



Licensing

This chapter provides details on the licensing for the IR807.

- [Licensing, on page 1](#)

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The IOS feature set is aligned with the IOT 15.x M/T release strategy. They are:

- IR800IUK9-15703M - Cisco IR800L Series UNIVERSAL
- IR800INPEK9-15703M – Cisco IR800L Series UNIVERSAL – NO PAYLOAD ENCRYPTION

The Software License PIDs are shown in [Table 1: Software License PIDs, on page 1](#)

Table 1: Software License PIDs

Software PID	Name	Description
SL-810-AIS	Cisco 800 Series Industrial Routers IP Base License	Routing (BGP, OSPF, RIP, EIGRP, ISIS,), PBR, IGMP/MLD, Multicast, QoS, AAA, Raw Sockets, Manageability
SL-810-ADVSEC	Cisco 800 Series Industrial Routers Security License	SSL, VPN, IPSec, DMVPN, FlexVPN, IOS Firewall

Licensing

Licenses are installed at manufacturing. If the advsecurity technology-package is not installed, the crypto related functions will not work. See additional information under [Hardware Crypto Support, on page 2](#)

To enable the RightToUse license, perform the following:

1. Accept the EULA
2. Enable the technology-package
3. Reload the IR807

Licensing CLI

```
IR807# show version
License Info:
License UDI:
-----
Device#   PID                               SN
-----
*1        IR807G-LTE-GA-K9                 FCW2132001S
License Information
  License Level: advipservices   Type: RightToUse
  Next reboot license Level: advipservices
IR807# license install flash:FCW2132001S_201710030808172450.lic
IR807# conf term
license accept end user agreement
license boot module ir8001 level advsecurity
license boot module ir8001 level advipservices
IR807#show license feature

Feature name      Enforcement  Evaluation  Subscription  Enabled  RightToUse
advipservices     no           yes         no             yes      yes
advsecurity       no           no          no             no       no
ios-ips-update    yes         yes         yes            no       yes
```

Hardware Crypto Support

Hardware and Software based crypto support is available. A security license must be installed to enable hardware based crypto support.

To see information relating to crypto support, use variations on the show crypto command:

```
IR807#show crypto engine configuration
  crypto engine name: Virtual Private Network (VPN) Module
  crypto engine type: hardware
  State: Enabled
  Location: onboard 0
  Product Name: Onboard-VPN
  HW Version: 1.0
  Compression: No
  DES: Yes
  3 DES: Yes
  AES CBC: Yes (128,192,256)
  AES CNTR: No
  Maximum buffer length: 4096
  Maximum DH index: 0000
  Maximum SA index: 0000
  Maximum Flow index: 0256
  Maximum RSA key size: 0000
  crypto lib version: 22.0.0
  crypto engine in slot: 0
  platform: VPN hardware accelerator
  crypto lib version: 22.0.0
IR807#sh crypto engine ?
accelerator      Show crypto accelerator information
brief            Show all crypto engines in the system
configuration    Show crypto engine config
connections      Show connection information
qos              Show QoS information
token           Show crypto token engine info
IR807#sh crypto engine brief
```

```

crypto engine name: Virtual Private Network (VPN) Module
crypto engine type: hardware
    State: Enabled
    Location: onboard 0
Product Name: Onboard-VPN
FW Version: 1
Time running: 1335 seconds
Compression: Yes
    DES: Yes
    3 DES: Yes
    AES CBC: Yes (128,192,256)
    AES CNTR: No
Maximum buffer length: 4096
    Maximum DH index: 0500
    Maximum SA index: 0500
    Maximum Flow index: 1000
Maximum RSA key size: 0000
crypto engine name: Cisco VPN Software Implementation
crypto engine type: software
    serial number: FF98383A
crypto engine state: installed
crypto engine in slot: N/A
IR807#sh crypto engine config
crypto engine name: Virtual Private Network (VPN) Module
crypto engine type: hardware
    State: Enabled
    Location: onboard 0
Product Name: Onboard-VPN
FW Version: 1
Time running: 1358 seconds
Compression: Yes
    DES: Yes
    3 DES: Yes
    AES CBC: Yes (128,192,256)
    AES CNTR: No
Maximum buffer length: 4096
    Maximum DH index: 0500
    Maximum SA index: 0500
    Maximum Flow index: 1000
Maximum RSA key size: 0000

crypto lib version: 22_421.0.0

crypto engine in slot: 0
    platform: VPN hardware accelerator
crypto lib version: 22_421.0.0

IR807#sh crypto engine accelerator stat
Device: Onboard VPN
Location: Onboard: 0
:Statistics for encryption device since the last clear
of counters 1404 seconds ago
    0 packets in
    0 bytes in
    0 paks/sec in
    0 Kbits/sec in
    0 packets decrypted
    0 bytes before decrypt
    0 bytes decrypted
    0 packets decompressed
    0 bytes before decomp
    0 bytes after decomp
    0 packets bypass decomp
    0 bytes bypass decompr
    0 packets out
    0 bytes out
    0 paks/sec out
    0 Kbits/sec out
    0 packets encrypted
    0 bytes encrypted
    0 bytes after encrypt
    0 packets compressed
    0 bytes before comp
    0 bytes after comp
    0 packets bypass compress
    0 bytes bypass compressi

```

```

0 packets not decompress          0 packets not compressed
0 bytes not decompressed          0 bytes not compressed
1.0:1 compression ratio          1.0:1 overall
Last 5 minutes:
0 packets in                      0 packets out
0 paks/sec in                    0 paks/sec out
0 bits/sec in                    0 bits/sec out
0 bytes decrypted                 0 bytes encrypted
0 Kbits/sec decrypted             0 Kbits/sec encrypted
1.0:1 compression ratio          1.0:1 overall

```

Errors:

```

Total Number of Packet Drops = 0
Pad Error                     = 0
Data Error                     = 0
Packet Error                   = 0
Null IP Error                  = 0
Hardware Error                 = 0
CP Unavailable                 = 0
HP Unavailable                 = 0
AH Seq Failure                 = 0
Link Down Error                = 0
ESP Seq Failure                = 0
AH Auth Failure                = 0
ESP Auth Failure               = 0
Queue Full Error               = 0
API Request Error              = 0
Invalid Flow Error             = 0
Buffer Unavailable             = 0
QOS Queue Full Error           = 0
Packet too Big Error           = 0
AH Replay Check Failure        = 0
Too Many Particles Error      = 0
ESP Replay Check Failure       = 0
Input Queue Full Error         = 0
Output Queue Full Error        = 0
raw_PAK_alloc                  = 0
raw_PAK_free                   = 0
mod_exp_PAK_alloc              = 3
mod_exp_PAK_free               = 3
entropy_PAK_alloc              = 0
entropy_PAK_free               = 0
Pre-batch Queue Full Error     = 0
Post-batch Queue Full Error    = 0
batch_PAK_free                 = 0

```

BATCHING Statistics:

```

Batching Allowed
Batching currently Inactive

No of times batching turned on = 0
No of times batching turned off = 0
No of Flush Done                = 0
Flush Timer in Milli Seconds    = 8
Disable Timer in Seconds        = 20
Threshold Crypto Paks/Sec
to enable batching              = 10000

POST-BATCHING Enabled
Post-batch count, max_count     = 0, 16
Packets queued to post-batch queue = 0
Packets flushed from post-batch queue = 0

```

```
The Post-batch Queue Information
The Queuesize is                = 512
The no entries currently being used = 0
The Read Index is                = 0
The Write Index is               = 0
The entries in use are between Read and Write Index
```

The entries in use are

SEC MFIFO Statistics:

```
Channel 0 allocated times        = 3
Channel 1 allocated times        = 0
Channel 2 allocated times        = 0
Channel 3 allocated times        = 0
Channel 0 freed times            = 3
Channel 1 freed times            = 0
Channel 2 freed times            = 0
Channel 3 freed times            = 0
Sec MFIFO flush count            = 3
Sec MFIFO interrupt count        = 3
Sec MFIFO put back count         = 0
Sec MFIFO Timer flush count      = 0
Sec MFIFO Timer put back count   = 0
Sec alloc workq count            = 0
Sec free workq count             = 64
```

