Cisco Device Sensor Reference Configuration for CPPM Profiling

Overview

Device Sensor feature is used to gather raw endpoint data from network devices using protocols such as Cisco Discovery Protocol (CDP), Link Layer Discovery Protocol (LLDP), and DHCP. The endpoint data is made available to registered clients (for example, CPPM) in the context of an access session, and in CPPM's use case, this information is use to profile endpoints. See here for more detail on this feature from Cisco:

http:/ / www. cisco. com/ c/ en/ us/ td/ docs/ switches/ lan/ catalyst3750/ software/ release/ 15-0_1_se/ device_sensor/guide/sensor_guide.html

This article will provide a reference configuration to provide the required information from Cisco network devices to CPPM.

Tested Versions

Cisco switch supports [Version 15.0(2)SE2] : DHCP,CDP and LLDP
Cisco controller supports [Version 7.5.102.0] : DHCP and HTTP_User_Agent

Configuration

Basic Configuration

1. CPPM should be configured with interim packet update enabled.
2. Radius Accounting configured on NAD .
3. Enable IOS device sensor on NAD.

Cisco Switch Configuration

1. Basic radius configuration with accounting enabled.
2. Add device-sensor configuration as follows:

```
 ##Configuration to enable device sensor global in switch:##
device-sensor accounting
device-sensor notify all-changes

##Device sensor filter configuration to add which all DHCP info in accounting packets:##
device-sensor filter-list dhcp list dhcp-list
##To send CPPM supported value: dhcp option 12:##
option name host-name
##To send CPPM supported value: dhcp option 55:##
option name parameter-request-list
##To send CPPM supported value: dhcp option 60:##
option name class-identifier
!
##Device sensor filter configuration to add which all LLDP info in accounting packets:##
device-sensor filter-list lldp list lldp-list
##To send CPPM supported value:  TLV 0006 - lldp_sys_description:##
```

```
tlv name system-description
!
##Device sensor filter configuration to add which all CDP  info in accounting packets:##
device-sensor filter-list cdp list cdp-list
##To send CPPM supported value:  TLV 0005 - cdp_sys_description:##
tlv name version-type
##To send CPPM supported value:  TLV 0006 - cdp_cache_platform:##
tlv name platform-type
!
##Configurations to enable DHCP, LLDP and CDP  filter in accounting packets:##
device-sensor filter-spec dhcp include list dhcp-list
device-sensor filter-spec lldp include list lldp-list
device-sensor filter-spec cdp include list cdp-list
!
##Globally enable LLDP:##
lldp run
!
##Enable LLDP on an interface:##
interface gigabitethernet1/0/1
lldp transmit
lldp receive
!
##Globally enable CDP:##
cdp run
!
```

Cisco WLC Configuration

1. Login to WLC
2. Configure a WLAN with DHCP profiling.
    1. Go to WLAN configuration Advanced tab.
    2. Enable DHCP Addr. Assignment Required
    3. Enable DHCP profiling and HTTP profiling under option Radius client profiling.

Article Sources and Contributors

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