New Features for Cisco IOS XE 17.13.1

This chapter contains the following sections:

Change in Vendor for GNSS Module

This feature applies to the IR1833 and IR1835 only. There was a change in chip manufacturers on the IRM-GNSS-ADR pluggable module. There have been no changes in functionality, however you will see a change in the display of vendor information and firmware version.

See the following example:

```
Router#show platform hardware gps dead-reckoning
DR Vehicle interface mode: OBDDII
GPS/DR Vendor Info: VIC3DA
GPS/DR module FW Version: 4.6.18.11
DR Calibration Status:
DR is not calibrated
Odometer is not calibrated
Gain is not calibrated
Offset is not calibrated

CAN Bus Status:
CAN Bus Tx Count: 11
CAN Bus Tx error Count: 150930
```

IOX Access to IR1800 On-board Accelerometer and Gyroscope

This feature allows on-board accelerometer and gyroscope sensor data to be streamed to IOX via a TTY. This feature is disabled by default, and will keep feature parity with IR829 accelerometer and gyroscope sensor data feature. The CLIs for this feature are defined below.

Configuration Commands

The following commands are available:

```
Router(config)#acc-gyro ?
  enable     Enable
  frequency  Frequency in reading

Router(config)#acc-gyro freq ?
  four/sec  Reading 4 times per second
  one/min   Reading 1 times per minute
  one/sec   Reading 1 time per second (default value)
  ten/min   Reading 10 times per minute
```

Show Commands

The following command is available:

```
Router# show platform hardware acc-gyro sensor-data

Date                 Time      G-X      G-Y      G-Z      XL-X      XL-Y      XL-Z
2022:10:26:16:58:13.855143 1137.50 -297.50 621.25 -18.056 -3.111 -966.057
2022:10:26:16:58:14.863668 1058.75 -122.50 735.00 -17.629 -2.989 -965.996
2022:10:26:16:58:15.869117 1207.50 -140.00 726.25 -18.361 -3.294 -965.813
2022:10:26:16:58:16.874036 1268.75 -192.50 717.50 -18.178 -3.050 -965.874
2022:10:26:16:58:17.884764 1163.75 -420.00 717.50 -18.056 -2.989 -965.813
2022:10:26:16:58:18.894063 1347.50 -148.75 708.75 -18.117 -3.477 -965.935
2022:10:26:16:58:19.900830 1137.50 -315.00 577.50 -18.239 -3.599 -965.935
2022:10:26:16:58:20.908765 1137.50 -131.25 726.25 -17.873 -3.538 -965.813
2022:10:26:16:58:21.916674 1137.50 -262.50 726.25 -18.361 -2.867 -965.935
2022:10:26:16:58:22.927371 1137.50 -323.75 516.25 -17.934 -3.477 -965.569
2022:10:26:16:58:23.934275 1120.00 -647.50 516.25 -18.361 -3.416 -965.752
2022:10:26:16:58:24.940819 1111.25 -262.50 743.75 -18.422 -2.989 -965.386
2022:10:26:16:58:25.947471 1190.00 -201.25 673.75 -17.995 -3.416 -966.057
2022:10:26:16:58:26.953120 1093.75 -288.75 577.50 -17.995 -3.233 -965.874
2022:10:26:16:58:27.961469 1137.50 -428.75 551.25 -18.117 -2.745 -965.996
2022:10:26:16:58:28.971354 1050.00 -271.25 717.50 -18.361 -3.233 -965.508
2022:10:26:16:58:29.981967 1172.50 78.75 840.00 -18.117 -3.538 -965.386
```

Other

The existing **debug hardware acc-gyro sensor-data** command has been enhanced to provide additional debug messages for better serviceability. The debug messages will cover the following:

- How frequent the sensor data are pushed from the module to IOS, it must at least once per second.

- The latest sensor data received from the module.

Unified Threat Defense (UTD)

Unified Threat Defense (UTD) is Cisco's premier network security solution which provides a comprehensive suite of security features, such as:

- Enterprise Firewall

- IPS/IDS

- Advanced Malware Protection

- URL Filtering

• DNS Security

UTD is available on the IR1835 router.

IR1835 Limitations

The following are product specific limitations:

• UTD container requires a minimum space of 1.8 GB.

• UTD is supported in both Autonomous mode and Controller Mode, but in Autonomous mode, only IPS/IDS features are supported.

• The UTD configuration supports the Cloud-Low profile only.

• On-Box Web-Filtering Database is not supported.

• SSL proxy is not supported.

License and Supported Features

To enable UTD features the DNA Essentials license is required, in addition to Network Essentials. The license is required only in sd-router (autonomous mode).

If Cisco Secure Malware Analytics is also desired, then DNA Advantage license is required, in addition to Network Advantage.

Feature Configuration

Configuration on the IR1835 is the same as on other products. For information please refer to:

• Intrusion Prevention System

• URL Filtering

• Advanced Malware Protection

vManage Support for EWC Mode on the Cisco Wi-Fi Interface Module

The Cisco Wi-Fi Interface Module (WIM), is a pluggable interface available for all models of the IR1800 series. The PID is WP-WIFI6-x where x signifies the regulatory domain.

vManage support for EWC mode on the WIM module allows the user to configure the module in EWC mode with wlan profiles, radio profiles, and management details of the EWC from the router in SDWAN mode. The WIM is configured from vManage using feature template "ISR1K/IR18 Wireless" and verify the show wireless-lan commands in vManage.

With this release of IOS XE, vManage support has been added for the EWC Controller ONLY.

Additional Documentation

Additional documentation for SDWAN/vManage is available at the following links:

- User Documentation for Cisco IOS XE Catalyst SD-WAN Release 17

- Cisco Catalyst SD-WAN

- Cisco SD-WAN Support Information

- Cisco vManage Monitor Overview

- Managing the SD-Routing Device Using Cisco SD-WAN Manager

Additional Modem Support for Cellular Pluggable Modules

This release offers support for additional modems on the IR1101 and the IR1800.

The LTE Cat6 Pluggable Interface Modules (PIMs) will be updated with Cat7 modems. The following table shows the product transition:

Table 1: Cat6 to Cat7 Transition

Cat6 (Current)	Cat7 (Refreshed)
Sierra Wireless EM7455/7430	Sierra Wireless EM7411/7421/7431
Cat6 LTE Advanced	Cat7 LTE Advanced

The following are the new PIDs that will be available:

- P-LTEA7-NA

- P-LTEA7-EAL

- P-LTEA7-JP

- P-5GS6-R16SA

Important For the new PIDs mentioned above, the following cellular functions have not been tested, and are not supported with IOS XE release 17.13.1 although the CLI commands may permit:

- GNSS/NMEA

- Cellular Dying-Gasp

- eSIM/eUICC support

Note There is no new or changed command line interface with these new modems.

SD-WAN Remote Access (SD-WAN RA)

SD-WAN RA is now supported on the IoT routers with IOS XE 17.13.1. SD-WAN RA is a combination of two features:

- IOS-XE SD-WAN

- IOS-XE FlexVPN Remote Access Server

Note   All IoT devices only support the SD-WAN RA Client.

Information on SD-WAN Remote Access can be found in the following guide:

Cisco Catalyst SD-WAN Remote Access

Additional Documentation

Additional documentation for SDWAN/vManage is available at the following links:

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- Cisco Catalyst SD-WAN

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Change in CLI Output for the FN980 5G Modem

This release has a different output to the **show cellular 0/x/0 radio band** command. The module will no longer display the 5G-SA band information by default. However, once the 5G-SA has been enabled, the band information will then be displayed.

See the following command examples using an IR1101 running IOS XE 17.13.1 with an FN980 modem:

```
IR1101#show cellular 0/1/0 radio band

LTE bands supported by modem:
- Bands 2 4 5 12 14 26 29 30 46 48 66.
LTE band Preference settings for the active sim(slot 1):
- Bands 2 4 5 12 14 26 29 30 46 48 66.

NR5G NSA bands supported by modem:
- Bands 2 5 12 66 77.
NR5G NSA band Preference settings for the active sim(slot 1):
- Bands 2 5 12 66 77.

3G bands supported by modem:
Index: <none>
3G band Preference settings for the active sim(slot 1):
Index: <none>
```

```
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Band index reference list:

For LTE and 5G, indices 1-128 correspond to bands 1-128.

For 3G, indices 1-64 maps to the 3G bands mentioned against each above.

IR1101#

IR1101#show cellular 0/1/0 hard

*Nov  8 12:13:31.969: Graphit 5G RSRP/RSRQ LTE modem:[1]
Modem Firmware Version = M0H.030202
Host Firmware Version = A0H.000302
Device Model ID =  FN980
International Mobile Subscriber Identity (IMSI) = 001010123456789
International Mobile Equipment Identity (IMEI) = 359661100035795
Integrated Circuit Card ID (ICCID) = 89860000502000180722
Mobile Subscriber Integrated Services
Digital Network-Number (MSISDN) =
Modem Status = Modem Online
Current Modem Temperature = 40 deg C
PRI version = 1080-114, Carrier = Generic GCF
OEM PRI version = 1080-114
IR1101#

IR1101#show cellular 0/1/0 radio band

LTE bands supported by modem:
- Bands 1 2 3 4 5 7 8 12 13 14 17 18 19 20 25 26 28 29 30 32 34 38 39 40 41 42 43 46 48 66
 71.
LTE band Preference settings for the active sim(slot 0):
- Bands 1 2 3 4 5 7 8 12 13 14 17 18 19 20 25 26 28 29 30 32 34 38 39 40 41 42 43 46 48 66
 71.

NR5G NSA bands supported by modem:
- Bands 1 2 3 5 7 8 12 20 25 28 38 40 41 48 66 71 77 78 79.
NR5G NSA band Preference settings for the active sim(slot 0):
- Bands 1 2 3 5 7 8 12 20 25 28 38 40 41 48 66 71 77 78 79.

NR5G SA bands supported by modem:
- Bands <none>
NR5G SA band Preference settings for the active sim(slot 0):
- Bands <none>

3G bands supported by modem:
Index:
  23 - UMTS Band 1: 2100 MHz (IMT)
  24 - UMTS Band 2: 1900 MHz (PCS A-F)
  26 - UMTS Band 4: 1700 MHz (AWS A-F)
  27 - UMTS Band 5: US 850 MHz  (CLR)
  50 - UMTS Band 8: 900 MHz  (E-GSM)
  51 - UMTS Band 9: Japan 1700 MHz
  61 - UMTS Band 19: 800 MHz (800 Japan)
3G band Preference settings for the active sim(slot 0):
Index:
  23 - UMTS Band 1: 2100 MHz (IMT)
  24 - UMTS Band 2: 1900 MHz (PCS A-F)
  26 - UMTS Band 4: 1700 MHz (AWS A-F)
  27 - UMTS Band 5: US 850 MHz  (CLR)
  50 - UMTS Band 8: 900 MHz  (E-GSM)
  51 - UMTS Band 9: Japan 1700 MHz
  61 - UMTS Band 19: 800 MHz (800 Japan)
```

```
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Band index reference list:

For LTE and 5G, indices 1-128 correspond to bands 1-128.

For 3G, indices 1-64 maps to the 3G bands mentioned against each above.

IR1101#
```