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# Smart Licensing on the Cisco Ultra-Reliable Wireless Backhaul for Catalyst IW Access Points

## **Smart Licensing**

This document provides information on how to streamline and enhance your licensing experience using Smart Licensing on the Cisco Ultra-Reliable Wireless Backhaul for Catalyst IW Access Points.

Benefits of using Smart Licensing are as follows:

- Smart license management provides a seamless experience across various licensing aspects.
- IIoT-specific seats cache a device list in mobility scenarios and reserve licenses based on the expected maximum number of devices in the network.
- Airgap mode allows manual syncing with Cisco Smart Software Manager (CSSM) using a downloaded file.
- The same license level must be configured on the primary and secondary Layer 2 Mesh End (ME) or Layer 3 Global Gateway (GGW).

The Smart license level determines the feature list. There are three licensing levels to manage the feature set and throughput:

- Essential
- Advantage
- Premier

Note

The unlocked features vary depending on the device model.

#### Table 1: Features Tied to Licenses for IW9165 and IW9167

| License<br>Type | Features  |
|-----------------|---|
| Essential       | <ul> <li>Unlimited fixed infra throughput (Fluidity and pure fixed infra)</li> <li>0.5 Mbps Mobility client throughput</li> </ul>     |
| Advantage       | <ul> <li>50 Mbps mobility client throughput</li> <li>Multipath Operations (MPO)<sup>1</sup></li> <li>Cisco URWB Essentials</li> </ul> |

| License<br>Type | Features                             |
|-----------------|--------------------------------------|
| Premier         | Unlimited mobility client throughput |
|                 | Cisco URWB Advantage                 |
|                 | Cisco URWB Essentials                |
| 1               |                                      |

<sup>1</sup> Applicable only for IW9167.

| - 9 |       |
|-----|-------|
|     | Note  |
|     | 11010 |
|     |       |

• The license is not enforced, but a warning log will be generated if the device fails to report license usage to CSSM.

- Only Generic Gigabit Wireless (GGW) and Layer 2 Media Extenders (L2-ME) devices have license-related configuration and show commands. Other devices in the network will synchronize the license from the primary GGW/L2-ME.
- Ensure the device synchronizes with the Network Time Protocol (NTP) server to establish a successful connection with CSSM.

#### **Configure Smart License**

Use the **license iw-level** { **essential** | **advantage** | **premier** } command to configure smart license.

```
Device# license iw-level premier
```

### **Configure Smart License Device Number**

Use the license iw-network platform platform seats seats command to configure smart license device number.

Device# license iw-network platform iw9165 seats 6

### **Configure Smart License Online Deployment**

| Step 1 | Use the license smart transport smart command to set the transport mode to smart transport.  |  |  |
|--------|--|--|--|
|        | Device# license smart transport smart  |  |  |
| Step 2 | Use the <b>license smart url smart</b> <i>url</i> command to configure the smart licensing URL for communication with CSSM.  |  |  |
|        | Device# license smart url smart https://smartreceiver.cisco.com/licservice/license   |  |  |
| Step 3 | (Optional) Use the <b>license smart proxy address</b> <i>ip-address</i> command to configure the smart licensing system to use a specific proxy server for license management. |  |  |

Device# license smart proxy address 192.168.1.1

**Step 4** (Optional) Use the **license smart proxy port** *port* command to configure the smart licensing system to to use a specific proxy server for license management.

Device# license smart proxy port 3128

**Step 5** Use the **license smart trust idtoken** *token* **local** command to configure the device to trust the locally stored identity token for smart licensing.

Device# license smart trust idtoken id token generated from CSSM local

**Step 6** (Optional) Use the **license smart usage interval** *interval* command to set the interval at which the device reports its license usage to the licensing server.

Device# license smart usage interval 50

### **Configure Smart License Offline Deployment**

| Step 1 | Use the license smart transport off command to disable the smart transport feature for licensing.  |  |  |
|--------|--|--|--|
|        | Device# license smart transport off  |  |  |
| Step 2 | Use the <b>license smart trust idtoken</b> <i>token</i> <b>local</b> command to configure the device to trust the locally stored identity token for smart licensing. |  |  |
|        | Device# license smart trust idtoken id_token_generated_from_CSSM local   |  |  |
| Step 3 | Use the license smart save usage all <i>tftp-link</i> command to save all the license usage data to the smart licensing system.                                      |  |  |
|        | Device# license smart save usage all tftp://192.168.216.201/rum_report_all.xml   |  |  |
| Step 4 | Use the license smart import link command to to import license information into the smart licensing system.  |  |  |
|        | Device# license smart import tftp://192.168.216.201/rum report ack.xml   |  |  |

### **Configuring Smart Licensing from GUI**

**Step 1** Select the network license level for the Cisco URWB stack.

| ULTRA RELIABLE<br>WIRELESS BACKHAUL   | Cisco URWB IW9167EH Configurator<br>5.21.201.88 - MESH END MODE  |  |  |  |  |
|---|--|--|--|--|--|
| IOTOD IW Offline  | SMART LICENSE  |  |  |  |  |
| IW-MONITOR Disabled   | Smart License Settings   |  |  |  |  |
| FM-QUADRO   | Select the network license level for Cisco URWB stack.<br>The license level is bound to software features and monitored by the CSSM.<br>Set the network seats to consume usage for particular license level. |  |  |  |  |
| GENERAL SETTINGS<br>- general mode  | License Level: Networ  | k Essentials for Radios $ \smallsetminus $ |  |  |  |
| - wireless radio  | Platform IW9165 License Seats: 0   |  |  |  |  |
| NETWORK CONTROL   | Platform IW9167 License Seats: 0   |  |  |  |  |
| - advanced tools  |  |  |  |  |  |
| ADVANCED SETTINGS   | Reset  | Save                                       |  |  |  |
| - advanced radio settings   | Neser  | Gave                                       |  |  |  |
| - static routes   |  |  |  |  |  |
| - allowlist / blocklist   |  |  |  |  |  |
| multicent   |  |  |  |  |  |
| - multicast   | i Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius   | i Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntn  | i Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntp<br>- ethernet filter   | (i) Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntp<br>- ethernet filter<br>- 12to configuration   | i Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntp<br>- ethernet filter<br>- l2tp configuration<br>- vian settings  | i Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntp<br>- ethernet filter<br>- I2tp configuration<br>- vlan settings<br>- Fluidity  | i Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntp<br>- ethernet filter<br>- I2tp configuration<br>- vlan settings<br>- Fluidity<br>- misc settings   | i Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntp<br>- ethernet filter<br>- I2tp configuration<br>- vlan settings<br>- Fluidity<br>- misc settings<br>- smart license  | (i) Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntp<br>- ethernet filter<br>- I2tp configuration<br>- vlan settings<br>- Fluidity<br>- misc settings<br>- smart license<br>MANAGEMENT SETTINGS   | (i) Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntp<br>- ethernet filter<br>- I2tp configuration<br>- vlan settings<br>- Fluidity<br>- misc settings<br>- smart license<br>WANAGEMENT SETTINGS<br>- remote access  | (i) Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntp<br>- ethernet filter<br>- I2tp configuration<br>- vlan settings<br>- Fluidity<br>- misc settings<br>- smart license<br>MANAGEMENT SETTINGS<br>- remote access<br>- firmware upgrade  | (i) Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntp<br>- ethernet filter<br>- I2tp configuration<br>- vlan settings<br>- Fluidity<br>- misc settings<br>- smart license<br>MANAGEMENT SETTINGS<br>- remote access<br>- firmware upgrade<br>- status  | (i) Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntp<br>- ethernet filter<br>- I2tp configuration<br>- vlan settings<br>- Fluidity<br>- misc settings<br>- smart license<br>WANAGEMENT SETTINGS<br>- remote access<br>- firmware upgrade<br>- status<br>- configuration settings  | (i) Smart Agent is set to Online Mode  |  |  |  |  |
| - multicast<br>- snmp<br>- radius<br>- ntp<br>- ethernet filter<br>- l2tp configuration<br>- vlan settings<br>- Fluidity<br>- misc settings<br>- smart license<br>MANAGEMENT SETTINGS<br>- remote access<br>- firmware upgrade<br>- status<br>- configuration settings<br>- reset factory default   | Smart Agent is set to Online Mode  |  |  |  |  |
| <ul> <li>multicast</li> <li>snmp</li> <li>radius</li> <li>ntp</li> <li>ethernet filter</li> <li>l2tp configuration</li> <li>vlan settings</li> <li>Fluidity</li> <li>misc settings</li> <li>smart license</li> <li>MANAGEMENT SETTINGS</li> <li>remote access</li> <li>firmware upgrade</li> <li>status</li> <li>configuration settings</li> <li>reset factory default</li> <li>reboot</li> </ul> | Smart Agent is set to Online Mode  |  |  |  |  |

The license level is bound to software features and monitored by CSSM.

**Step 2** Set the network seats to consume usage for a particular license level, for example, Network Essentials for Radios.

| ULTRA RELIABLE<br>WIRELESS BACKHAUL   | Cisco URWB IW9167EH Configurator<br>5.21.201.88 - MESH END MODE  |  |  |  |  |
|---|--|--|--|--|--|
| OTOD IW Offline   | SMART LICENSE  |  |  |  |  |
| W-MONITOR Disabled  | Smart License Settings   |  |  |  |  |
| M-QUADRO  | Select the network license level for Cisco URWB stack.<br>The license level is bound to software feature<br>Set the network search to construct the user of the state of the second state of the |  |  |  |  |
| GENERAL SETTINGS  | Network Advantage for Radios   |  |  |  |  |
| general mode  | License Level: V Network Essentials for Radios   |  |  |  |  |
| wireless radio  | Network Premier for Radios   |  |  |  |  |
| antenna alignment and stats   | Hatom wayou Elective Seats.  |  |  |  |  |
| ETWORK CONTROL  | Platform IW9167 License Seats: 0   |  |  |  |  |
| advanced tools  |  |  |  |  |  |
| ADVANCED SETTINGS   |  |  |  |  |  |
| advanced radio settings   | Reset Save   |  |  |  |  |
| static routes   |  |  |  |  |  |
| allowlist / blocklist   |  |  |  |  |  |
| multicast   | Smart Agent is set to Online Mode  |  |  |  |  |
| snmp  |  |  |  |  |  |
| radius  |  |  |  |  |  |
| ntp   |  |  |  |  |  |
| ethernet filter   |  |  |  |  |  |
| I2tp configuration  |  |  |  |  |  |
| vlan settings   |  |  |  |  |  |
| Fluidity  |  |  |  |  |  |
| misc settings   |  |  |  |  |  |
| smart license   |  |  |  |  |  |
| MANAGEMENT SETTINGS   |  |  |  |  |  |
| remote access   |  |  |  |  |  |
|   |  |  |  |  |  |
| firmware upgrade  |  |  |  |  |  |
| firmware upgrade<br>status  |  |  |  |  |  |
| firmware upgrade<br>status<br>configuration settings                                    |  |  |  |  |  |
| firmware upgrade<br>status<br>configuration settings<br>reset factory default           |  |  |  |  |  |
| firmware upgrade<br>status<br>configuration settings<br>reset factory default<br>reboot |  |  |  |  |  |

**Step 3** To Download a usage, Save RUM (Resource Utilization Measurement) reports (license usage information) and save all RUM reports using All options. Save the RUM report for the last n number of days (excluding the current day) using the Days option.

| ULTRA RELIABLE<br>WIRELESS BACKHAUL  | Cisco URWB IW9167EH Configurator<br>5.21.201.88 - MESH END MODE   |       |  |  |
|--|---|-------|--|--|
| OTOD IW Offline  | SMART LICENSE   |       |  |  |
| W-MONITOR Disabled   | Smart License Settings  |       |  |  |
| -M-QUADRO  | Select the network license level for Cisco URWB stack.<br>The license level is bound to software features and monitored by the CSSM.<br>Set the network seats to consume usage for particular license level.            |       |  |  |
| SENERAL SETTINGS   | License Level: Network Essentials for Radios V  |       |  |  |
| wireless radio<br>antenna alignment and stats  | Platform IW9165 License Seats: 0  |       |  |  |
| IETWORK CONTROL  | Platform IW9167 License Seats: 0  |       |  |  |
| ADVANCED SETTINGS  |   |       |  |  |
| advanced radio settings  | Reset Save  |       |  |  |
| static routes  |   |       |  |  |
| allowlist / blocklist  |   | _     |  |  |
| multicast  | i Smart Agent is set to Airgap(Offline) Mode  |       |  |  |
| snmp   |   |       |  |  |
| radius   |   |       |  |  |
| ntp  | Download Usage  |       |  |  |
| ethernet filter  | Save RUM reports (license usage information). Save all RUM reports using All options. Save RUM report for<br>last n number of days (excluding the current day) using Days option. Save all unreported RUM reports using | r the |  |  |
| I2tp configuration   | Unreported option.  | 2     |  |  |
| vlan settings  | Usage range: All  |       |  |  |
| Fluidity   |   |       |  |  |
| misc settings  | Days: 1   |       |  |  |
| smart license  |   |       |  |  |
| IANAGEMENT SETTINGS  |   |       |  |  |
| remote access  | Download  |       |  |  |
| firmware upgrade   |   |       |  |  |
| status   |   |       |  |  |
| configuration settings   | Upload CSSM ACK   |       |  |  |
| reset factory default  | Import the ACK that downloaded from CSSM on the production instance.  |       |  |  |
| reboot   | No file selected  |       |  |  |
| In most in the second sec | Browse No file selected   |       |  |  |

**Step 4** To Upload CSSM Acknowledge and sync license usage, import the ACK (Acknowledge) that was downloaded from CSSM on the production instance when Smart agent is in Airgap (Offline) Mode.

### **Reset Smart License**

Use the **license smart factory reset** command to reset the smart licensing configuration on a device to its factory default settings.

Device# license smart factory reset



Do not run the write command. Device reload is not required to clear all the license configuration.

## **Verify Smart License Configuration**

#### **Verify Smart License Usage**

```
Device# show license usage
License Authorization:
  Status: Not Applicable
IW9167_URWB_NW_P (IW9167_URWB_NW_P):
  Description: Network Premier for Catalyst Industrial Wireless CURWB Radios
  Count: 1
  Version: 01
  Status: IN USE
  Export status: NOT RESTRICTED
  Feature Name: IW9167_URWB_NW_P
  Feature Description: Network Premier for Catalyst Industrial Wireless CURWB Radios
  Enforcement type: NOT ENFORCED
  License type: Perpetual
```

#### **Verify Smart License Device Number**

| Device#          | show  | license  | iw | seats   |
|------------------|-------|----------|----|---------|
| Platform         | n Cor | nfigured |    | Current |
| IW9167<br>IW9165 |       | 0        |    | 0       |

#### **Verify Smart License Usage Count**

| Device# show license summa  | ary                |       |            |
|---|--------------------|-------|------------|
| Account Information:<br>Smart Account: <none><br/>Virtual Account: <none></none></none> |                    |       |            |
| License Usage:  |                    | ~ .   |            |
| License   | Entitlement Tag    | Count | Status<br> |
| IW9167_URWB_NW_P  | (IW9167_URWB_NW_P) | 1     | IN USE     |

Note

- License usage count reflects the maximum number of configured license seats and active devices.
- For offline devices, the system retains the device record for 2 days.
- If active devices exceed the configured license seats, a license usage report is sent to CSSM every 8 days.

#### **Verify Smart License HA Role**

Primary ME# show license tech support

```
License Usage
_____
Handle: 1
  . . .
 Measurements:
    ENTITLEMENT:
     Interval: 00:15:00
     Current Value: 0
     Current Report: 0
                            Previous: 0
    Application HA Info:
     Application Name: UrwbSLP
      Application Id: UrwbHA
     Application Role: Active
     Info For Peer: 197
      Peer Info:
        Application Name: UrwbSLP
        Application Id: UrwbHA
        Application Role: Standby
        Hostname: 'nullPtr'
        PIID: 620f78ec-fae9-4a56-929e-69a4ca07ad9b
        UDI: P:IEC-6400-URWBT,S:WZP26220Q5Z
        Smart Account Name: 'nullPtr'
        Virtual Account Name: 'nullPtr'
Standy ME# show license tech support
License Usage
_____
Handle: 1
  . . .
 Measurements:
   ENTITLEMENT:
     Interval: 00:15:00
     Current Value: 0
     Current Report: 0
                             Previous: 0
    Application HA Info:
     Application Name: UrwbSLP
     Application Id: UrwbHA
     Application Role: Standby
     Info For Peer: 199
      Peer Info:
        Application Name: UrwbSLP
        Application Id: UrwbHA
        Application Role: Active
        Hostname: 'nullPtr'
        PIID: 566e9ed0-132d-4f70-90cc-526692a96e22
        UDI: P:IEC-6400-URWB,S:WZP262304VR
        Smart Account Name: 'nullPtr'
        Virtual Account Name: 'nullPtr'
```

#### **Verify Smart License CSSM Connection**

```
Device# show license status
.
.
.
Account Information:
  Smart Account: SA-IOT-Polaris As of Sep 21 2023 11:04:03 CST
  Virtual Account: CURWB
```

```
. . .
Transport:
  Type: Smart
  URL: https://smartreceiver.cisco.com/licservice/license
  Proxy:
   Address: 192.168.216.201
   Port: 3128
. . .
Policy:
  Policy in use: Installed On Sep 21 2023 11:03:46 CST
  Policy name: Test Policy
  Reporting ACK required: no (Customer Policy)
  Unenforced/Non-Export Perpetual Attributes:
   First report requirement (days): 94 (Customer Policy)
   Reporting frequency (days): 100 (Customer Policy)
   Report on change (days): 100 (Customer Policy)
. . .
```

```
Trust Code Installed: Sep 21 2023 11:03:46 CST
```