Dynamic MAC Address Management on ESW2-350G Switches

Objective

A Media Access Control (MAC) address is an unique data link layer address assigned to every device that connects to a network or the Internet. A switch, the data link layer device, maintains a MAC address table to forward frames to the destination port. The MAC address table entry on the switch is created either statically or dynamically. The Dynamic Address Table contains all of the MAC addresses that are obtained from the incoming traffic to the switch. If the destination address for incoming traffic is found in the database, the packet is directly sent to its port rather than all ports. If the MAC address is not know by the switch, it performs Address Resolution Protocol (ARP) which helps in obtaining the MAC address of the destination address. This table cannot hold every MAC address, so to maintain the table, an address gets deleted if there is no traffic received from a dynamic MAC address for a specific period of time. This time is called Aging Time. The dynamic MAC address table is built through the use of the MAC source address of the frames received. The switch floods a frame when the destination MAC address is not presented in the dynamic MAC address table. When the destination system responds, the switch adds its relevant MAC source address and port ID to the address table. The switch then forwards subsequent frames to that port without broadcasting the frame.

This article explains how to set the Aging Time on the ESW2-350G Switches.

Applicable Devices

- ESW2-350G
- ESW2-350G-DC

Software Version

- 1.3.0.62

Dynamic MAC Address Management

Configuration of Dynamic MAC Address Aging Time

Step 1. Log in to the web configuration utility and choose MAC Address Tables > Dynamic Address Settings. The Dynamic Address Settings page opens:

Step 2. In the Aging Time field, enter the time (in seconds) after which the inactive MAC address is removed from the Dynamic Address Table. The default time is 300 seconds.
Step 3. Click **Apply** to save your configuration.

### Dynamic MAC Address Query

Step 1. Log in to the web configuration utility to choose **MAC Address Tables > Dynamic Address**. The *Dynamic Addresses* page opens:

<table>
<thead>
<tr>
<th>Dynamic Addresses Table</th>
<th>Filter: VLAN ID equals to</th>
<th>MAC Address equals to</th>
<th>Interface equals to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic Address Table Sort Key: Interface</td>
<td>Go</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Note:
Query helps in filtering the Dynamic Address Table with the constraints given by you. The dynamic MAC address query is performed by one of the following methods depending on the information known.

- **Filter** — Filters the Dynamic Address Table based on the values provided in the Filter area.

- **Dynamic Address Table Sort Key** — Filters the Dynamic Address Table based on the key that is chosen from the Dynamic Address Table Sort Key drop-down list.

### Dynamic MAC Address Query by Filter Method

Step 1. Check the desired query conditions under the Filter area.

- **VLAN ID** equals to — Enter the VLAN ID of the VLAN using which the query is performed.

- **MAC Address** equals to — Enter the MAC Address of the interface on the switch using which the query is performed.

- **Interface** equals to — Click one of the following interface type radio buttons using which the query is performed.
– Port — Choose the desired port from the Port drop-down list by using which the query is performed.

– LAG — The several ports of the switch are combined to form a single group called as link aggregation group (LAG). This switch supports up to 8 LAGs. Choose the desired LAG from the LAG drop-down list.

Step 6. Click Go to filter the Dynamic Address Table based on the checked conditions in the Filter area.

Note: Click Clear Filter to uncheck and clear the fields under the Filter area.

Dynamic MAC Address Query by Sort Key Method

Step 1. Choose the desired key from the Dynamic Address Table Sort Key drop-down list through which the Dynamic Address Table is filtered. The drop-down list contains VLAN ID, MAC Address, and Interface.

Step 2. Click Go to sort the Dynamic Address Table.

Step 3. (Optional) Click Clear Table to clear the MAC addresses from the Dynamic Address Table.