

Address Resolution Protocol (ARP) Inspection Properties Configuration on Sx500 Series Stackable Switches

Objective

Address Resolution Protocol (ARP) operates at Layer 2, the data-link layer, of the OSI model and provides the translation mapping the IP address to the MAC address of the destination host using a look-up table also known as the ARP cache.

ARP Inspection is established to prevent ARP cache poisoning, which if successful can allow a malicious third party to intercept and control network traffic. The objective of this document is to setup ARP Inspection Properties on Sx500 Series Stackable Switches.

For the ARP Inspection to function properly the following configurations need to be completed in the same order as given below:

1. ARP Inspection Properties, which is covered in this article.
2. Configure Interface Settings, please refer to the article, *Address Resolution Protocol (ARP) Inspection Interface Settings on Sx500 Series Stackable Switches* for this configuration.
3. Configure Access Control and Access Control rules , please refer to the article, *Configuration of ARP Access Control and Access Control Rules on Sx500 Series Stackable Switches* for this configuration.
4. Configure VLAN Settings, please refer to the article, *Address Resolution Protocol (ARP) Inspection VLAN Settings Configuration on Sx500 Series Stackable Switches* for this configuration

Applicable Devices

- Sx500 Series Stackable Switches

Software Version

- 1.3.0.62

ARP Inspection Properties

Step 1. Log in to the web configuration utility and choose **Security > ARP Inspection > Properties**. The *Properties* page opens:

Properties

ARP Inspection also uses the [DHCP Snooping Binding database](#) if it is available.

ARP Inspection Status: ☒ Enable

ARP Packet Validation: ☐ Enable

Log Buffer Interval: ☒ Retry Frequency sec. (Range: 0 - 86400, Default: 5)
☐ Never

Apply Cancel

Step 2. In the ARP Inspection Status field, check **Enable** to enable the ARP inspection feature. This feature is disabled by default.

Note: The ARP inspection will be performed only on untrusted interfaces. Packets from trusted interfaces are forwarded. You can configure trusted interfaces on the *Interface Settings* page.

Properties

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☐ Never

Apply Cancel

Step 3. In the ARP Packet Validation field, check **Enable** to enable the packet validation in ARP. This feature is disabled in default. If this field is checked, the following values will be compared with the existing databases to prevent outsider attacks:

- Source MAC — The source MAC address of the packet in the Ethernet header is compared against the MAC address of the sender in the ARP request. This check is performed on both ARP requests and responses.
- Destination MAC — The destination MAC address of the packet in the Ethernet header is compared against the MAC address of the destination interface. This check is performed for ARP responses only.
- IP Addresses — This compares the ARP data content for invalid and unexpected IP addresses. IP Addresses include 0.0.0.0, 255.255.255.255, and all IP Multicast addresses.

Also, the ARP inspection uses a DHCP snooping binding database if DHCP snooping is enabled to counter check the IP address of the packet in addition to its access control rules. Refer the article entitled *DHCP Snooping Binding Database Configuration on Sx500 Series Stackable Switches* for further information on configuration of DHCP snooping binding database. You may be able to go to the DHCP Snooping Binding database configuration page by clicking the **DHCP Snooping Binding database** link on top of the Properties page.

Properties

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ARP Packet Validation: ☒ Enable

Log Buffer Interval: ☒ Retry Frequency sec. (Range: 0 - 86400, Default: 5)

☐ Never

Step 4. At the Log Buffer Interval field, click one of the following radio buttons:

- **Retry Frequency** — Enables SYSLOG messages for dropped packets to be sent. Enter the frequency with which the messages are sent. The default frequency is 5 seconds. The range is from 0 to 86400 seconds.
- **Never** — Disables SYSLOG dropped packet messages.

Properties

☒ Success. To permanently save the configuration, go to the [Copy/Save Configuration](#) page or click the Save icon.

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ARP Inspection Status: ☒ Enable

ARP Packet Validation: ☒ Enable

Log Buffer Interval: ☐ Retry Frequency sec. (Range: 0 - 86400, Default: 5)

☒ Never

Step 5. Click **Apply** to make the changes. The settings are defined and the running configuration file is updated.