User Agents** – Defines policy group membership by the user agents found in the client request. You can select some commonly defined agents, or define your own using regular expressions. Also specify whether these user-agent specifications are inclusive or exclusive. In other words, whether membership definition includes only the selected user agents, or specifically excludes the selected user agents

Step 9 Submit and Commit Changes.

What to do next

- Overview of Acquire End-User Credentials
- Managing Web Requests Through Policies Task Overview

Enable/Disable an Identity

Before you begin

- Be aware that disabling an Identification Profile removes it from associated policies.
- Be aware that re-enabling an Identification Profile does not re-associate it with any policies.

Procedure

Step 1 Choose **Web Security Manager** > **Identification Profiles**.

Step 2 Click a profile in the Identification Profiles table to open the Identification Profile page for that profile.

Step 3 Check or clear **Enable Identification Profile** immediately under Client/User Identification Profile Settings.

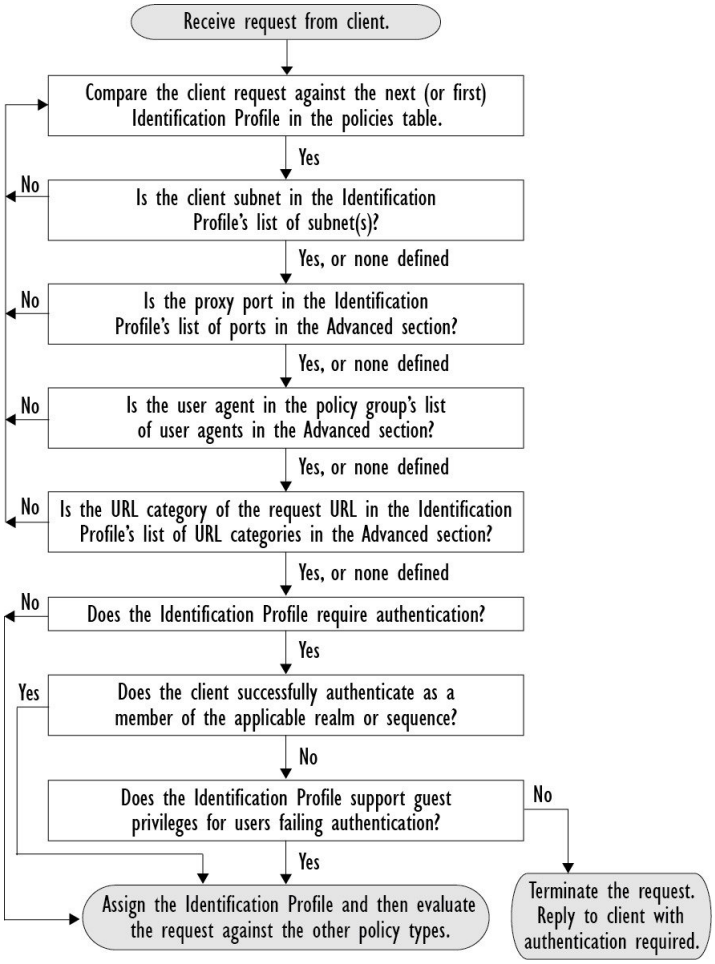
Step 4 Submit and Commit Changes.

Identification Profiles and Authentication

The following diagram shows how the Web Proxy evaluates a client request against an Identification Profile when the Identification Profiles is configured to use:

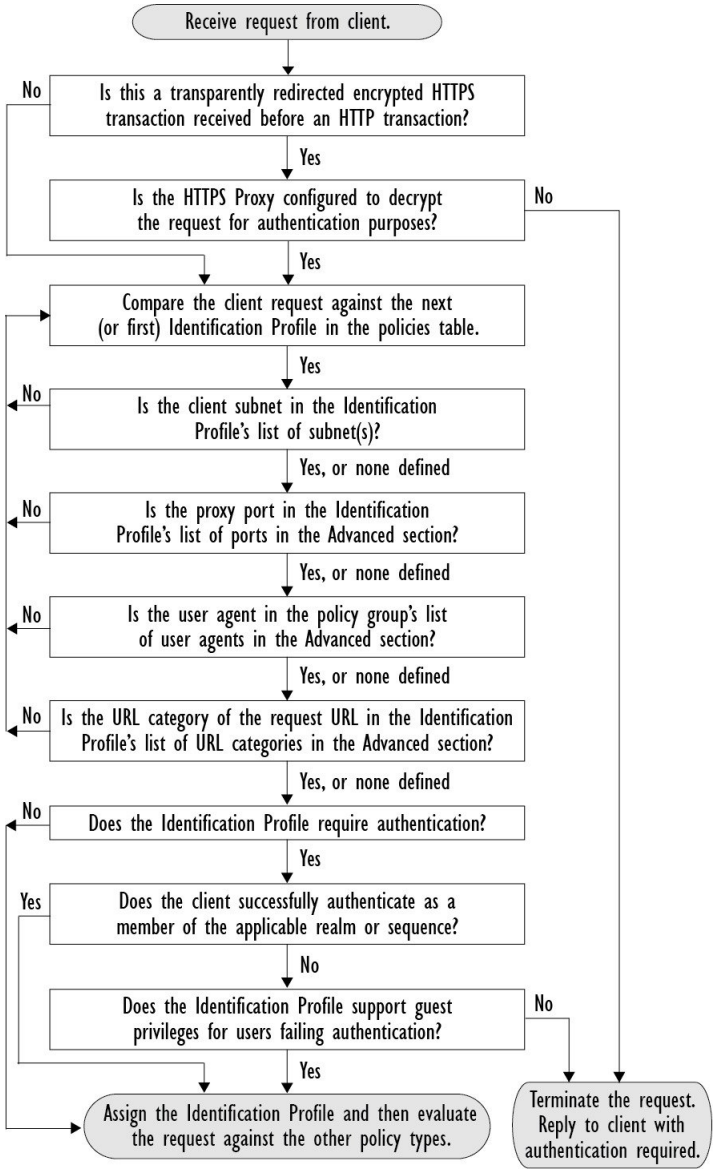
- No authentication surrogates
- IP addresses as authentication surrogates
- Cookies as authentication surrogates with transparent requests
- Cookies as authentication surrogates with explicit requests and credential encryption is enabled

Figure 1: Identification Profiles and Authentication Processing – No Surrogates and IP-based Surrogates



The following diagram shows how the Web Proxy evaluates a client request against an Identification Profile when the Identification Profile is configured to use cookies as the authentication surrogates, credential encryption is enabled, and the request is explicitly forwarded.

Figure 2: Identification Profiles and Authentication Processing – Cookie-based Surrogates



Troubleshooting Identification Profiles

- Basic Authentication Problems
- Policy Problems
- Policy is Never Applied
- Policy Troubleshooting Tool: Policy Trace
- Upstream Proxy Problems

Troubleshooting Surrogate Types in Identification Profiles

When the Web Security Appliance is configured to use both IP address and cookie-based authentication surrogates and the access from the end-user matches both Identities, then the IP address overrides cookie-based authentication surrogates.

In a network with both shared and individual computers, it is recommended to create two different identification profiles based on IP addresses and subnets, which will determine whether IP or Cookie authentication surrogates are used.