

## How to use NETSNMP to set CPU ACL (Ethernet) on DES-3526?

MIB file:

ACLMGMT-MIB

### CPU ACL Ethernet Profile Table:

The screenshot shows a network management interface with a tree view on the left and a details pane on the right. The tree view is expanded to show the following structure:

- swCpuInterfaceFilterState
  - swCpuAcIMaskMgmt
    - swCpuAcIEthernetTable** (highlighted with a red box)
      - swCpuAcIEthernetEntry
        - swCpuAcIEthernetProfileID
        - swCpuAcIEthernetUsevlan
        - swCpuAcIEthernetMacAddrMaskState
        - swCpuAcIEthernetSrcMacAddrMask
        - swCpuAcIEthernetDstMacAddrMask
        - swCpuAcIEthernetUse8021p
        - swCpuAcIEthernetUseEthernetType
        - swCpuAcIEthernetRowStatus
    - swCpuAcIplTable
      - swCpuAcIplEntry
        - swCpuAcIplProfileID
        - swCpuAcIplUsevlan
        - swCpuAcIplAddMaskState
        - swCpuAcIplSrcIpAddrMask
        - swCpuAcIplDstIpAddrMask
        - swCpuAcIplUseDSCP
        - swCpuAcIplUseProtoType
        - swCpuAcIplcmpOption
        - swCpuAcIplgmpOption
        - swCpuAcIplTcpOption
        - swCpuAcIplUdpOption

The details pane on the right shows the following information:

```
swCpuAcIEthernetTable
1.3.6.1.4.1.171.12.9.4.1
ACLMGMT-MIB

Sequence Of swCpuAcIEthernetEntry
Not_Accessible
Current
1:swCpuAcIEthernetProfileID - Integer
2:swCpuAcIEthernetUsevlan - Integer
3:swCpuAcIEthernetMacAddrMaskState - Integer
4:swCpuAcIEthernetSrcMacAddrMask - Octet String
5:swCpuAcIEthernetDstMacAddrMask - Octet String
6:swCpuAcIEthernetUse8021p - Integer
7:swCpuAcIEthernetUseEthernetType - Integer
8:swCpuAcIEthernetRowStatus - Integer

swCpuAcIMaskMgmt
swCpuAcIEthernetEntry
This table contain ACL mask of Ethernet information.
Access profiles will be created on the switch by row creation and to
define which parts of each incoming frame's layer 2 part of header
the switch will examine. Masks can be entered that will be combined
with the values the switch finds in the specified frame header fields.
```

Object name swCpuAcIEthernetProfileID

Object ID 1.3.6.1.4.1.171.12.9.4.1.1.1

Object name	swCpuAcIEthernetProfileID
Object ID	1.3.6.1.4.1.171.12.9.4.1.1.1
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : 1..255
Parent node	swCpuAcIEthernetEntry
First child	None
Description	The ID of ACL mask entry ,and is unique in the mask list.

Object name swCpuAcIEthernetUsevlan

Object ID 1.3.6.1.4.1.171.12.9.4.1.1.2

Object name	swCpuAcIEthernetUsevlan
Object ID	1.3.6.1.4.1.171.12.9.4.1.1.2
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : enabled(1) 2 : disabled(2)
Parent node	swCpuAcIEthernetEntry
First child	None
Description	Specifies that the switch will examine the VLAN part of each packet header.

Object name swCpuAcIEthernetMacAddrMaskState

Object ID 1.3.6.1.4.1.171.12.9.4.1.1.3

Object name	swCpuAcIEthernetMacAddrMaskState
Object ID	1.3.6.1.4.1.171.12.9.4.1.1.3
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : other(1) 2 : dst-mac-addr(2) 3 : src-mac-addr(3) 4 : dst-src-mac-addr(4)
Parent node	swCpuAcIEthernetEntry
First child	None
Description	This object indicates the status of MAC address mask.  other(1) - Neither source MAC address nor destination MAC address are masked. dst-mac-addr(2) - recieved frames's destination MAC address are currently used to be filtered as it meets with the MAC address entry of the table. src-mac-addr(3) - recieved frames's source MAC address are currently used to be filtered as it meets with the MAC address entry of the table. dst-src-mac-addr(4) - recieved frames's destination MAC address or source MAC address are currently used to be filtered as it meets with the MAC address entry of the table.

Object name swCpuAcIEthernetSrcMacAddrMask

Object ID 1.3.6.1.4.1.171.12.9.4.1.1.4

Object name	swCpuAcIEthernetSrcMacAddrMask
Object ID	1.3.6.1.4.1.171.12.9.4.1.1.4
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	MacAddress
Access	Read-Create
Status	Current
Value list	1 : 6..6
Parent node	swCpuAcIEthernetEntry
First child	None
Description	This object Specifies the MAC address mask for the source MAC address.

Object name swCpuAcIEthernetDstMacAddrMask

Object ID 1.3.6.1.4.1.171.12.9.4.1.1.5

Object name	swCpuAcIEthernetDstMacAddrMask
Object ID	1.3.6.1.4.1.171.12.9.4.1.1.5
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	MacAddress
Access	Read-Create
Status	Current
Value list	1 : 6..6
Parent node	swCpuAcIEthernetEntry
First child	None
Description	This object Specifies the MAC address mask for the destination MAC address.

Object name swCpuAcIEthernetUse8021p

Object ID 1.3.6.1.4.1.171.12.9.4.1.1.6

Object name	swCpuAcIEthernetUse8021p
Object ID	1.3.6.1.4.1.171.12.9.4.1.1.6
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : enabled(1) 2 : disabled(2)
Parent node	swCpuAcIEthernetEntry
First child	None
Description	Specifies if the switch will examine the 802.1p priority value in the frame's header or not.

Object name swCpuAcIEthernetUseEthernetType

Object ID 1.3.6.1.4.1.171.12.9.4.1.1.7

Object name	swCpuAcIEthernetUseEthernetType
Object ID	1.3.6.1.4.1.171.12.9.4.1.1.7
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : enabled(1) 2 : disabled(2)
Parent node	swCpuAcIEthernetEntry
First child	None
Description	Specifies if the switch will examine the Ethernet type value in each frame's header or not.

Object name swCpuAcIEthernetRowStatus

Object ID 1.3.6.1.4.1.171.12.9.4.1.1.8

Object name	swCpuAcIEthernetRowStatus
Object ID	1.3.6.1.4.1.171.12.9.4.1.1.8
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	RowStatus
Access	Read-Create
Status	Current
Value list	1 : active(1) 2 : notInService(2) 3 : notReady(3) 4 : createAndGo(4) 5 : createAndWait(5) 6 : destroy(6)
Parent node	swCpuAcIEthernetEntry
First child	None
Description	This object indicates the status of this entry.

## CPU ACL Ethernet Rule Table:

Object name	swCpuAcIEtherRuleTable
Object ID	1.3.6.1.4.1.171.12.9.5.1
Module	ACLMGMT-MIB
Base syntax	Sequence Of swCpuAcIEtherRuleEntry
Access	Not_Accessible
Status	Current
Sequence	1:swCpuAcIEtherRuleProfileID - Integer 2:swCpuAcIEtherRuleAccessID - Integer 3:swCpuAcIEtherRuleVlan - Octet String 4:swCpuAcIEtherRuleSrcMacAddress - Octet String 5:swCpuAcIEtherRuleDstMacAddress - Octet String 6:swCpuAcIEtherRule8021P - Integer 7:swCpuAcIEtherRuleEtherType - Octet String 8:swCpuAcIEtherRulePermit - Integer 9:swCpuAcIEtherRuleRowStatus - Integer
Parent node	swCpuAcIRuleMgmt
First child	swCpuAcIEtherRuleEntry
Description	This table contain ACL rule of ethernet information.

Object name swCpuAcIEtherRuleProfileID

Object ID 1.3.6.1.4.1.171.12.9.5.1.1.1

Object name	swCpuAcIEtherRuleProfileID
Object ID	1.3.6.1.4.1.171.12.9.5.1.1.1
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : 1..255
Parent node	swCpuAcIEtherRuleEntry
First child	None
Description	The ID of ACL mask entry ,and is unique in the mask list.

Object name swCpuAcIEtherRuleAccessID

Object ID 1.3.6.1.4.1.171.12.9.5.1.1.2

Object name	swCpuAcIEtherRuleAccessID
Object ID	1.3.6.1.4.1.171.12.9.5.1.1.2
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : 1..65535
Parent node	swCpuAcIEtherRuleEntry
First child	None
Description	The ID of ACL rule entry relate to swCpuAcIEtherRuleProfileID.

Object name swCpuAcIEtherRuleVlan

Object ID 1.3.6.1.4.1.171.12.9.5.1.1.3

Object name	swCpuAcIEtherRuleVlan
Object ID	1.3.6.1.4.1.171.12.9.5.1.1.3
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	SnmpAdminString
Access	Read-Create
Status	Current
Value list	1 : 1..32
Parent node	swCpuAcIEtherRuleEntry
First child	None
Description	Specifies that the access will apply to only to this VLAN.

Object name swCpuAcIEtherRuleSrcMacAddress

Object ID 1.3.6.1.4.1.171.12.9.5.1.1.4

Object name	swCpuAcIEtherRuleSrcMacAddress
Object ID	1.3.6.1.4.1.171.12.9.5.1.1.4
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	MacAddress
Access	Read-Create
Status	Current
Value list	1 : 6..6
Parent node	swCpuAcIEtherRuleEntry
First child	None
Description	Specifies that the access will apply to only packets with this source MAC address.

Object name swCpuAcIEtherRuleDstMacAddress

Object ID 1.3.6.1.4.1.171.12.9.5.1.1.5

Object name	swCpuAcIEtherRuleDstMacAddress
Object ID	1.3.6.1.4.1.171.12.9.5.1.1.5
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	MacAddress
Access	Read-Create
Status	Current
Value list	1 : 6..6
Parent node	swCpuAcIEtherRuleEntry
First child	None
Description	Specifies that the access will apply to only packets with this destination MAC address.

Object name swCpuAcIEtherRule8021P

Object ID 1.3.6.1.4.1.171.12.9.5.1.1.6

Object name	swCpuAcIEtherRule8021P
Object ID	1.3.6.1.4.1.171.12.9.5.1.1.6
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : 0..7
Parent node	swCpuAcIEtherRuleEntry
First child	None
Description	Specifies that the access will apply only to packets with this 802.1p priority value.

Object name swCpuAcIEtherRuleEtherType

Object ID 1.3.6.1.4.1.171.12.9.5.1.1.7

Object name	swCpuAcIEtherRuleEtherType
Object ID	1.3.6.1.4.1.171.12.9.5.1.1.7
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	OCTET STRING
Access	Read-Create
Status	Current
Value list	1 : 2..2
Parent node	swCpuAcIEtherRuleEntry
First child	None
Description	Specifies that the access will apply only to packets with this hexadecimal 802.1Q Ethernet type value in the packet header.

Object name swCpuAcIEtherRulePermit

Object ID 1.3.6.1.4.1.171.12.9.5.1.1.8

Object name	swCpuAcIEtherRulePermit
Object ID	1.3.6.1.4.1.171.12.9.5.1.1.8
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : deny(1) 2 : permit(2)
Parent node	swCpuAcIEtherRuleEntry
First child	None
Description	This object indicates result of examination is permit or deny,default is permit(1) permit - Specifies that packets that match the access profile are permitted to be forwarded by the switch. deny - Specifies that packets that do not match the access profile are not permitted to be forwarded by the switch and will be filtered.

Object name swCpuAcIEtherRuleRowStatus

Object ID 1.3.6.1.4.1.171.12.9.5.1.1.9

Object name	swCpuAcIEtherRuleRowStatus
Object ID	1.3.6.1.4.1.171.12.9.5.1.1.9
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	RowStatus
Access	Read-Create
Status	Current
Value list	1 : active(1) 2 : notInService(2) 3 : notReady(3) 4 : createAndGo(4) 5 : createAndWait(5) 6 : destroy(6)
Parent node	swCpuAcIEtherRuleEntry
First child	None
Description	This object indicates the status of this entry.

Example:

### Create CPU ACL profile

By CLI:

```
create cpu access_profile ethernet vlan source_mac FF-FF-FF-FF-FF-FF  
destination_mac FF-FF-FF-FF-FF-FF ethernet_type profile_id 1
```

By NETSNMP

```
snmpset -c private -v 2c 10.90.90.90 1.3.6.1.4.1.171.12.9.4.1.1.2.1 i 1  
1.3.6.1.4.1.171.12.9.4.1.1.3.1 i 4 1.3.6.1.4.1.171.12.9.4.1.1.4.1 x ffffffff  
1.3.6.1.4.1.171.12.9.4.1.1.5.1 x ffffffff 1.3.6.1.4.1.171.12.9.4.1.1.6.1 i 1  
1.3.6.1.4.1.171.12.9.4.1.1.7.1 i 1 1.3.6.1.4.1.171.12.9.4.1.1.8.1 i 4
```

```
C:\Users\Andy>snmpset -c private -v 2c 10.90.90.90 1.3.6.1.4.1.171.12.9.4.1.1.2.  
1 i 1 1.3.6.1.4.1.171.12.9.4.1.1.3.1 i 4 1.3.6.1.4.1.171.12.9.4.1.1.4.1 x ffffff  
ffffff 1.3.6.1.4.1.171.12.9.4.1.1.5.1 x ffffffff 1.3.6.1.4.1.171.12.9.4.1.1.  
6.1 i 1 1.3.6.1.4.1.171.12.9.4.1.1.7.1 i 1 1.3.6.1.4.1.171.12.9.4.1.1.8.1 i 4  
SNMPv2-SMI::enterprises.171.12.9.4.1.1.2.1 = INTEGER: 1  
SNMPv2-SMI::enterprises.171.12.9.4.1.1.3.1 = INTEGER: 4  
SNMPv2-SMI::enterprises.171.12.9.4.1.1.4.1 = Hex-STRING: FF FF FF FF FF FF  
SNMPv2-SMI::enterprises.171.12.9.4.1.1.5.1 = Hex-STRING: FF FF FF FF FF FF  
SNMPv2-SMI::enterprises.171.12.9.4.1.1.6.1 = INTEGER: 1  
SNMPv2-SMI::enterprises.171.12.9.4.1.1.7.1 = INTEGER: 1  
SNMPv2-SMI::enterprises.171.12.9.4.1.1.8.1 = INTEGER: 4
```



## Create CPU ACL rule

By CLI:

```
config cpu access_profile profile_id 1 add access_id 1 ethernet vlan default
source_mac 00-11-22-33-44-55 destination_mac 11-22-33-44-55-66 802.1p 1
ethernet_type 0x8600 permit
```

By NETSNMP:

```
snmpset -c private -v 2c 10.90.90.90 1.3.6.1.4.1.171.12.9.5.1.1.3.1.1 s default
1.3.6.1.4.1.171.12.9.5.1.1.4.1.1 x 001122334455 1.3.6.1.4.1.171.12.9.5.1.1.5.1.1 x
112233445566 1.3.6.1.4.1.171.12.9.5.1.1.6.1.1 i 1 1.3.6.1.4.1.171.12.9.5.1.1.7.1.1 x
8600 1.3.6.1.4.1.171.12.9.5.1.1.8.1.1 i 2 1.3.6.1.4.1.171.12.9.5.1.1.9.1.1 i 4
```

```
C:\Users\Andy>snmpset -c private -v 2c 10.90.90.90 1.3.6.1.4.1.171.12.9.5.1.1.3.
1.1 s default 1.3.6.1.4.1.171.12.9.5.1.1.4.1.1 x 001122334455 1.3.6.1.4.1.171.12
.9.5.1.1.5.1.1 x 112233445566 1.3.6.1.4.1.171.12.9.5.1.1.6.1.1 i 1 1.3.6.1.4.1.1
71.12.9.5.1.1.7.1.1 x 8600 1.3.6.1.4.1.171.12.9.5.1.1.8.1.1 i 2 1.3.6.1.4.1.171.
12.9.5.1.1.9.1.1 i 4
SNMPv2-SMI::enterprises.171.12.9.5.1.1.3.1.1 = STRING: "default"
SNMPv2-SMI::enterprises.171.12.9.5.1.1.4.1.1 = Hex-STRING: 00 11 22 33 44 55
SNMPv2-SMI::enterprises.171.12.9.5.1.1.5.1.1 = Hex-STRING: 11 22 33 44 55 66
SNMPv2-SMI::enterprises.171.12.9.5.1.1.6.1.1 = INTEGER: 1
SNMPv2-SMI::enterprises.171.12.9.5.1.1.7.1.1 = Hex-STRING: 86 00
SNMPv2-SMI::enterprises.171.12.9.5.1.1.8.1.1 = INTEGER: 2
SNMPv2-SMI::enterprises.171.12.9.5.1.1.9.1.1 = INTEGER: 4
```