Customizing NBAR2 Built-in Protocols

Built-in protocols provided by the Cisco Protocol Pack recognize traffic of a specific type of network application. It can be useful to "customize" a protocol, adding to the scope of traffic that it matches and recognizes.

This module describes the process and shows how to customize built-in protocols.

Information About Customizing a Built-in Protocol

Customizing Built-in Protocols

Each built-in NBAR2 protocol (provided by the Cisco Protocol Pack) is pre-configured to recognize traffic of a specific type of network application. In some situations, it can be useful to "customize" a protocol, adding to the scope of traffic that it matches and recognizes. This is accomplished by configuring user-specified domains that extend the scope of the protocol. Each customization is identified by a user-supplied name.

For example, the built-in office365 protocol matches Microsoft Office 365 application traffic. Customizing the office365 protocol by adding additional domains can extend its scope.

Visibility and Control

- **Application visibility**: Traffic that matches the user-specified extension of the built-in protocol is reported by the name of the user-specified customization.

- **Application control**: After extending a built-in protocol, any policy associated with the protocol applies also to the user-specified domain.

Usage Notes

- The maximum number of customizations is 120. This count includes other types of customization.

- Customizing a protocol does not change its priority.

- The *custom-name* of a customization cannot be used for defining policy.

• It is possible to configure multiple domains for the same *custom-name*. Example:

```
ip nbar custom myOffice365 dns domain-name "*uniqueOffice365" extends office365
ip nbar custom myOffice365 dns domain-name "*anotherUniqueOffice365" extends office365
```

• Multiple customization commands can extend the same built-in protocol. Example:

```
ip nbar custom myOffice365_D1 dns domain-name "*uniqueOffice365" extends office365
ip nbar custom myOffice365_D2 dns domain-name "*anotherUniqueOffice365" extends office365
```

How to Customize a Built-in Protocol

The following CLI commands can be used to customize a protocol.

• Adding user-specified domains for DNS traffic only:

ip nbar custom *custom-name* **dns domain-name** "*regex-text-string*" **extends** *built-in-protocol*

• Adding user-specified domains for any type of transport protocol (DNS, HTTP, SSL):

ip nbar custom *custom-name* **composite server-name** "*regex-text-string*" **extends** *built-in-protocol*

• The **no** form of the command removes the customization. Specify the custom name, regular expression (regex), and built-in protocol name exactly as they were specified when the customization was added.

no ip nbar custom *custom-name* {**dns domain-name** | **composite server-name**} "*regex-text-string*" **extends** *built-in-protocol*

Customizing a Built-in Protocol

Use the following procedure to customize a protocol.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip nbar custom** *custom-name* {**dns domain-name** | **composite server-name**} "*regex-text-string*" **extends** *built-in-protocol*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.

	Command or Action	Purpose
Step 3	**ip nbar custom** *custom-name* {**dns domain-name** | **composite server-name**} "*regex-text-string*" **extends** *built-in-protocol* **Example:** `Device(config)# ip nbar custom myOffice365 dns domain-name "*uniqueOffice365" extends office365`	Adds the custom domain, defined by a regular expression (regex). • Use **dns domain-name** to add a user-specified domain for DNS traffic only. • Use **composite server-name** to add a user-specified domain for any type of transport protocol (DNS, HTTP, SSL). • *custom-name*: User-specified name for the customization. • *regex-text-string*: Specifies domain text to match. • *built-in-protocol*: Name of the built-in protocol to customize. The command extends the scope of this built-in protocol to include traffic matched by the *regex-text-string*. The example configures a customization called myOffice365, which extends the built-in office365 protocol to include domains that match to the regex, "*uniqueOffice365".