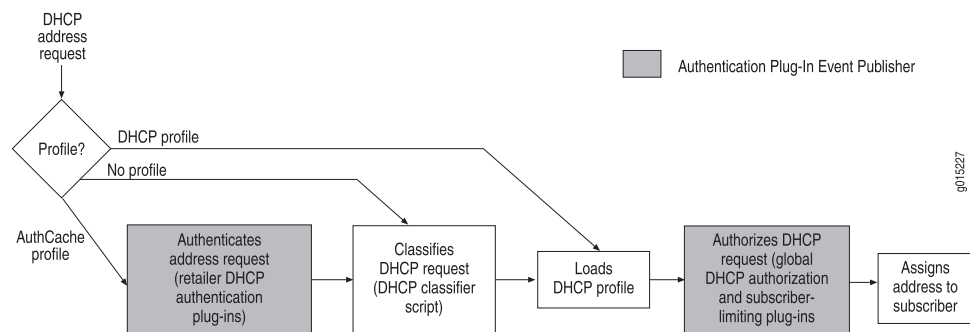


## Assigning DHCP Addresses to Subscribers

Figure 1 shows the process that the SAE uses to assign addresses to DHCP subscribers.

**Figure 1: DHCP Address Assignment**



To create and track a subscriber session for DHCP subscribers, the SAE:

1. Uses the client's media access control (MAC) address to look up a profile in cache or in the directory.
  - a. If the SAE finds an authCache profile, it skips to authenticating the address request.
  - b. If the SAE does not find a profile, it skips to classifying the DHCP request.
  - c. If the SAE finds a DHCP profile, it skips to loading a DHCP profile.
2. Authenticates the address request.

The SAE authenticates the request by using the configured DHCP authentication plug-ins. The DHCP authentication plug-ins are configured in the Retailer object in the directory. The SAE selects the retailer based on the domain name of the login request. If the Retailer object does not specify a DHCP authentication plug-in, the default retailer authentication plug-in is used for authentication.

If authentication fails, the SAE sends a discover decision with accept = false to the router.

3. Classifies the DHCP request.

The SAE runs a DHCP classification script to select the DHCP profile to load. If it does not find a profile, the SAE sends a discover decision with accept = false to the router.

4. Loads a DHCP profile.

The SAE loads the selected DHCP profile from the directory.

5. Authorizes the DHCP request.

The SAE authorizes the request by using the globally configured DHCP authorization plug-ins, which can include a subscriber-limiting plug-in.

Note that if the DHCP profile contains configuration parameters and the DHCP authorization plug-ins also return parameters, the plug-in parameters take precedence.

6. Assigns the address to the subscriber.

The SAE sends a DHCP discover decision to the router, which enables the router to assign an address to the subscriber. When the subscriber accepts the assigned address, the router sends an address request to the SAE, and the SAE starts processing a DHCP login request. See [Creating and Tracking Subscriber Sessions](#).

- Related Topics**
- [Overview of Classification Scripts](#)
  - [Activating and Tracking Service Sessions](#)

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