



FXOS Troubleshooting Commands

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Chassis Mode Troubleshooting Commands

Use the following chassis mode FXOS CLI commands to troubleshoot issues with your system.

show environment

Displays environment information for the chassis.

For example:

```
FPR2100 /chassis # show environment expand detail
Chassis 1:
Overall Status: Power Problem
Operability: Operable
Power State: Ok
Thermal Status: Ok

PSU 1:
Overall Status: Powered Off
Operability: Unknown
Power State: Off
Voltage Status: Unknown

PSU 2:
Overall Status: Operable
Operability: Operable
Power State: On
Voltage Status: Ok

Tray 1 Module 1:
Overall Status: Operable
Operability: Operable
Power State: On
```

```

Fan 1:
    Overall Status: Operable
    Operability: Operable
    Power State: On
Fan 2:
    Overall Status: Operable
    Operability: Operable
    Power State: On
Fan 3:
    Overall Status: Operable
    Operability: Operable
    Power State: On
Fan 4:
    Overall Status: Operable
    Operability: Operable
    Power State: On
Server 1:
    Overall Status: Ok
    Memory Array 1:
        Current Capacity (MB): 32768
        Populated: 2
        DIMMs:
        ID Overall Status Capacity (MB)
        ---
            1 Operable 16384
            2 Operable 16384
    CPU 1:
        Presence: Equipped
        Cores: 8
        Product Name: Intel(R) Xeon(R) CPU D-1548 @ 2.00GHz
        Vendor: GenuineIntel
        Thermal Status: OK
        Overall Status: Operable
        Operability: Operable

```

scope fan

Enters the fan mode on Firepower 2110, 2120, and Secure Firewall 3100 series devices.

scope fan-module

Enters the fan mode on Firepower 2130, 2140, and Secure Firewall 3100 devices. From this mode, you can display detailed information about the chassis fan.

For example:

```

FPR2100 /chassis # show fan-module expand detail
Fan Module:
    Tray: 1
    Module: 1
    Overall Status: Operable
    Operability: Operable
    Power State: On
    Presence: Equipped
    Product Name: Cisco Firepower 2000 Series Fan Tray
    PID: FPR2K-FAN
    Vendor: Cisco Systems, Inc
    Fan:
        ID: 1
        Overall Status: Operable
        Operability: Operable
        Power State: On
        Presence: Equipped
        ID: 2
        Overall Status: Operable
        Operability: Operable
        Power State: On
        Presence: Equipped

```

show inventory

Displays inventory information such as the chassis number, vendor, and serial number.

Note: This command only applies to Firepower 2130 and Secure Firewall 3100 devices.

For example:

```
FPR2100 /chassis # show inventory
Chassis  PID                Vendor                Serial (SN) HW Revision
-----  -
1 FPR-2140                Cisco Systems, In  JAD201005FC 0.1
```

show inventory expand

Displays detailed inventory information about FRUable components such as the chassis, PSU, and network modules.

For example:

```
FPR2100 /chassis # show inventory expand detail
Chassis 1:
  Product Name: Cisco Firepower 2000 Appliance
  PID: FPR-2130
  VID: V01
  Vendor: Cisco Systems, Inc
  Model: FPR-2130
  Serial (SN): JAD2012091X
  HW Revision: 0.1
  PSU 1:
    Presence: Equipped
    Product Name: Cisco Firepower 2000 Series AC 400W Power Supply
    PID: FPR2K-PWR-AC-400
    VID: V01
    Vendor: Cisco Systems, Inc
    Serial (SN): LIT2010CAFE
    HW Revision: 0
  PSU 2:
    Presence: Equipped
    Product Name: Cisco Firepower 2000 Series AC 400W Power Supply
    PID: FPR2K-PWR-AC-400
    VID: V01
    Vendor: Cisco Systems, Inc
    Serial (SN): LIT2010CAFE
    HW Revision: 0
  Fan Modules:
    Tray 1 Module 1:
      Presence: Equipped
      Product Name: Cisco Firepower 2000 Series Fan Tray
      PID: FPR2K-FAN
      Vendor: Cisco Systems, Inc
  Fans:
    ID Presence
    -- -----
    1 Equipped
    2 Equipped
    3 Equipped
    4 Equipped
  Fabric Card 1:
    Description: Cisco SSP FPR 2130 Base Module
    Number of Ports: 16
    State: Online
    Vendor: Cisco Systems, Inc.
    Model: FPR-2130
    HW Revision: 0
    Serial (SN): JAD2012091X
    Perf: N/A
    Operability: Operable
```

```

Overall Status: Operable
Power State: Online
Presence: Equipped
Thermal Status: N/A
Voltage Status: N/A
Fabric Card 2:
Description: 8-port 10 Gigabit Ethernet Expansion Module
Number of Ports: 8
State: Online
Vendor: Cisco Systems, Inc.
Model: FPR-NM-8X10G
HW Revision: 0
Serial (SN): JAD19510AKD
Perf: N/A
Operability: Operable
Overall Status: Operable
Power State: Online
Presence: Equipped
Thermal Status: N/A
Voltage Status: N/A

```

scope psu

Enters the power supply unit mode. From this mode, you can view detailed information about the power supply unit.

For example:

```

FPR2100 /chassis # show psu expand detail
PSU:
PSU: 1
Overall Status: Powered Off
Operability: Unknown
Power State: Off
Presence: Equipped
Voltage Status: Unknown
Product Name: Cisco Firepower 2000 Series AC 400W Power Supply
PID: FPR2K-PWR-AC-400
VID: V01
Vendor: Cisco Systems, Inc
Serial (SN): LIT2010CAFE
Type: AC
Fan Status: Ok
PSU: 2
Overall Status: Operable
Operability: Operable
Power State: On
Presence: Equipped
Voltage Status: Ok
Product Name: Cisco Firepower 2000 Series AC 400W Power Supply
PID: FPR2K-PWR-AC-400
VID: V01
Vendor: Cisco Systems, Inc
Serial (SN): LIT2010CAFE
Type: AC
Fan Status: Ok

```

scope stats

Enters the stats mode. From this mode, you can view detailed information about the chassis statistics.

For example:

```

FPR2100 /chassis # show stats
Chassis Stats:
Time Collected: 2016-11-14T21:19:46.317
Monitored Object: sys/chassis-1/stats
Suspect: No

```

```
Outlet Temp1 (C): 43.000000
Outlet Temp2 (C): 41.000000
Inlet Temp (C): 30.000000
Internal Temp (C): 34.000000
Thresholded: 0
Fan Stats:
Time Collected: 2016-11-14T21:19:46.317
Monitored Object: sys/chassis-1/fan-module-1-1/fan-1/stats
Suspect: No
Speed (RPM): 17280
Thresholded: 0
Time Collected: 2016-11-14T21:19:46.317
Monitored Object: sys/chassis-1/fan-module-1-1/fan-2/stats
Suspect: No
Speed (RPM): 17340
Thresholded: 0
Time Collected: 2016-11-14T21:19:46.317
Monitored Object: sys/chassis-1/fan-module-1-1/fan-3/stats
Suspect: No
Speed (RPM): 17280
Thresholded: 0
Time Collected: 2016-11-14T21:19:46.317
Monitored Object: sys/chassis-1/fan-module-1-1/fan-4/stats
Suspect: No
Speed (RPM): 17280
Thresholded: 0
Psu Stats:
Time Collected: 2016-11-14T21:19:46.318
Monitored Object: sys/chassis-1/psu-1/stats
Suspect: No
Input Current (A): 0.000000
Input Power (W): 8.000000
Input Voltage (V): 0.000000
Psu Temp1 (C): 32.000000
Psu Temp2 (C): 36.000000
Psu Temp3 (C): 32.000000
Fan Speed (RPM): 0
Thresholded: 0
Time Collected: 2016-11-14T21:19:46.318
Monitored Object: sys/chassis-1/psu-2/stats
Suspect: No
Input Current (A): 0.374000
Input Power (W): 112.000000
Input Voltage (V): 238.503006
Psu Temp1 (C): 36.000000
Psu Temp2 (C): 47.000000
Psu Temp3 (C): 47.000000
Fan Speed (RPM): 2240
Thresholded: 0
CPU Env Stats:
Time Collected: 2016-11-14T21:19:46.317
Monitored Object: sys/chassis-1/blade-1/board/cpu-1/env-stats
Suspect: No
Temperature (C): 46.000000
Thresholded: 0
Time Collected: 2016-11-14T21:19:46.317
Monitored Object: sys/chassis-1/blade-1/npu/cpu-1/env-stats
Suspect: No
Temperature (C): 38.000000
Thresholded: 0
```

Eth-Uplink Mode Troubleshooting Commands

Use the following eth-uplink mode FXOS CLI commands to troubleshoot issues with your system.

show detail

Displays detailed information about your device's Ethernet uplink.

For example:

```
FPR2100 /eth-uplink # show detail
Ethernet Uplink:
  Mode: Security Node
  MAC Table Aging Time (dd:hh:mm:ss): 00:04:01:40
  VLAN Port Count Optimization: Disabled
  Current Task:
```

scope fabric a

Enters the eth-uplink interface mode. From this mode, you can view port channel, statistics, and interface information.

For example:

```
FPR2100 /eth-uplink/fabric # show interface
Interface:
```

Port Name	Port Type	Admin State	Oper State	State Reason
Ethernet1/1	Data	Enabled	Up	Up
Ethernet1/2	Data	Enabled	Link Down	Down
Ethernet1/3	Data	Disabled	Link Down	Down
Ethernet1/4	Data	Disabled	Link Down	Down
Ethernet1/5	Data	Disabled	Link Down	Down
Ethernet1/6	Data	Disabled	Link Down	Down
Ethernet1/7	Data	Disabled	Link Down	Down
Ethernet1/8	Data	Disabled	Link Down	Down
Ethernet1/9	Data	Disabled	Link Down	Down
Ethernet1/10	Data	Disabled	Link Down	Down
Ethernet1/11	Data	Disabled	Link Down	Down
Ethernet1/12	Data	Disabled	Link Down	Down
Ethernet1/13	Data	Disabled	Link Down	Down
Ethernet1/14	Data	Disabled	Link Down	Down
Ethernet1/15	Data	Disabled	Link Down	Down
Ethernet1/16	Data	Disabled	Link Down	Down
Ethernet2/1	Data	Disabled	Link Down	Down
Ethernet2/2	Data	Disabled	Link Down	Down
Ethernet2/3	Data	Disabled	Link Down	Down
Ethernet2/4	Data	Disabled	Link Down	Down
Ethernet2/5	Data	Disabled	Link Down	Down
Ethernet2/6	Data	Disabled	Link Down	Down
Ethernet2/7	Data	Disabled	Link Down	Down
Ethernet2/8	Data	Disabled	Link Down	Down

```
FPR2100 /eth-uplink/fabric # show port-channel
Port Channel:
```

Port Channel Id	Name	Port Type	Admin State	Oper State	State Reason
1	Port-channell	Data	Disabled	Link Down	Down

```
FPR2100 /eth-uplink/fabric/port-channel # show stats
Ether Error Stats:
  Time Collected: 2016-11-14T21:27:16.386
  Monitored Object: fabric/lan/A/pc-1/err-stats
  Suspect: No
  Rcv (errors): 0
  Align (errors): 0
  Fcs (errors): 0
  Xmit (errors): 0
  Under Size (errors): 0
  Out Discard (errors): 0
  Deferred Tx (errors): 0
  Int Mac Tx (errors): 0
  Int Mac Rx (errors): 0
  Thresholded: Xmit Delta Min
Ether Loss Stats:
  Time Collected: 2016-11-14T21:27:16.386
  Monitored Object: fabric/lan/A/pc-1/loss-stats
  Suspect: No
  Single Collision (errors): 0
  Multi Collision (errors): 0
  Late Collision (errors): 0
  Excess Collision (errors): 0
  Carrier Sense (errors): 0
  Giants (errors): 0
  Symbol (errors): 0
  SQE Test (errors): 0
  Thresholded: 0
Ether Pause Stats:
  Time Collected: 2016-11-14T21:27:16.386
  Monitored Object: fabric/lan/A/pc-1/pause-stats
  Suspect: No
  Recv Pause (pause): 0
  Xmit Pause (pause): 0
  Resets (resets): 0
  Thresholded: 0
Ether Rx Stats:
  Time Collected: 2016-11-14T21:27:16.386
  Monitored Object: fabric/lan/A/pc-1/rx-stats
  Suspect: No
  Total Packets (packets): 0
  Unicast Packets (packets): 0
  Multicast Packets (packets): 0
  Broadcast Packets (packets): 0
  Total Bytes (bytes): 0
  Jumbo Packets (packets): 0
  Thresholded: 0
Ether Tx Stats:
  Time Collected: 2016-11-14T21:27:16.386
  Monitored Object: fabric/lan/A/pc-1/tx-stats
  Suspect: No
  Total Packets (packets): 0
  Unicast Packets (packets): 0
  Multicast Packets (packets): 0
  Broadcast Packets (packets): 0
  Total Bytes (bytes): 0
  Jumbo Packets (packets): 0
FPR2100 /eth-uplink/fabric/interface # show stats
Ether Error Stats:
  Time Collected: 2016-11-14T21:27:46.395
  Monitored Object: sys/switch-A/slot-1/switch-ether/port-1/err-stats
  Suspect: No
  Rcv (errors): 0
```

```

Align (errors): 0
Fcs (errors): 0
Xmit (errors): 0
Under Size (errors): 0
Out Discard (errors): 0
Deferred Tx (errors): 0
Int Mac Tx (errors): 0
Int Mac Rx (errors): 0
Thresholded: Xmit Delta Min
Ether Loss Stats:
Time Collected: 2016-11-14T21:27:46.395
Monitored Object: sys/switch-A/slot-1/switch-ether/port-1/loss-stats
Suspect: No
Single Collision (errors): 0
Multi Collision (errors): 0
Late Collision (errors): 0
Excess Collision (errors): 0
Carrier Sense (errors): 0
Giants (errors): 7180
Symbol (errors): 0
SQE Test (errors): 0
Thresholded: 0
Ether Pause Stats:
Time Collected: 2016-11-14T21:27:46.395
Monitored Object: sys/switch-A/slot-1/switch-ether/port-1/pause-stats
Suspect: No
Recv Pause (pause): 0
Xmit Pause (pause): 0
Resets (resets): 0
Thresholded: 0
Ether Rx Stats:
Time Collected: 2016-11-14T21:27:46.395
Monitored Object: sys/switch-A/slot-1/switch-ether/port-1/rx-stats
Suspect: No
Total Packets (packets): 604527
Unicast Packets (packets): 142906
Multicast Packets (packets): 339031
Broadcast Packets (packets): 122590
Total Bytes (bytes): 59805045
Jumbo Packets (packets): 0
Thresholded: 0
Ether Tx Stats:
Time Collected: 2016-11-14T21:27:46.395
Monitored Object: sys/switch-A/slot-1/switch-ether/port-1/tx-stats
Suspect: No
Total Packets (packets): 145018
Unicast Packets (packets): 145005
Multicast Packets (packets): 0
Broadcast Packets (packets): 13
Total Bytes (bytes): 13442404
Jumbo Packets (packets): 0
Thresholded: 0

```

Fabric Interconnect Mode Troubleshooting Commands

Use the following fabric-interconnect mode FXOS CLI commands to troubleshoot issues with your system.

show card

Displays information on a fabric card.

For example:


```
FPR2100 /fabric-interconnect # show card detail expand
Fabric Card:
  Id: 1
  Description: Cisco SSP FPR 2130 Base Module
  Number of Ports: 16
  State: Online
  Vendor: Cisco Systems, Inc.
  Model: FPR-2130
  HW Revision: 0
  Serial (SN): JAD2012091X
  Perf: N/A
  Operability: Operable
  Overall Status: Operable
  Power State: Online
  Presence: Equipped
  Thermal Status: N/A
  Voltage Status: N/A
```

show image

Displays all available images.

```
firepower /firmware # show image
```

Name	Type	Version
cisco-asa-9.10.1.csp	Firepower Cspapp	9.10.1
cisco-asa-9.9.2.csp	Firepower Cspapp	9.9.2
fxos-k8-fp2k-firmware.0.4.04.SPA	Firepower Firmware	0.4.04
fxos-k8-fp2k-lfbff.82.1.1.303i.SSA	Firepower System	82.1(1.303i)
fxos-k8-fp2k-npu.82.1.1.303i.SSA	Firepower Npu	82.1(1.303i)
fxos-k8-fp2k-npu.82.1.1.307i.SSA	Firepower Npu	82.1(1.307i)
fxos-k9-fp2k-manager.82.1.1.303i.SSA	Firepower Manager	82.1(1.303i)

show package

Displays all available packages.

```
firepower /firmware # show package
```

Name	Package-Vers
cisco-ftd-fp2k.9.10.1.SSA	9.10.1
cisco-ftd-fp2k.9.9.2.SSA	9.9.2

show package *package_name* expand

Displays the package details.

```
firepower /firmware # show package cisco-ftd-fp2k.9.10.1.SSA expand
Package cisco-ftd-fp2k.9.10.1.SSA:
  Images:
    cisco-asa.9.10.1.csp
    fxos-k8-fp2k-firmware.0.4.04.SPA
    fxos-k8-fp2k-lfbff.82.1.1.303i.SSA
    fxos-k8-fp2k-npu.82.1.1.303i.SSA
    fxos-k9-fp2k-manager.82.1.1.303i.SSA
```

scope auto-install

Enters the auto-install mode. From this mode, you can view the current FXOS upgrade state.

```
firepower /firmware/auto-install # show
Firmware Auto-Install:
  Package-Vers Oper State Upgrade State
  -----
  9.10.1 Scheduled Installing Application
```

scope firmware

Enters the firmware mode. From this mode, you can view download task information.

For example:

```
FPR2100 /firmware # show download-task
Download task:
  File Name                                     Protocol Server          Port
  Userid           State
  -----
  cisco-ftd-fp2k.9.10.1.SSA                    Scp      172.29.191.78
0 danp           Downloaded
  cisco-ftd-fp2k.9.9.1.SSA                     Scp      172.29.191.78
0 danp           Downloaded
```

scope download-task

Enters the download-task mode. From this mode, you can view additional details about each download task and restart the download task.

For example:

```
Download task:
  File Name: test.SSA
  Protocol: Scp
  Server: 172.29.191.78
  Port: 0
  Userid: user
  Path: /tmp
  Downloaded Image Size (KB): 0
  Time stamp: 2016-11-15T19:42:29.854
  State: Failed
  Transfer Rate (KB/s): 0.000000
  Current Task: deleting downloadable test.SSA on
local(FSM-STAGE:sam:dme:FirmwareDownloaderDownload:DeleteLocal)
firepower /firmware/download-task # show fsm status
File Name: test.SSA
FSM 1:
  Remote Result: End Point Failed
  Remote Error Code: ERR MO Illegal Iterator State
  Remote Error Description: End point timed out. Check for IP, port, password,
disk space or network access related issues.#
  Status: Download Fail
  Previous Status: Download Fail
  Timestamp: 2016-11-15T19:42:29.854
  Try: 2
  Progress (%): 0
  Current Task: deleting downloadable test.SSA on
local(FSM-STAGE:sam:dme:FirmwareDownloaderDownload:DeleteLocal)

firepower /firmware/download-task # restart
Password:
```

scope psu

Enters the power supply unit mode. From this mode, you can view detailed information about the power supply unit.

For example:

```
FPR2100 /chassis # show psu expand detail
PSU:
  PSU: 1
  Overall Status: Powered Off
  Operability: Unknown
  Power State: Off
```

```

Presence: Equipped
Voltage Status: Unknown
Product Name: Cisco Firepower 2000 Series AC 400W Power Supply
PID: FPR2K-PWR-AC-400
VID: V01
Vendor: Cisco Systems, Inc
Serial (SN): LIT2010CAFE
Type: AC
Fan Status: Ok
PSU: 2
Overall Status: Operable
Operability: Operable
Power State: On
Presence: Equipped
Voltage Status: Ok
Product Name: Cisco Firepower 2000 Series AC 400W Power Supply
PID: FPR2K-PWR-AC-400
VID: V01
Vendor: Cisco Systems, Inc
Serial (SN): LIT2010CAFE
Type: AC
Fan Status: Ok

```

Connect Local-Mgmt Troubleshooting Commands for the Firepower 2100 in Platform Mode

Use the following connect local-mgmt mode FXOS CLI commands to troubleshoot issues with your Firepower 2100 in Platform mode. To access connect local-mgmt mode, enter:

FPR2100# **connect local-mgmt**

show lacp

Displays detailed information about EtherChannel LACP.

For example:

```

FPR2100(local-mgmt)# show lacp neighborFlags: S - Device is requesting Slow LACPDUs
F - Device is requesting Fast LACPDUs
A - Device is in Active mode          P - Device is in Passive mode

```

Channel group: 11

Partner (internal) information:

Port	Partner System ID	Partner Port Number	Age	Partner Flags
Eth1/1	32768,286f.7fec.5980	0x10e	13 s	FA

LACP Partner Port Priority	Partner Oper Key	Partner Port State
32768	0x16	0x3f

Port State Flags Decode:

Activity:	Timeout:	Aggregation:	Synchronization:
Active	Long	Yes	Yes

Collecting:	Distributing:	Defaulted:	Expired:
Yes	Yes	No	No

```

Partner
Port      System ID      Partner      Age      Partner
Eth1/2    32768,286f.7fec.5980  0x10f      5 s     FA

LACP Partner      Partner      Partner
Port Priority      Oper Key      Port State
32768              0x16          0x3f

Port State Flags Decode:
Activity:  Timeout:  Aggregation:  Synchronization:
Active    Long        Yes           Yes

Collecting:  Distributing:  Defaulted:  Expired:
Yes         Yes           No          No

```

```
FP2100(local-mgmt)# show lacp counters
```

Port	LACPDUs		Marker		Marker Response		LACPDUs	
	Sent	Recv	Sent	Recv	Sent	Recv	Pkts	Err

Channel group: 11								
Eth1/1	4435	3532	0	0	0	0	0	0
Eth1/2	4566	3532	0	0	0	0	0	0

show portchannel

Displays detailed information about EtherChannels.

For example:

```

FPR2100(local-mgmt)# show portchannel summary
Flags: D - Down      P - Up in port-channel (members)
I - Individual      H - Hot-standby (LACP only)
s - Suspended       r - Module-removed
S - Switched        R - Routed
U - Up (port-channel)
M - Not in use. Min-links not met

-----
Group Port-      Type      Protocol  Member Ports
Channel
-----
11    Po11(U)    Eth       LACP      Eth1/1 (P)  Eth1/2 (P)

```

show portmanager

Displays detailed information about physical interfaces.

For example:

```

FPR2100(local-mgmt)# show portmanager counters ethernet 1 1
Good Octets Received      : 105503260
Bad Octets Received       : 0
MAC Transmit Error       : 0
Good Packets Received     : 1376050
Bad Packets Received      : 0
BRDC Packets Received     : 210
MC Packets Received       : 1153664
Size 64                   : 1334830
Size 65 to 127           : 0
Size 128 to 255          : 0
Size 256 to 511         : 41220
Size 512 to 1023        : 0
Size 1024 to Max         : 0

```

```

Good Octets Sent : 0
Good Packets Sent : 0
Excessive Collision : 0
MC Packets Sent : 0
BRDC Packets Sent : 0
Unrecognized MAC Received : 0
FC Sent : 0
Good FC Received : 0
Drop Events : 0
Undersize Packets : 0
Fragments Packets : 0
Oversize Packets : 0
Jabber Packets : 0
MAC RX Error Packets Received : 0
Bad CRC : 0
Collisions : 0
Late Collision : 0
bad FC Received : 0
Good UC Packets Received : 222176
Good UC Packets Sent : 0
Multiple Packets Sent : 0
Deferred Packets Sent : 0
Size 1024 to 15180 : 0
Size 1519 to Max : 0
txqFilterDisc : 0
linkChange : 1

```

```

FPR2100(local-mgmt)# show portmanager port-info ethernet 1 1
port_info:
  if_index: 0x1081000
  type: PORTMGR_IPC_MSG_PORT_TYPE_PHYSICAL
  mac_address: 2c:f8:9b:1e:8f:d6
  flowctl: PORTMGR_IPC_MSG_FLOWCTL_NONE
  role: PORTMGR_IPC_MSG_PORT_ROLE_NPU
  admin_state: PORTMGR_IPC_MSG_PORT_STATE_ENABLED
  oper_state: PORTMGR_IPC_MSG_PORT_STATE_UP
  admin_speed: PORTMGR_IPC_MSG_SPEED_AUTO
  oper_speed: PORTMGR_IPC_MSG_SPEED_1GB
  admin_mtu: 9216
  admin_duplex: PORTMGR_IPC_MSG_PORT_DUPLEX_AUTO
  oper_duplex: PORTMGR_IPC_MSG_PORT_DUPLEX_FULL
  pc_if_index: 0x0
  pc_membership_status: PORTMGR_IPC_MSG_MMBR_NOT_MEMBER
  pc_protocol: PORTMGR_IPC_MSG_PORT_CHANNEL_PRTCL_NONE
  native_vlan: 101
  num_allowed_vlan: 1
    allowed_vlan[0]: 101
  PHY Data:
  PAGE IFC OFFSET VALUE | PAGE IFC OFFSET VALUE
  ---- - - - - - - - - - - | - - - - - - - - - -
    0 0 0x0000 0x1140 | 0 0 0x0001 0x796d
    0 0 0x0002 0x0141 | 0 0 0x0003 0x0ee1
    0 0 0x0004 0x03e3 | 0 0 0x0005 0xc1e1
    0 0 0x0006 0x000f | 0 0 0x0007 0x2001
    0 0 0x0008 0x4f08 | 0 0 0x0009 0x0f00
    0 0 0x000a 0x3800 | 0 0 0x000f 0x3000
    0 0 0x0010 0x3070 | 0 0 0x0011 0xac08
    0 0 0x0012 0x0000 | 0 0 0x0013 0x1c40
    0 0 0x0014 0x8020 | 0 0 0x0015 0x0000
  18 0 0x001b 0x0000 |

```

Item	Description
Good Octets Received	Number of ethernet frames received that are not bad ethernet frames
Bad Octets Received	Sum of lengths (in bytes) of all bad ethernet frames received.
MAC Transmit Error	Number of frames not transmitted correctly or dropped due to internal MAC Tx error
Good Packets Received	The number of frames received that are not bad ethernet frames.
Bad Packets Received	The number of bad frames received
BRDC Packets Received	The number of good frames received that have a Broadcast destination MAC address
MC Packets Received	The number of good frames received that have a Multicast destination MAC address
Good Octets Sent	The sum of lengths of all Ethernet frames sent
Good Packets Sent	The number of good frames sent
Excessive Collision	The number of collision events seen by the MAC not including those counted in Single, Multiple, Excessive, or Late. This counter is applicable in half-duplex only
MC Packets Sent	The number of good frames send that have a Multicast destination MAC address
BRDC Packets Sent	The number of good frames send that have a Broadcast destination MAC address
Unrecognized MAC Received	Number of received MAC Control frames that are not Flow control frames.
FC sent	Number of Flow Control frames sent.
Good FC Received	Number of good IEEE 802.3x Flow Control packets received.
Drop Events	Number of packets dropped
Undersize Packets	Number of undersize packets received
Fragments Packets	Number of fragments received.
Oversize Packets	Number of oversize packets received
Jabber Packets	Number of jabber packets received

Item	Description
MAC RX Error Packets Received	Number of Rx Error events seen by the receive side of the MAC
Bad CRC	Number of packets received with bad CRC
Collisions	Number of late collisions seen by the MAC
Late collison	Total number of late collisions seen by the MAC
Bad FC Received	Number of bad IEEE 802.3x Flow Control packets received
Good UC Packets Received	Number of Ethernet Unicast frames received
Good UC Packets Sent	Number of Ethernet Unicast frames sent
Multiple Packets Sent	Valid Frame transmitted on half-duplex link that encountered more then one collision. Byte count and cast are valid.
Deferred Packets Sent	Valid frame transmitted on half-duplex link with no collisions, but where the frame transmission was delayed due to media being busy. Byte count and cast are valid.
Size 1024 to 15180	The number of received and transmitted, good and bad frames that are 1024 to 1518 bytes in size
Size 1519 to Max	The number of received and transmitted, good and bad frames that are more than 1519 bytes in size
txqFilterDisc	Number of IN packets that were filtered due to TxQ
linkChange	number of link up or link down changes for the port

```

FPR2100(local-mgmt)# show portmanager switch mac-filters
port ix          MAC                mask                action                packets                bytes
00  0ba  2C:F8:9B:1E:8F:D7  FF:FF:FF:FF:FF:FF  FORWARD
0c9  01:80:C2:00:00:02  FF:FF:FF:FF:FF:FF  FORWARD
0cc  2C:F8:9B:1E:8F:F7  FF:FF:FF:FF:FF:FF  FORWARD
0cf  FF:FF:FF:FF:FF:FF  FF:FF:FF:FF:FF:FF  FORWARD
b70  00:00:00:00:00:00  01:00:00:00:00:00  DROP                222201                14220864
bb8  01:00:00:00:00:00  01:00:00:00:00:00  DROP                1153821                91334968

01  0bd  2C:F8:9B:1E:8F:D6  FF:FF:FF:FF:FF:FF  FORWARD
0c0  01:80:C2:00:00:02  FF:FF:FF:FF:FF:FF  FORWARD
0c3  2C:F8:9B:1E:8F:F6  FF:FF:FF:FF:FF:FF  FORWARD
0c6  FF:FF:FF:FF:FF:FF  FF:FF:FF:FF:FF:FF  FORWARD                210                13440
b73  00:00:00:00:00:00  01:00:00:00:00:00  DROP                222201                14220864
bbb  01:00:00:00:00:00  01:00:00:00:00:00  DROP                1153795                91281055
<...>
    
```

```
FPR2100(local-mgmt)# show portmanager switch status
Dev/Port      Mode      Link  Speed  Duplex  Loopback Mode
-----
0/0           QSGMII    Up    1G     Full    None
0/1           QSGMII    Up    1G     Full    None
0/2           QSGMII    Down  1G     Half    None
0/3           QSGMII    Down  1G     Half    None
0/4           QSGMII    Down  1G     Half    None
0/5           QSGMII    Down  1G     Half    None
0/6           QSGMII    Up    1G     Full    None
0/7           QSGMII    Down  1G     Half    None
0/48          QSGMII    Down  1G     Half    None
0/49          QSGMII    Down  1G     Half    None
0/50          QSGMII    Down  1G     Half    None
0/51          QSGMII    Down  1G     Half    None
0/52          KR        Up    40G    Full    None
0/56          SR_LR    Down  10G    Full    None
0/57          SR_LR    Down  10G    Full    None
0/58          SR_LR    Down  10G    Full    None
0/59          SR_LR    Down  10G    Full    None
0/64          SR_LR    Down  10G    Full    None
0/65          SR_LR    Down  10G    Full    None
0/66          SR_LR    Down  10G    Full    None
0/67          SR_LR    Down  10G    Full    None
0/68          SR_LR    Down  10G    Full    None
0/69          SR_LR    Down  10G    Full    None
0/70          SR_LR    Down  10G    Full    None
0/71          SR_LR    Down  10G    Full    None
0/80          KR        Up    10G    Full    None
0/81          KR        Down  10G    Full    None
0/83          KR        Up    10G    Full    None
```

Connect Local-Mgmt Troubleshooting Commands for the Secure Firewall 3100

In addition to the existing debugging commands, CLIs specific to Secure Firewall 3100 are explained in this section below.

Use the following connect local-mgmt mode FXOS CLI commands to troubleshoot issues with your Secure Firewall 3100. To access connect local-mgmt mode, enter:

```
FPR3100# connect local-mgmt
```

show portmanager

Displays detailed information about switched, packets, SFP-FEC counters, digital optical monitoring, QOS functionality, CPSS AP, and Cyclic log dumps.

For example:

The following CLI displays the FXOS port manager switch hardware TCAM rules dump in vcam-tti:

```
firepower-3140(local-mgmt)# show portmanager switch forward-rules hardware vcam-tti
detail
VTCAM_RULE_ID  VLAN  SRC_PORT  PORTCHANNEL_ID  FLAGS  MODE  REF_COUNT
1              21    0         2                0     2     5         3
2             3078    0         0                0     0     0         1
3             3077    0         0                0     0     0         1
```


4	3076	0	0	0	0	0	1
5	3075	0	0	0	0	0	1
6	3074	0	0	0	0	0	1
7	3073	0	0	0	0	0	1
8	1	0	0	0	0	0	1
9	18	102	0	0	24	8	1
10	5	157	0	0	24	8	1
11	31	0	12	0	2	5	3
12	15	105	0	0	24	8	1
13	9	111	0	0	24	8	1
14	13	107	0	0	24	8	1
15	26	0	7	0	2	5	3
16	29	0	10	0	2	5	3
17	23	0	4	0	2	5	3
18	19	101	0	0	24	8	1
19	30	0	11	0	2	5	3
20	28	0	9	0	2	5	3
21	4	156	0	0	24	8	1
22	34	0	15	0	2	5	3
23	6	158	0	0	24	8	1
24	8	112	0	0	24	8	1
25	24	0	5	0	2	5	3
26	14	106	0	0	24	8	1
27	32	0	13	0	2	5	3
28	25	0	6	0	2	5	3
29	12	0	0	9	6	5	2
30	20	0	1	0	2	5	3
31	11	109	0	0	24	8	1
32	27	0	8	0	2	5	3
33	17	103	0	0	24	8	1
34	22	0	3	0	2	5	3
35	16	104	0	0	24	8	1
36	3	0	19	0	26	8	1
37	35	0	16	0	2	5	3
38	33	0	14	0	2	5	3
39	7	159	0	0	24	8	1
40	2	0	17	0	26	8	1
41	10	110	0	0	24	8	1

The following CLI displays the FXOS port manager switch VLANs output:

```
firepower-3140(local-mgmt)# show portmanager switch vlans
VLAN          Ports          Tag          MAC-Learning
FDB-mode
-----
1              0/17,19        pop_outer_tag Control
FID
2              0/1-16,18      outer_tag0_inner_tag1 Control
FID
                0/20           pop_outer_tag
3              0/1-16,18      outer_tag0_inner_tag1 Control
FID
4              0/1-16,18      outer_tag0_inner_tag1 Control
FID
5              0/1-16,18      outer_tag0_inner_tag1 Control
FID
6              0/1-16,18      outer_tag0_inner_tag1 Control
FID
7              0/1-16,18      outer_tag0_inner_tag1 Control
FID
```

```
8                                0/1-16,18                outer_tag0_inner_tag1  Control
                                FID
```

The following CLI helps you to to check port-channel interface summary:

```
firepower-3140(local-mgmt)# show por
portchannel portmanager

firepower-3140(local-mgmt)# show portchannel summary
Flags:  D - Down          P - Up in port-channel (members)
I - Individual  H - Hot-standby (LACP only)
s - Suspended   r - Module-removed
S - Switched   R - Routed
U - Up (port-channel)
M - Not in use. Min-links not met
-----
Group Port-      Type      Protocol  Member Ports
Channel
-----
3     Po3(U)      Eth       LACP      Eth1/3(P)
2     Po2(U)      Eth       LACP      Eth1/2(P)

LACP KeepAlive Timer:
-----
Channel  PeerKeepAliveTimerFast
-----
3     Po3(U)      False
2     Po2(U)      False

Cluster LACP Status:
-----
Channel  ClusterSpanned  ClusterDetach  ClusterUnitID  ClusterSysID
-----
3     Po3(U)          False          False          0
2     Po2(U)          False          False          0
</pre>
```

The following CLI displays the port-channel load-balancing method:

```
firepower-3140(local-mgmt)# show portchannel load-balance
PortChannel Load-Balancing Configuration:
  src-dst ip-l4port
PortChannel Load-Balancing Configuration Used Per-Protocol:
Non-IP: src-dst mac
IP: src-dst ip-l4port
</pre>
```

The following CLI displays the status of FXOS system processes:

```
firepower-3140(local-mgmt)# show pmon state

SERVICE NAME          STATE          RETRY (MAX)    EXITCODE      SIGNAL        CORE
-----
svc_sam_dme            running        0 (4)          0             0             no
svc_sam_dcosAG         running        0 (4)          0             0             no
svc_sam_portAG         running        0 (4)          0             0             no
svc_sam_statsAG        running        0 (4)          0             0             no
httpd.sh               running        0 (4)          0             0             no
svc_sam_sessionmgrAG   running        0 (4)          0             0             no
sam_core_mon           running        0 (4)          0             0             no
svc_sam_svcmonAG       running        0 (4)          0             0             no
svc_sam_serviceOrchAG  running        0 (4)          0             0             no
svc_sam_appAG          running        0 (4)          0             0             no
svc_sam_envAG          running        0 (4)          0             0             no
```

```

svc_sam_npuAG          running          0(4)          0          0          no
svc_sam_eventAG       running          0(4)          0          0          no
    
```

The following CLI displays switch hardware TCAM rules dump in vtcam-tti stage matching ethernet 1/1 port:

```

firepower-3140(local-mgmt)# show portmanager switch forward-rules hardware vtcam-tti
ethernet 1 1
RULE_ID  VLAN  SRC_PORT  PC_ID  SRC_ID  MODE  PAK_CNT
1        20    0 1      0      101   0      151
    
```

The following CLI displays switch hardware TCAM rules dump in vtcam-tti stage matching vlan 0:

```

firepower-3140(local-mgmt)# show portmanager switch forward-rules hardware vtcam-tti
vlan 0
      RULE_ID  VLAN  SRC_PORT  PC_ID  SRC_ID  MODE  PAK_CNT
1         2     0     17     0     17     0     1709
2         3     0     19     0     19     0     1626
3         4     0     16     0     0      0     0
4         5     0     15     0     0      0     0
5         6     0     14     0     0      0     0
6         7     0     13     0     0      0     0
7         8     0     12     0     0      0     0
8         9     0     11     0     0      0     0
9        10     0     10     0     0      0     0
10       11     0     9      0     0      0     0
11       12     0     8      0     0      0     0
12       13     0     7      0     0      0     0
13       14     0     6      0     0      0     0
14       15     0     5      0     0      0     0
15       16     0     4      0     0      0     0
16       17     0     3      0     0      0     0
17       18     0     2      0     0      0     0
18       19     0     1      0     0      0     0
19       20     0     1      0     101    0     166
20       21     0     2      0     102    0     1597
21       22     0     3      0     103    0     0
22       23     0     4      0     104    0     0
23       24     0     5      0     105    0     0
24       25     0     6      0     106    0     0
25       26     0     7      0     107    0     0
26       27     0     8      0     108    0     0
27       28     0     9      0     109    0     0
28       29     0     10     0     110    0     0
29       30     0     11     0     111    0     0
30       31     0     12     0     112    0     0
31       32     0     13     0     159    0     0
32       33     0     14     0     158    0     0
33       34     0     15     0     157    0     0
34       35     0     16     0     156    0     0
35        1     0     17     0     0      0     0
    
```

The following CLI displays detailed information about hardware MAC-filter / EM stage rules:

```

firepower-3140(local-mgmt)# show portmanager switch forward-rules hardware mac-filter
detail
EM Entry-No : 1

      VLAN      : 0
      SRC_PORT   : 17
      PC_ID      : 0
      SRC_ID     : 17
      DST_PORT   : 19
      HW_ID      : 3072
    
```

```

ACT_CMD      : 0
PCL_ID       : 1
REDIRECT_CMD : 1
BYPASS_BRG   : 1
CND_INDEX    : 3074
PACKET_COUNT : 1977
DMAC         : 00:00:00:00:00:00

```

```
EM Entry-No : 2
```

```

VLAN         : 0
SRC_PORT     : 19
PC_ID        : 0
SRC_ID       : 19
DST_PORT     : 17
HW_ID        : 3074
ACT_CMD      : 0
PCL_ID       : 1
REDIRECT_CMD : 1
BYPASS_BRG   : 1
CND_INDEX    : 3075
PACKET_COUNT : 1858
DMAC         : 00:00:00:00:00:00

```

The following CLI displays switch hardware TCAM rules dump in mac-filter stage matching ethernet 1/9 port:

```

firepower-3140(local-mgmt)# show portmanager switch forward-rules hardware mac-filter
ethernet 1 9
VLAN  SRC_PORT  PC_ID  SRC_ID  DST_PORT  PKT_CNT  DMAC
1      0           9      0       109      1536     0 1:80:c2:0:0:2

```

The following CLI displays detailed information about software MAC-filter:

```

firepower-3140(local-mgmt)# show portmanager switch forward-rules software mac-filter
detail
VLAN  SRC_PORT  PORTCHANNEL_ID  DST_PORT  FLAGS  MODE  DMAC
1      0         17              0         19     26    8 0:0:0:0:0:0
2      0         9               0         1536   2     5 1:80:c2:0:0:2
3      104        0               0         4      24    8 0:0:0:0:0:0
4      0         7               0         1536   2     5 1:80:c2:0:0:2
5      101        0               0         1      24    8 0:0:0:0:0:0
6      0         1               0         1536   2     5 1:80:c2:0:0:2
7      0         3               0         1536   2     5 1:80:c2:0:0:2
8      106        0               0         6      24    8 0:0:0:0:0:0
9      158        0               0         14     24    8 0:0:0:0:0:0
10     0         13              0         1536   2     5 1:80:c2:0:0:2
11     0         14              0         1536   2     5 1:80:c2:0:0:2
12     0         6               0         1536   2     5 1:80:c2:0:0:2
13     0         8               0         1536   2     5 1:80:c2:0:0:2
14     112        0               0         12     24    8 0:0:0:0:0:0
15     107        0               0         7      24    8 0:0:0:0:0:0
16     0         19              0         17     26    8 0:0:0:0:0:0
17     0         12              0         1536   2     5 1:80:c2:0:0:2
18     0         5               0         1536   2     5 1:80:c2:0:0:2
19     102        0               0         2      24    8 0:0:0:0:0:0
20     156        0               0         16     24    8 0:0:0:0:0:0
21     103        0               0         3      24    8 0:0:0:0:0:0
22     0         11              0         1536   2     5 1:80:c2:0:0:2
23     157        0               0         15     24    8 0:0:0:0:0:0
24     111        0               0         11     24    8 0:0:0:0:0:0

```

25	0	10	0	1536	2	5	1:80:c2:0:0:2
26	108	0	0	8	24	8	0:0:0:0:0:0
27	159	0	0	13	24	8	0:0:0:0:0:0
28	110	0	0	10	24	8	0:0:0:0:0:0
29	105	0	0	5	24	8	0:0:0:0:0:0
30	0	2	0	1536	2	5	1:80:c2:0:0:2
31	0	4	0	1536	2	5	1:80:c2:0:0:2
32	0	16	0	1536	2	5	1:80:c2:0:0:2
33	109	0	0	9	24	8	0:0:0:0:0:0
34	0	15	0	1536	2	5	1:80:c2:0:0:2

The following CLI displays switch software DB rules in mac-filter stage matching ethernet1/9 port:

```
firepower-3140(local-mgmt)# show portmanager switch forward-rules software mac-filter ethernet 1 9
VLAN  SRC_PORT  PORTCHANNEL_ID  DST_PORT  FLAGS  MODE  DMAC
1      0            9                0         1536   2     5  1:80:c2:0:0:2
```

The following CLI displays detailed information about switch bridge engine packet drops:

```
firepower-3140(local-mgmt)# show portmanager switch counters bridge
Bridge Ingress Drop Counter: 2148
No Bridge Ingress Drop
```

The following CLI displays details on hardware switch packet counters:

```
firepower-3140(local-mgmt)# show portmanager switch counters packet-trace
```

Counter	Description
goodOctetsRcv	Number of ethernet frames received that are not bad ethernet frames or MAC Control pkts
badOctetsRcv	Sum of lengths of all bad ethernet frames received
gtBrgInFrames	Number of packets received
gtBrgVlanIngFilterDisc	Number of packets discarded due to VLAN Ingress Filtering
gtBrgSecFilterDisc	Number of packets discarded due to Security Filtering measures
gtBrgLocalPropDisc	Number of packets discarded due to reasons other than VLAN ingress and Security filtering
dropCounter	Ingress Drop Counter
outUcFrames	Number of unicast packets transmitted
outMcFrames	Number of multicast packets transmitted. This includes registered multicasts, unregistered multicasts and unknown unicast packets
outBcFrames	Number of broadcast packets transmitted
brgEgrFilterDisc	Number of IN packets that were Bridge Egress filtered
txqFilterDisc	Number of IN packets that were filtered due to TxQ congestion
outCtrlFrames	Number of out control packets (to cpu, from cpu and to analyzer)
egrFrwDropFrames	Number of packets dropped due to egress forwarding restrictions
goodOctetsSent	Sum of lengths of all good ethernet frames sent from this MAC

Counter	Source port- 0/0	Destination port- 0/0
goodOctetsRcv	---	---
badOctetsRcv	---	---
Ingress counters		
gtBrgInFrames	6650	6650
gtBrgVlanIngFilterDisc	0	0
gtBrgSecFilterDisc	0	0
gtBrgLocalPropDisc	0	0

```

dropCounter                2163                Only for source-port
                                Egress counters
outUcFrames                 0                    0
outMcFrames                 2524                 2524
outBcFrames                 1949                 1949
brgEgrFilterDisc           14                   14
txqFilterDisc               0                    0
outCtrlFrames               0                    0
egrFrwDropFrames           0                    0
goodOctetsSent              ---                  ---

```

The following CLI displays detailed information about the switch traffic for CPU:

```

firepower-3140(local-mgmt)# show portmanager switch traffic cpu

Dev/RX queue  packets    bytes
-----
0/0           0          0
0/1           0          0
0/2           0          0
0/3           0          0
0/4           0          0
0/5           0          0
0/6           0          0
0/7           0          0

```

The following CLI displays details on hardware switch port traffic:

```

firepower-3140(local-mgmt)# show portmanager switch traffic port

max-rate - pps that the port allow with packet size=64
actual-tx-rate - pps that egress the port (+ % from 'max')
actual-rx-rate - pps that ingress the port(+ % from 'max')

Dev/Port    max-rate    actual-tx-rate    actual-rx-rate
-----
0/1         1488095    (0%) ---          (0%) ---
0/2         1488095    (0%) ---          (0%) ---
0/3         14880     (0%) ---          (0%) ---
0/4         14880     (0%) ---          (0%) ---
0/5         14880     (0%) ---          (0%) ---
0/6         14880     (0%) ---          (0%) ---
0/7         14880     (0%) ---          (0%) ---
0/8         14880     (0%) ---          (0%) ---
0/9         14880952   (0%) ---          (0%) ---
0/10        14880952   (0%) ---          (0%) ---
0/11        14880952   (0%) ---          (0%) ---
0/12        14880952   (0%) ---          (0%) ---
0/13        14880952   (0%) ---          (0%) ---
0/14        14880952   (0%) ---          (0%) ---
0/15        1488095    (0%) ---          (0%) ---
0/16        1488095    (0%) ---          (0%) ---
0/17        14880952   (0%) ---          (0%) ---
0/18        74404761   (0%) ---          (0%) ---
0/19        37202380   (0%) ---          (0%) ---
0/20        37202380   (0%) ---          (0%) ---

```

The following CLI displays detailed information about SFP-FEC Counters matching ethernet 1/13 port:

```

firepower-3140(local-mgmt)# show portmanager counters ethernet 1 13

```

```

Good Octets Received           : 2153
Bad Octets Received           : 0
MAC Transmit Error            : 0
Good Packets Received         : 13
Bad packets Received          : 0
BRDC Packets Received         : 0
MC Packets Received           : 13
.....
.....
txqFilterDisc                 : 0
linkchange                    : 1
FcFecRxBlocks                 : 217038081
FcFecRxBlocksNoError          : 217038114
FcFecRxBlocksCorrectedError   : 0
FcFecRxBlocksUnCorrectedError : 0
FcFecRxBlocksCorrectedErrorBits : 0
FcFecRxBlocksCorrectedError0  : 0
FcFecRxBlocksCorrectedError1  : 0
FcFecRxBlocksCorrectedError2  : 0
FcFecRxBlocksCorrectedError3  : 0
FcFecRxBlocksUnCorrectedError0 : 0
FcFecRxBlocksUnCorrectedError1 : 0
FcFecRxBlocksUnCorrectedError2 : 0
FcFecRxBlocksUnCorrectedError3 : 0

```

The following CLI displays detailed information about SFP-FEC Counters matching ethernet 1/14 port:

```

firepower-3140(local-mgmt)# show portmanager counters ethernet 1 14
  Good Octets Received           : 2153
  Bad Octets Received           : 0
  MAC Transmit Error            : 0
  Good Packets Received         : 13
  Bad packets Received          : 0
  BRDC Packets Received         : 0
  MC Packets Received           : 13
  .....
  .....
  txqFilterDisc                 : 0
  linkchange                    : 1
  RsFeccorrectedFecCodeword     : 0
  RsFecuncorrectedFecCodeword   : 10
  RsFecsymbolError0            : 5
  RsFecsymbolError1            : 0
  RsFecsymbolError2            : 0
  RsFecsymbolError3            : 0

```

The following CLI displays detailed information on the Digital Optical Monitoring information matching ethernet 1/5 port:

```

firepower-4245(local-mgmt)# show portmanager port-info ethernet 1 5
  ....
  ....
  DOM info:
  =====:

  Status/Control Register: 0800
    RX_LOS State: 0
    TX_FAULT State: 0
  Alarm Status: 0000
  No active alarms
  Warning Status: 0000

```

No active warnings

THRESHOLDS		high alarm	high warning	low warning	low alarm
Temperature	C	+075.000	+070.000	+000.000	-05.000
Voltage	V	003.6300	003.4650	003.1350	002.9700
Bias Current	mA	012.0000	011.5000	002.0000	001.0000
Transmit power	mW	034.6740	017.3780	002.5120	001.0000
Receive power	mW	034.6740	017.3780	001.3490	000.5370

Environmental Information - raw values

Temperature: 38.84 C

Supply voltage: 33703 in units of 100uVolt

Tx bias: 3499 in units of 2uAmp

Tx power: 0.1 dBm (10251 in units of 0.1 uW)

Rx power: -0.9 dBm (8153 in units of 0.1 uW)

DOM (256 bytes of raw data in hex)

```

=====
0x0000 : 4b 00 fb 00 46 00 00 00 8d cc 74 04 87 5a 7a 76
0x0010 : 17 70 01 f4 16 76 03 e8 87 72 03 e8 43 e2 09 d0
0x0020 : 87 72 02 19 43 e2 05 45 00 00 00 00 00 00 00 00
0x0030 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x0040 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x0050 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 86
0x0060 : 26 54 83 a7 0d ab 28 0b 1f d9 00 00 00 00 00 08
0x0070 : 00 00 03 00 00 00 00 00 00 08 f3 00 00 00 00 01
0x0080 : 49 4e 55 49 41 43 53 45 41 41 31 30 2d 33 33 38
0x0090 : 38 2d 30 31 56 30 31 20 01 00 46 00 00 00 00 e3
0x00a0 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00b0 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00c0 : 53 46 50 2d 31 30 2f 32 35 47 2d 43 53 52 2d 53
0x00d0 : 20 20 20 20 30 38 00 00 00 00 00 00 00 00 00 d1
0x00e0 : 1e 20 2a 2a 31 34 29 36 00 00 00 00 00 00 00 00
0x00f0 : 00 00 00 00 00 56 00 00 ff ff ff ff 00 00 00 cf
=====

```

PHY Data:

```

PAGE IFC OFFSET VALUE | PAGE IFC OFFSET VALUE
---- - - - - - - - - | - - - - - - - - - -

```

The following CLI displays detailed information about the parameters set for the packet capture:

```

firepower-3140(local-mgmt)# show portmanager switch pktcap-rules software
Software DB rule:1
Slot= 1
Interface= 12
Breakout-port= 0
Protocol= 6
Ethertype= 0x0000
Filter_key= 0x00000040
Session= 1
Vlan= 0
SrcPort= 0
DstPort= 0
SrcIp= 0.0.0.0
DstIp= 0.0.0.0
SrcIpv6= ::
DestIpv6= ::

```



```
SrcMacAddr= 00:00:00:00:00:00
DestMacAddr= 00:00:00:00:00:00
```

The following CLI displays detailed information on the FXOS port manager switch hardware TCAM rules:

```
firepower-3140(local-mgmt)# show portmanager switch pktcap-rules hardware
Hardware DB rule:1
Hw_index= 15372
Rule_id= 10241
Cnc_index= 1
Packet_count= 0
Slot= 1
Interface= 12
Protocol= 6
Ethertype= 0x0000
Vlan= 0
SrcPort= 0
DstPort= 0
SrcIp= 0.0.0.0
DstIp= 0.0.0.0
SrcIpv6= ::
DestIpv6= ::
SrcMacAddr= 00:00:00:00:00:00
DestMacAddr= 00:00:00:00:00:00
```

The following displays detailed information about the QOS functionality:

```
firepower(local-mgmt)# show portmanager switch qos-rule policer counters
Policer_type  green(pass_count)  yellow(pass_count)  red(drop_count)
-----
OSPF
780
Policer_type  green(pass_count)  yellow(pass_count)  red(drop_count)
-----
CCL_CLU
Policer_type  green(pass_count)  yellow(pass_count)  red(drop_count)
-----
BFD
Policer_type  green(pass_count)  yellow(pass_count)  red(drop_count)
-----
HA
Policer_type  green(pass_count)  yellow(pass_count)  red(drop_count)
-----
CCL_CONTROL
Policer_type  green(pass_count)  yellow(pass_count)  red(drop_count)
-----
```

Protocol	Green (pass_count)	Yellow (pass_count)	Red (drop_count)
OSPF	102025351	17832	590
CCL_CLU	0	0	0
BFD	61343307	0	0
HA	0	0	0
CCL_CONTROL	0	0	0

The following CLI verifies if the high priority traffic is hitting the TCAM:

```
firepower(local-mgmt)# show portmanager switch qos-rule counters
Rule_no  Rule_id  Rule_type  pass_count
-----
1        9218    SW_QOS_BFD  0
Rule_no  Rule_id  Rule_type  pass_count
-----
2        9216    SW_QOS_OSPF  102633941
Rule_no  Rule_id  Rule_type  pass_count
-----
3        9217    SW_QOS_BFD  61343307
```

The following CLI displays the CPU statistics as per queue per device matching ethernet 1/10 port:

```

firepower(local-mgmt)# show queuing interface ethernet 1 10
Queue      Traffic-type      Scheduler-type  oper-bandwidth  Destination
-----
3          Data              WRR              100             Application
4          CCL-CLU           SP                0              Application
5          BFD               SP                0              Application
6          OSPF              SP                0              Application
7  CCL-CONTROL/HA/LACP_Tx  SP                0              Application
0  packet-capture      N/A              0              CPU
7          LACP_Rx           N/A              0              CPU
Port 1/10 Queue Statistics:
Queue 0:
  Number of packets passed :          0
  Number of packets dropped:          0
Queue 1:
  Number of packets passed :          0
  Number of packets dropped:          0
Queue 2:
  Number of packets passed :          0
  Number of packets dropped:          0
Queue 3:
  Number of packets passed :          466420167
  Number of packets dropped:          0
Queue 4:
  Number of packets passed :          0
  Number of packets dropped:          0
Queue 5:
  Number of packets passed :          0
  Number of packets dropped:          0
Queue 6:
  Number of packets passed :          41536261
  Number of packets dropped:          0
Queue 7:
  Number of packets passed :          912
  Number of packets dropped:          0
CPU Statistics:
Queue 2:
  Number of packets passed :          180223
  Number of packets dropped:          0
Queue 7:
  Number of packets passed :          1572
  Number of packets dropped:          0

```

The following CLI displays the CPU statistics as per queue per device matching internal 1/1 port:

```

firepower(local-mgmt)# show queuing interface internal 1 1
Queue      Traffic-type      Scheduler-type  oper-bandwidth  Destination
-----
3          Data              WRR              100             Application
4          CCL-CLU           SP                0              Application
5          BFD               SP                0              Application
6          OSPF              SP                0              Application
7  CCL-CONTROL/HA/LACP_Tx  SP                0              Application
0  packet-capture      N/A              0              CPU
7          LACP_Rx           N/A              0              CPU
Port 1/18 Queue Statistics:
Queue 0:
  Number of packets passed :          0
  Number of packets dropped:          0
Queue 1:
  Number of packets passed :          0

```

```

Number of packets dropped:                0
Queue 2:
  Number of packets passed :              0
  Number of packets dropped:              0
Queue 3:
  Number of packets passed :              17
  Number of packets dropped:              0
Queue 4:
  Number of packets passed :              0
  Number of packets dropped:              0
Queue 5:
  Number of packets passed :              0
  Number of packets dropped:              0
Queue 6:
  Number of packets passed :              5151
  Number of packets dropped:              0
Queue 7:
  Number of packets passed :              17345
  Number of packets dropped:              0
CPU Statistics:
Queue 2:
  Number of packets passed :              180223
  Number of packets dropped:              0
Queue 7:
  Number of packets passed :              1572
  Number of packets dropped:              0
Note:The CPU statistics are per Queue per Device
    
```

The following CLI displays detailed information about dump AP log option :

```

firepower-3110(local-mgmt)# dump portmanager switch ap-log
requested log has been dumped to /opt/cisco/platform/logs/portmgr.out*

firepower-3110(local-mgmt)# dump portmanager switch cyclic-log
requested log has been dumped to /opt/cisco/platform/logs/portmgr.out*
    
```

The following CLI displays detailed information on enabling or disabling verbose logging for port manager:

```

firepower-3110(local-mgmt)# debug portmanager switch
all Enable or Disable verbose logging for switch

firepower-3110(local-mgmt)# debug portmanager switch all
firepower-3110(local-mgmt)#

firepower-3110(local-mgmt)# no debug portmanager switch all
firepower-3110(local-mgmt)#
    
```

The following CLI displays detailed information on port-based packet drops for eight traffic classes/queues:

```

firepower-3110(local-mgmt)# show portmanager switch tail-drop-allocated buffers all
-----
          |          |          Per Port and Traffic Class
          |          |
Port | Per port | TC0    | TC1    | TC2    | TC3    | TC4    | TC5    | TC6    | TC7
-----|-----|-----|-----|-----|-----|-----|-----|-----|
0/1  | 10       | 10     | 0       | 0       | 0       | 0       | 0       | 0
    
```

```

10      |
0/2  |15      | 15      | 15      | 15      | 10      | 10      | 10      | 10
10      |
0/3  |10      | 10      | 10      | 10      | 10      | 10      | 10      | 10
10      |
0/4  |180     | 10      | 10      | 10      | 10      | 10      | 10      | 10
180     |
0/5  |10      | 10      | 10      | 10      | 10      | 10      | 10      | 10
10      |
0/6  |10      | 10      | 10      | 10      | 10      | 10      | 10      | 10
10      |
0/7  |200     | 125     | 125     | 150     | 10      | 10      | 125     | 150
125     |
0/8  |10      | 10      | 10      | 10      | 10      | 10      | 10      | 10
10      |
-----

```

The following CLI displays dropped packet counts due to tti-lookup0:

```

firepower-3110(local-mgmt)# show portmanager switch default-rule-drop-counter tti-lookup0

Rule_id      cnc_index      packet_count
-----
1            1              4

```

The following CLI displays dropped packet counts due to ipcl-lookup0:

```

firepower-3110(local-mgmt)# show portmanager switch default-rule-drop-counter ipcl-lookup0

Rule_id      cnc_index      packet_count
-----
4096         0              114

```

Connect Local-Mgmt Troubleshooting Commands for the Secure Firewall 4200 in Appliance Mode

In addition to the existing debugging commands, CLIs specific to Secure Firewall 3100 are explained in this section below.

Use the following connect local-mgmt mode FXOS CLI commands to troubleshoot issues with your Secure Firewall 3100 in Appliance mode. To access connect local-mgmt mode, enter:

FPR 4200# **connect local-mgmt**

show portmanager

Displays detailed information about switched, packets, SFP-FEC counters, digital optical monitoring, QOS functionality, CPSS AP, and Cyclic log dumps.

For example:

The following CLI displays the FXOS port manager switch hardware TCAM rules dump in vtcam-tti:

```

firepower(local-mgmt)# show portmanager switch forward-rules hardware vtcam-tti
      RULE_ID  VLAN  NUM_MPLS_LABELS  SRC_PORT  PC_ID  SRC_ID  MODE  PAK_CNT
1         2    0         0           10      0      10     0     1951
2         3    0         0           14      0      14     0      19
3         4    0         0            9      0       9     0    227505

```

4	5	0	0	13	0	13	0	103587
5	6	0	0	8	0	0	0	0
6	7	0	0	7	0	0	0	0
7	8	0	0	6	0	0	0	0
8	9	0	0	5	0	0	0	0
9	10	0	0	4	0	0	0	0
10	11	0	0	3	0	0	0	0
11	12	0	0	2	0	0	0	0
12	13	0	0	1	0	0	0	607
13	14	0	0	44	0	0	0	0
14	15	0	0	40	0	0	0	0
15	16	0	0	36	0	0	0	0
16	17	0	0	32	0	0	0	0
17	30	0	0	1	0	101	1	2120
18	18	0	0	1	0	101	0	306
19	19	0	0	2	0	102	0	2429
20	20	0	0	3	0	103	0	0
21	21	0	0	4	0	104	0	0
22	22	0	0	5	0	105	0	0
23	23	0	0	6	0	106	0	0
24	24	0	0	7	0	107	0	0
25	25	0	0	8	0	108	0	0
26	26	0	0	32	0	117	0	0
27	27	0	0	36	0	121	0	0
28	28	0	0	40	0	125	0	0
29	29	0	0	44	0	129	0	0
30	1	0	0	9	0	0	0	1875
31	8193	0	1	0	0	0	0	0
32	8194	0	2	0	0	0	0	0
33	8195	0	3	0	0	0	0	0
34	8196	0	4	0	0	0	0	0
35	8197	0	5	0	0	0	0	0
36	8198	0	6	0	0	0	0	0

The following CLI displays switch hardware TCAM rules dump in vcam-tti stage matching vlan 0:

```
firepower(local-mgmt)# show portmanager switch forward-rules hardware vcam-tti
```

	RULE_ID	VLAN	NUM_MPLS_LABELS	SRC_PORT	PC_ID	SRC_ID	MODE	PAK_CNT
1	2	0	0	10	0	10	0	1961
2	3	0	0	14	0	14	0	19
3	4	0	0	9	0	9	0	227517
4	5	0	0	13	0	13	0	103683
5	6	0	0	8	0	0	0	0
6	7	0	0	7	0	0	0	0
7	8	0	0	6	0	0	0	0
8	9	0	0	5	0	0	0	0
9	10	0	0	4	0	0	0	0
10	11	0	0	3	0	0	0	0
11	12	0	0	2	0	0	0	0
12	13	0	0	1	0	0	0	617
13	14	0	0	44	0	0	0	0
14	15	0	0	40	0	0	0	0
15	16	0	0	36	0	0	0	0
16	17	0	0	32	0	0	0	0
17	30	0	0	1	0	101	1	2156
18	18	0	0	1	0	101	0	306
19	19	0	0	2	0	102	0	2466
20	20	0	0	3	0	103	0	0
21	21	0	0	4	0	104	0	0
22	22	0	0	5	0	105	0	0
23	23	0	0	6	0	106	0	0
24	24	0	0	7	0	107	0	0
25	25	0	0	8	0	108	0	0

26	26	0	0	32	0	117	0	0
27	27	0	0	36	0	121	0	0
28	28	0	0	40	0	125	0	0
29	29	0	0	44	0	129	0	0
30	1	0	0	9	0	0	0	1875
31	8193	0	1	0	0	0	0	0
32	8194	0	2	0	0	0	0	0
33	8195	0	3	0	0	0	0	0
34	8196	0	4	0	0	0	0	0
35	8197	0	5	0	0	0	0	0
36	8198	0	6	0	0	0	0	0

The following CLI displays switch hardware TCAM rules dump in mac-filter stage matching ethernet 1/9 port:

```
firepower(local-mgmt)# show portmanager switch forward-rules hardware mac-filter
      VLAN  SRC_PORT  PC_ID  SRC_ID  DST_PORT  PKT_CNT  DMAC
1         0         44      0      129      1536      0  1:80:c2:0:0:2
2         0         44      0      129      1536      0  ff:ff:ff:ff:ff:ff
3         0          2      0      102      1536      0  ba:db:ad:f0:2:8f
4         0          4      0      104      1536      0  ff:ff:ff:ff:ff:ff
5         0          4      0      104      1536      0  1:80:c2:0:0:2
6         0          5      0      105      1536      0  1:80:c2:0:0:2
7         0          5      0      105      1536      0  ff:ff:ff:ff:ff:ff
8         0         13      0       13         9      103735  0:0:0:0:0:0
9         0         32      0      117      1536      0  ba:db:ad:f0:2:9e
10        0          7      0      107      1536      0  ff:ff:ff:ff:ff:ff
11        0          7      0      107      1536      0  1:80:c2:0:0:2
12        0          6      0      106      1536      0  1:80:c2:0:0:2
13        0          6      0      106      1536      0  ff:ff:ff:ff:ff:ff
14        0         14      0       14         10      19      0:0:0:0:0:0
15        0         10      0       10         14     1979      0:0:0:0:0:0
16        0         44      0      129      1536      0  ba:db:ad:f0:2:a1
17        0          9      0         9      13     1227537  0:0:0:0:0:0
18        0          8      0      108      1536      0  1:80:c2:0:0:2
19        0          8      0      108      1536      0  ff:ff:ff:ff:ff:ff
20        0          1      0      101      1536      0  ff:ff:ff:ff:ff:ff
21        0          1      0      101      1536      0  1:80:c2:0:0:2
22        0          3      0      103      1536      0  1:80:c2:0:0:2
23        0          1      0      101      1536     2183      1:0:0:0:0:0
24        0          3      0      103      1536      0  ff:ff:ff:ff:ff:ff
25        0          2      0      102      1536     23      ff:ff:ff:ff:ff:ff
26        0          2      0      102      1536      0  1:80:c2:0:0:2
27        0         32      0      117      1536      0  ff:ff:ff:ff:ff:ff
28        0         32      0      117      1536      0  1:80:c2:0:0:2
29        0         40      0      125      1536      0  ff:ff:ff:ff:ff:ff
30        0         40      0      125      1536      0  1:80:c2:0:0:2
31        0          7      0      107      1536      0  ba:db:ad:f0:2:94
32        0          5      0      105      1536      0  ba:db:ad:f0:2:92
33        0         36      0      121      1536      0  1:80:c2:0:0:2
34        0          4      0      104      1536      0  ba:db:ad:f0:2:91
35        0         36      0      121      1536      0  ff:ff:ff:ff:ff:ff
36        0          8      0      108      1536      0  ba:db:ad:f0:2:95
37        0          6      0      106      1536      0  ba:db:ad:f0:2:93
38        0          3      0      103      1536      0  ba:db:ad:f0:2:90
39        0         36      0      121      1536      0  ba:db:ad:f0:2:9f
40        0          1      0      101      1536     32      ba:db:ad:f0:2:8e
41        0         40      0      125      1536      0  ba:db:ad:f0:2:a0
```

The following CLI displays detailed information about software MAC-filter:

```
firepower-4225(local-mgmt)# show portmanager switch forward-rules software mac-filter
```

	NATIVE_VLAN	VLAN	SRC_PORT	PORTCHANNEL_ID	DST_PORT	FLAGS	MODE	DMAC
1	0	106	6	0	1536	2	5	
	1:80:c2:0:0:2							
2	0	105	5	0	1536	2	5	
	ff:ff:ff:ff:ff:ff							
3	0	105	5	0	1536	2	5	
	1:80:c2:0:0:2							
4	0	121	0	0	36	24	8	
	0:0:0:0:0:0							
5	0	106	6	0	1536	2	5	
	ff:ff:ff:ff:ff:ff							
6	0	121	36	0	1536	2	5	
	1:80:c2:0:0:2							
7	0	117	32	0	1536	2	5	
	1:80:c2:0:0:2							
8	0	125	40	0	1536	2	5	
	ff:ff:ff:ff:ff:ff							
9	0	129	0	0	44	24	8	
	0:0:0:0:0:0							
10	0	117	32	0	1536	2	5	
	ff:ff:ff:ff:ff:ff							
11	0	103	3	0	1536	2	5	
	1:80:c2:0:0:2							
12	0	102	2	0	1536	2	5	
	ff:ff:ff:ff:ff:ff							
13	0	117	0	0	32	24	8	
	0:0:0:0:0:0							
14	0	107	0	0	7	24	8	
	0:0:0:0:0:0							
15	0	101	1	0	1536	2	5	
	ba:db:ad:f0:2:8e							
16	0	107	7	0	1536	2	5	
	ff:ff:ff:ff:ff:ff							
17	0	106	6	0	1536	2	5	
	ba:db:ad:f0:2:93							
18	0	105	0	0	5	24	8	
	0:0:0:0:0:0							
19	0	102	0	0	2	24	8	
	0:0:0:0:0:0							
20	0	104	4	0	1536	2	5	
	ba:db:ad:f0:2:91							
21	0	107	7	0	1536	2	5	
	ba:db:ad:f0:2:94							
22	0	129	44	0	1536	2	5	
	1:80:c2:0:0:2							
23	0	102	2	0	1536	2	5	
	1:80:c2:0:0:2							
24	0	121	36	0	1536	2	5	
	ff:ff:ff:ff:ff:ff							
25	0	1	13	0	9	26	8	
	0:0:0:0:0:0							
26	0	108	8	0	1536	2	5	
	1:80:c2:0:0:2							
27	0	101	1	0	1536	2	5	
	ff:ff:ff:ff:ff:ff							
28	0	2	10	0	14	26	8	
	0:0:0:0:0:0							
29	0	101	1	0	1536	2	5	
	1:80:c2:0:0:2							
30	0	1	9	0	13	26	8	
	0:0:0:0:0:0							
31	0	129	44	0	1536	2	5	
	ff:ff:ff:ff:ff:ff							
32	0	125	0	0	40	24	8	

```

0:0:0:0:0:0
33      0      108      8      0      1536      2      5
ba:db:ad:f0:2:95
34      0      2      14      0      10      26      8
0:0:0:0:0:0
35      0      129      44      0      1536      2      5
ba:db:ad:f0:2:a1
36      0      103      0      0      3      24      8
0:0:0:0:0:0
37      0      104      0      0      4      24      8
0:0:0:0:0:0
38      0      104      4      0      1536      2      5
ff:ff:ff:ff:ff:ff
39      0      107      7      0      1536      2      5
1:80:c2:0:0:2
40      0      104      4      0      1536      2      5
1:80:c2:0:0:2
41      0      101      1      0      1536      18      8
0:0:0:0:0:0
42      0      101      0      0      1      24      8
0:0:0:0:0:0
43      0      108      8      0      1536      2      5
ff:ff:ff:ff:ff:ff
44      0      121      36      0      1536      2      5
ba:db:ad:f0:2:9f
45      0      117      32      0      1536      2      5
ba:db:ad:f0:2:9e
46      0      105      5      0      1536      2      5
ba:db:ad:f0:2:92
47      0      125      40      0      1536      2      5
ba:db:ad:f0:2:a0
48      0      125      40      0      1536      2      5
1:80:c2:0:0:2
49      0      108      0      0      8      24      8
0:0:0:0:0:0
50      0      106      0      0      6      24      8
0:0:0:0:0:0
51      0      103      3      0      1536      2      5
ba:db:ad:f0:2:90
52      0      102      2      0      1536      2      5
ba:db:ad:f0:2:8f
53      0      103      3      0      1536      2      5
ff:ff:ff:ff:ff:ff

```

The following CLI displays detailed information about switch bridge engine packet drops:

```

firepower-4225(local-mgmt)# show portmanager switch counters bridge
Bridge Ingress Drop Counter: 4688
No Bridge Ingress Drop

```

The following CLI displays details on hardware switch packet counters:

```

how portmanager switch counters packet-trace

firepower-4225(local-mgmt)# show portmanager switch counters packet-trace

```

Counter	Description
goodOctetsRcv	Number of ethernet frames received that are not bad ethernet frames or MAC Control pkts
badOctetsRcv	Sum of lengths of all bad ethernet frames received
gtBrgInFrames	Number of packets received
gtBrgVlanIngFilterDisc	Number of packets discarded due to VLAN Ingress Filtering


```

gtBrgSecFilterDisc      Number of packets discarded due to
                        Security Filtering measures
gtBrgLocalPropDisc     Number of packets discarded due to reasons other than
                        VLAN ingress and Security filtering
dropCounter             Ingress Drop Counter
outUcFrames             Number of unicast packets transmitted
outMcFrames            Number of multicast packets transmitted. This includes
                        registered multicasts, unregistered multicasts
                        and unknown unicast packets
outBcFrames            Number of broadcast packets transmitted
brgEgrFilterDisc       Number of IN packets that were Bridge Egress filtered
txqFilterDisc          Number of IN packets that were filtered
                        due to TxQ congestion
outCtrlFrames          Number of out control packets
                        (to cpu, from cpu and to analyzer)
egrFrwDropFrames       Number of packets dropped due to egress
                        forwarding restrictions
goodOctetsSent         Sum of lengths of all good ethernet
                        frames sent from this MAC
    
```

```

          Counter          Source port- 0/0  Destination port- 0/0
-----
goodOctetsRcv             ---             ---
badOctetsRcv              ---             ---
    
```

```

                                Ingress counters
gtBrgInFrames              1341132          1341132
gtBrgVlanIngFilterDisc    0              0
gtBrgSecFilterDisc        0              0
gtBrgLocalPropDisc       0              0
dropCounter               4699          Only for source-port
    
```

```

                                Egress counters
outUcFrames               1329593          1329593
outMcFrames               4594              4594
outBcFrames               2237              2237
brgEgrFilterDisc         9                9
txqFilterDisc            0                0
outCtrlFrames            0                0
egrFrwDropFrames        0                0
mcFifoDropPkts          0                0
mcFilterDropPkts        0                0

goodOctetsSent           ---             ---
    
```

The following CLI displays detailed informatin about the switch traffic for CPU:

```
firepower-4225(local-mgmt)# show portmanager switch traffic cpu
```

```
Dev/RX queue  packets  bytes
-----
```

```
Dev/RX queue  packets  bytes
-----
```

```

0/0          0          0
0/1          0          0
0/2          0          0
0/3          0          0
0/4          0          0
0/5          0          0
0/6          0          0
0/7          0          0
    
```

The following CLI displays details on hardware switch port traffic:

```
firepower-4225(local-mgmt)# show portmanager switch traffic port
```

```
max-rate - pps that the port allow with packet size=64
actual-tx-rate - pps that egress the port (+ % from 'max')
actual-rx-rate - pps that ingress the port(+ % from 'max')
```

Dev/Port	max-rate	actual-tx-rate	actual-rx-rate
0/1	1488095	(0%)---	(0%)---
0/2	1488095	(0%)---	(0%)---
0/3	14880	(0%)---	(0%)---
0/4	14880	(0%)---	(0%)---
0/5	14880	(0%)---	(0%)---
0/6	14880	(0%)---	(0%)---
0/7	14880	(0%)---	(0%)---
0/8	14880	(0%)---	(0%)---
0/9	14880952	(0%)---	(0%)---
0/10	14880952	(0%)---	(0%)---
0/11	14880952	(0%)---	(0%)---
0/12	14880952	(0%)---	(0%)---
0/13	14880952	(0%)---	(0%)---
0/14	14880952	(0%)---	(0%)---
0/15	1488095	(0%)---	(0%)---
0/16	1488095	(0%)---	(0%)---
0/17	14880952	(0%)---	(0%)---
0/18	74404761	(0%)---	(0%)---
0/19	37202380	(0%)---	(0%)---
0/20	37202380	(0%)---	(0%)---

The following CLI displays detailed information about SFP-FEC Counters matching ethernet 1/13 port:

```
firepower-4225(local-mgmt)# show portmanager counters ethernet 1 13
Good Octets Received          : 2153
Bad Octets Received          : 0
MAC Transmit Error           : 0
Good Packets Received        : 13
Bad packets Received         : 0
BRDC Packets Received        : 0
MC Packets Received          : 13
.....
.....
txqFilterDisc                 : 0
linkChange                    : 1
FcFecRxBlocks                 : 217038081
FcFecRxBlocksNoError          : 217038114
FcFecRxBlocksCorrectedError   : 0
FcFecRxBlocksUnCorrectedError : 0
FcFecRxBlocksCorrectedErrorBits : 0
FcFecRxBlocksCorrectedError0  : 0
FcFecRxBlocksCorrectedError1  : 0
FcFecRxBlocksCorrectedError2  : 0
FcFecRxBlocksCorrectedError3  : 0
FcFecRxBlocksUnCorrectedError0 : 0
FcFecRxBlocksUnCorrectedError1 : 0
FcFecRxBlocksUnCorrectedError2 : 0
FcFecRxBlocksUnCorrectedError3 : 0
```

The following CLI displays detailed information about SFP-FEC Counters matching ethernet 1/14 port:

```
firepower-4225(local-mgmt)# show portmanager counters ethernet 1 14
Good Octets Received           : 2153
Bad Octets Received           : 0
MAC Transmit Error            : 0
Good Packets Received         : 13
Bad packets Received          : 0
BRDC Packets Received         : 0
MC Packets Received           : 13
.....
.....
txqFilterDisc                  : 0
linkchange                     : 1
RsFeccorrectedFecCodeword     : 0
RsFecuncorrectedFecCodeword   : 10
RsFecsymbolError0             : 5
RsFecsymbolError1             : 0
RsFecsymbolError2             : 0
RsFecsymbolError3             : 0
```

The following CLI displays detailed information on the Digital Optical Monitoring information matching ethernet 1/5 port:

```
firepower-4245(local-mgmt)# show portmanager port-info ethernet 1 5
.....
.....
DOM info:
=====:

Status/Control Register: 0800
    RX_LOS State: 0
    TX_FAULT State: 0
Alarm Status: 0000
No active alarms
Warning Status: 0000
No active warnings

THRESHOLDS
           high alarm  high warning  low warning  low alarm
Temperature  C  +075.000  +070.000  +000.000  -05.000
Voltage      V   003.6300  003.4650  003.1350  002.9700
Bias Current mA  012.0000  011.5000  002.0000  001.0000
Transmit power mW 034.6740  017.3780  002.5120  001.0000
Receive power mW 034.6740  017.3780  001.3490  000.5370

Environmental Information - raw values
Temperature: 38.84 C
Supply voltage: 33703 in units of 100uVolt
Tx bias: 3499 in units of 2uAmp
Tx power: 0.1 dBm (10251 in units of 0.1 uW)
Rx power: -0.9 dBm (8153 in units of 0.1 uW)
DOM (256 bytes of raw data in hex)
=====
0x0000 : 4b 00 fb 00 46 00 00 00 8d cc 74 04 87 5a 7a 76
0x0010 : 17 70 01 f4 16 76 03 e8 87 72 03 e8 43 e2 09 d0
0x0020 : 87 72 02 19 43 e2 05 45 00 00 00 00 00 00 00 00
0x0030 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x0040 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

```

0x0050 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 86
0x0060 : 26 54 83 a7 0d ab 28 0b 1f d9 00 00 00 00 08 00
0x0070 : 00 00 03 00 00 00 00 00 08 f3 00 00 00 00 00 01
0x0080 : 49 4e 55 49 41 43 53 45 41 41 31 30 2d 33 33 38
0x0090 : 38 2d 30 31 56 30 31 20 01 00 46 00 00 00 00 e3
0x00a0 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00b0 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00c0 : 53 46 50 2d 31 30 2f 32 35 47 2d 43 53 52 2d 53
0x00d0 : 20 20 20 20 30 38 00 00 00 00 00 00 00 00 00 d1
0x00e0 : 1e 20 2a 2a 31 34 29 36 00 00 00 00 00 00 00 00
0x00f0 : 00 00 00 00 00 56 00 00 ff ff ff ff 00 00 00 cf
=====

```

PHY Data:

```

PAGE IFC OFFSET VALUE | PAGE IFC OFFSET VALUE
-----|-----

```

The following CLI displays detailed information about the parameters set for the packet capture:

```

firepower-4225(local-mgmt)# show portmanager switch pktpcap-rules software
Software DB rule:1
Slot= 1
Interface= 12
Breakout-port= 0
Protocol= 6
Ethertype= 0x0000
Filter_key= 0x00000040
Session= 1
Vlan= 0
SrcPort= 0
DstPort= 0
SrcIp= 0.0.0.0
DstIp= 0.0.0.0
SrcIpv6= ::
DestIpv6= ::
SrcMacAddr= 00:00:00:00:00:00
DestMacAddr= 00:00:00:00:00:00

```

The following CLI displays detailed information on the FXOS port manager switch hardware TCAM rules:

```

firepower-4225(local-mgmt)# show portmanager switch pktpcap-rules hardware
Hardware DB rule:1
Hw_index= 15372
Rule_id= 10241
Cnc_index= 1
Packet_count= 0
Slot= 1
Interface= 12
Protocol= 6
Ethertype= 0x0000
Vlan= 0
SrcPort= 0
DstPort= 0
SrcIp= 0.0.0.0
DstIp= 0.0.0.0
SrcIpv6= ::
DestIpv6= ::
SrcMacAddr= 00:00:00:00:00:00
DestMacAddr= 00:00:00:00:00:00

```

The following CLI displays detailed information on port-based packet drops for eight traffic classes/queues:

```

firepower-4225(local-mgmt)# show portmanager switch tail-drop-allocated buffers all

```

```
-----
```

Per Port and Traffic Class								
Port	Per port	TC0	TC1	TC2	TC3	TC4	TC5	TC6
TC7								
0/1	10	10	10	10	10	10	10	10
10								
0/2	15	15	15	15	10	10	10	10
10								
0/3	10	10	10	10	10	10	10	10
10								
0/4	180	10	10	10	10	10	10	10
180								
0/5	10	10	10	10	10	10	10	10
10								
0/6	10	10	10	10	10	10	10	10
10								
0/7	1200	125	125	150	10	10	125	150
125								
0/8	10	10	10	10	10	10	10	10
10								

```
-----
```

The following CLI displays dropped packet counts due to tti-lookup0:

```
firepower-4225(local-mgmt)# show portmanager switch default-rule-drop-counter tti-lookup0
```

Rule_id	cnc_index	packet_count
1	1	4

Security Services Mode Troubleshooting Commands

Use the following security services (ssa) mode FXOS CLI commands to troubleshoot issues with your system.

show app

Displays information about the applications attached to your Firepower device.

For example:

```
firepower /ssa # show app
Application:
  Name         Version  Description Author  Deploy Type CSP Type   Is Default
  App
-----
  asa          9.10.1   N/A      cisco   Native  Application Yes
  asa          9.9.2    N/A      cisco   Native  Application No
```

showapp-instance

Displays information about the verified app-instance status

```
firepower-2120 /ssa # show app-instance
Application Name  Slot ID  Admin State  Operational State  Running Version Startup
Version Cluster Oper State
```

```

-----
asa                1                Enabled           Online           9.14.2           9.14.2
                Not Applicable

```

showfault

Displays information about the fault message

```

firepower-2120 /ssa # show fault
Severity Code      Last Transition Time      ID      Description
-----
Cleared  F16589  2021-10-11T21:58:53.200    25140  [FSM:STAGE:RETRY:]: Waiting for chassis
object ready (FSM-STAGE:sam:dme:SmSecSvcAutoDeployCSP:WaitForChassisM
oReady)

```

show failsafe-params

The fail-safe mode for an threat defense application on Firepower 1000/2100 or Secure Firewall 3100 is activated due to continuous boot loop, traceback, etc. The following parameters control the activation of the fail-safe mode:

- Max Restart—maximum number of times that an application should restart in order to activate the fail-safe mode.
- Current Reboot Count—number of times the application continuously restarted.
- Restart Time Interval (secs)—the amount of time in seconds, during which the Max Restart counter should be reached in order to trigger the fail-safe mode. If the application restarts 'Max Restart' or more times within this interval, the fail-safe mode is enabled.

For example:

```

firepower-2120-failed(local-mgmt)# show failsafe-params
Max Restart: 8
Current Reboot Count: 0
Restart Time Interval(secs): 3600

```

When the system is in the fail-safe mode:

- The system name is appended with the "-failed" string:

```
firepower-2120-failed /ssa #
```

- The output of the "show failsafe-params" command in the local-mgmt command shell contains a warning message:

```

firepower-2120-failed(local-mgmt)# show failsafe-params
Max Restart: 1
Current Reboot Count: 1
Restart Time Interval(secs): 3600
WARNING: System in Failsafe mode. Applications are not running!

```

- Operation State of the application is Offline:

```

firepower-2120-failed /ssa # show app-instance
Application Name      Slot ID      Admin State      Operational State      Running Version
Startup Version Cluster Oper State      Cluster Role
-----
asa                1                Enabled           Offline <=====      9.16.2.3
9.16.2.3           Not Applicable      None

```

Packet Capture for Secure Firewall 3100/4200

The Packet Capture tool is a valuable asset for use in debugging connectivity and configuration issues and for understanding traffic flows through your devices. You can now use the Packet Capture CLIs to log traffic that is going through specific interfaces on your Secure Firewall 3100/4200 devices.

You can create multiple packet capture sessions, and each session can capture traffic on multiple interfaces. For each interface included in a packet capture session, a separate packet capture (PCAP) file will be created.

Guidelines and Limitations for Packet Capture

The Packet Capture tool has the following limitations:

- Packet capture sessions can be created even when there is not enough storage space available to run the packet capture session. You should verify that you have enough storage space available before you start a packet capture session.
- For packet capture sessions on a single-wide 4x100Gbps or 2x100Gbps network module (part numbers FPR-NM-4X100G and FPR-NM-2X100G respectively), if the module `adminstate` is set to `off`, the capture session is automatically disabled with an “Oper State Reason: Unknown Error.” You will have to restart the capture session after the module `adminstate` is set to `on` again.

With all other network modules, packet capture sessions continue across module `adminstate` changes.

- Does not support multiple active packet capturing sessions.
- There is no option to filter based on source or destination IPv6 address.
- Filters are not effective on packets that cannot be understood by the internal switch (for example Security Group Tag and Network Service Header packets).
- You cannot capture packets for an EtherChannel as a whole. However, for an EtherChannel allocated to a logical device, you can capture packets on each member interface of the EtherChannel.
- You cannot copy or export a PCAP file while the capture session is still active.
- When you delete a packet capture session, all packet capture files associated with that session are also deleted.

Creating or Editing a Packet Capture Session

Procedure

-
- | | |
|---------------|--|
| Step 1 | Enter packet capture mode:
firepower-4215 # scope packet-capture |
| Step 2 | Create a filter.
firepower-4215 /packet-capture/filter* # set <filterprop filterprop_value |

Table 1: Supported Filter Properties

ivlan	Inner VLAN ID (vlan of packet while ingressing port)
ovlan	Outer VLAN ID
srcip	Source IP Address (IPv4)
destip	Destination IP Address (IPv4)
srcport	Source Port Number
destport	Destination Port Number
protocol	IP Protocol [IANA defined Protocol values in decimal format]
ethertype	Ethernet Protocol type [IANA defined Ethernet Protocol type value in decimal format. For eg: IPv4 = 2048, IPv6 = 34525, ARP = 2054, SGT = 35081]
srcmac	Source Mac Address
destmac	Destination Mac Address

You can apply filters to any of the interfaces included in a packet capture session.

Step 3 To create or edit a packet capture session:

```
firepower-4215 /packet-capture # enter session session_name
```

Step 4 Specify the length of the packet that you want to capture for this packet capture session:

```
firepower-4215 /packet-capture/session* # set session-pcap-snaplength session_snap_length_in_bytes
```

The specified snap length must be between 64 and 9006 bytes. If you do not configure the session snap length, the default capture length is 1518 bytes.

Step 5 Specify the physical source ports that should be included in this packet capture session.

You can capture from multiple ports and can capture from both physical ports and application ports during the same packet capture session. A separate packet capture file is created for each port included in the session. You cannot capture packets for an EtherChannel as a whole. However, for an EtherChannel allocated to a logical device, you can capture packets on each member interface of the EtherChannel.

Note To remove a port from the packet capture session, use **delete** instead of **create** in the commands listed below.

a) Specify the physical port.

```
firepower-4215 /packet-capture/session* # create {phy-port | phy-aggr-port} port_id
```

Example:

Example:

```
firepower-4215 /packet-capture/session* # create phy-port Ethernet1/1
firepower-4215 /packet-capture/session/phy-port* #
```

b) Capture packets on a subinterface.


```
firepower-4215 /packet-capture/session/phy-port* # set subinterface id
```

You can only capture packets for one subinterface per capture session, even if you have multiple subinterfaces on one or more parents. Subinterfaces for EtherChannels are not supported. If the parent interface is also allocated to the instance, you can either choose the parent interface or a subinterface; you cannot choose both.

Example:

```
firepower-4215 /packet-capture/session/phy-port* # set subinterface 100
firepower-4215 /packet-capture/session/phy-port* #
```

- c) For container instances, specify the container instance name.

```
firepower-4215 /packet-capture/session/phy-port* # set app-identifier instance_name
```

Example:

```
firepower-4215 /packet-capture/session/phy-port* # set app-identifier asa-instance1
firepower-4215 /packet-capture/session/phy-port* #
```

- d) (Optional) For capturing the mac-filter dropped packets from switch, specify the mac-filter drop.

```
firepower-4215 /packet-capture/session/phy-port* # set drop {mac-filter | disable}
```

- **disable**—To disable capture of packets dropped from switch.
- **mac-filter**—To capture switch mac-filter drop

Note The mac-filter option is supported only for the ingress packet capture direction and the default option is always **disable**.

- e) (Optional) Apply the desired filter.

```
firepower-4215 /packet-capture/session/phy-port* # set {source-filter} filtername
```

Note To remove a filter from a port, use **set source-filter ""**.

- f) Repeat the steps above as needed to add all desired ports.

Step 6 Specify the application source ports that should be included in this packet capture session.

You can capture from multiple ports and can capture from both physical ports and application ports during the same packet capture session. A separate packet capture file is created for each port included in the session.

Note To remove a port from the packet capture session, use **delete** instead of **create** in the commands listed below.

- a) Specify the application port.

```
firepower-4215 /packet-capture/session* # create app_port module_slot link_name interface_name
app_name
```

Syntax Description

module_slot	Security module in which the application is installed.
link_name	Any user descriptive name referring to the interface, for example, link1, inside_port1, etc.

interface_name	Interface attached to the application where packets need to be captured from, for example, Ethernet1/1, Ethernet2/2
app_name	Application installed on the module - asa

- b) (Optional) Apply the desired filter.

```
firepower-4215 /packet-capture/session/phy-port* # set {source-filter} filename
```

Syntax Description

filename	The filter name from the 'create filter' command under packet-capture scope
-----------------	---

Note To remove a filter from a port, use **set source-filter ""**.

- c) Repeat the steps above as needed to add all desired application ports.

- Step 7** If you want to start the packet capture session now:

```
firepower-4215 /packet-capture/session* # enable
```

Newly created packet-capture sessions are disabled by default. Explicit enabling of a session activates the packet capture session when the changes are committed. If another session is already active, enabling a session will generate an error. You must disable the already active packet-capture session before you can enable this session.

- Step 8** Commit the transaction to the system configuration:

```
firepower-4215 /packet-capture/session* # commit-buffer
```

If you enabled the packet capture session, the system will begin capturing packets. You will need to stop capturing before you can download the PCAP files from your session.

Example

```
firepower-4215 # scope packet-capture
firepower-4215 /packet-capture # create session asalinside
firepower-4215 /packet-capture* # create filter interfacelvlan100
firepower-4215 /packet-capture/filter* # set ivlan 100
firepower-4215 /packet-capture/filter* # set srcIP 6.6.6.6
firepower-4215 /packet-capture/filter* # set destIP 10.10.10.10
firepower-4215 /packet-capture/filter* # exit
firepower-4215 /packet-capture/session* # create phy-port Ethernet1/1
firepower-4215 /packet-capture/session/phy-port* # set drop mac-filter
firepower-4215 /packet-capture/session/phy-port* # set src-filter interfacelvlan100
firepower-4215 /packet-capture/session/phy-port* # exit
firepower-4215 /packet-capture/session* # enable
firepower-4215 /packet-capture/session* # commit-buffer
firepower-4215 /packet-capture/session #
```

Deleting Packet Capture Sessions

You can delete an individual packet capture session if it is not currently running or you can delete all inactive packet capture sessions.

Procedure

-
- Step 1** Enter packet capture mode:
- ```
firepower-4215 # scope packet-capture
```
- Step 2** To delete a specific packet capture session:
- ```
firepower-4215 /packet-capture # delete session session_name
```
- Step 3** To delete all inactive packet capture sessions:
- ```
firepower-4215/packet-capture # delete-all-sessions
```
- Step 4** Commit the transaction to the system configuration:
- ```
firepower-4215 /packet-capture* # commit-buffer
```
-

Example

```
firepower-4215 # scope packet-capture  
firepower-4215 packet-capture # delete session asalinside  
firepower-4215 packet-capture* # commit-buffer  
firepower-4215 packet-capture #
```

