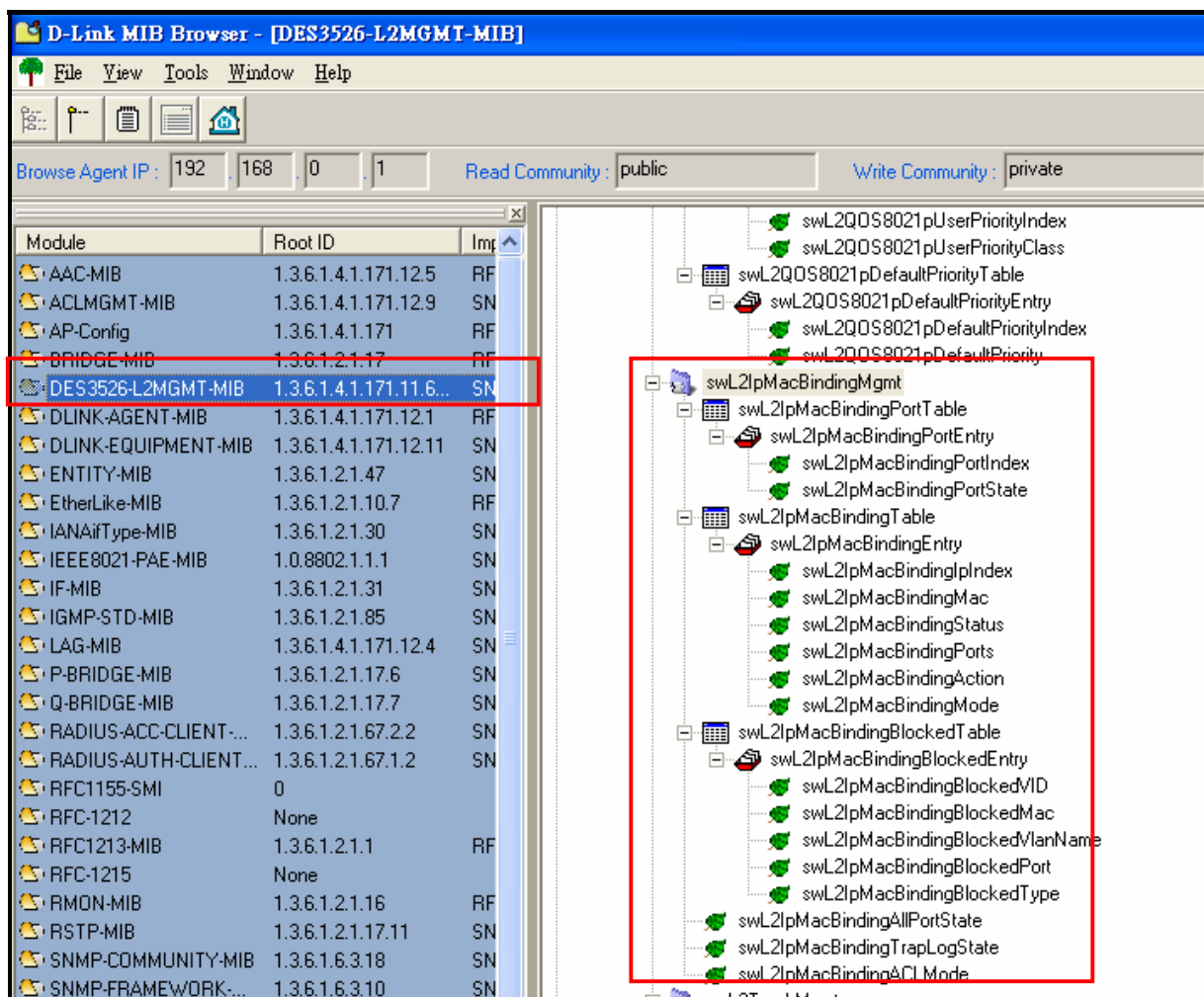


Примеры настройки функции IP-MAC-Port Binding по SNMP

1) Расположение в дереве параметров OID IP MAC Port Binding.



Файл MIB: DES3526-L2MGMT-MIB

OID: 1.3.6.1.4.1.171.11.64.1.2.7

2) Описание и настройка параметров

Включение/выключение IP MAC Port Binding на всех портах

Команда:

snmpset -v2c -c private 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.4.0 i 2

i = 2 – включить

i = 3 - выключить

Object name	swL2IpMacBindingAllPortState
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.4
Module	DES3526-L2MGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : other(1) 2 : enable(2) 3 : disable(3)
Parent node	swL2IpMacBindingMgmt
First child	None
Description	This object enable\disable the IP-MAC binding on the all ports of the system. This object is meaningful and take action only while write demand, and 'other(1)' will return while read this object.

Включение/выключения логирования и отсылки trap-ов IP-MAC-Port

Команда:

Включить логирование:

snmpset -v2c -c private 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.5.0 i 2

Выключить логирование:

snmpset -v2c -c private 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.5.0 i 3

Object name	swL2IpMacBindingTrapLogState
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.5
Module	DES3526-L2MGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : other(1) 2 : enable(2) 3 : disable(3)
Parent node	swL2IpMacBindingMgmt
First child	None
Description	when enable(2), whenever there's a new MAC that violates the pre-defined Ip Mac Binding configuration, trap will be sent out and the relevant information will be logged in system.

Включение/выключение режима ACL IP MAC Port Binding

Команда:

Включить режим ACL IP MAC:

snmpset -v2c -c private 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.6.0 i 2

Выключить режим ACL IP MAC:

snmpset -v2c -c private 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.6.0 i 3

Object name	swL2IpMacBindingACLMode
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.6
Module	DES3526-L2MGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : other(1) 2 : enable(2) 3 : disable(3)
Parent node	swL2IpMacBindingMgmt
First child	None
Description	when enable(2), Ip Mac Binding will use acl mode

Включение/выключение IP MAC Port Binding на определённом порту

Команда:

Включить IP MAC Port Binding на определённом порту:

snmpset -v2c -c private 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.1.1.2.10 i 2

Выключить IP MAC Port Binding на определённом порту:

snmpset -v2c -c private 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.1.1.2.10 i 3

10 → Номер порта

Object name	swL2IpMacBindingPortState
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.1.1.2
Module	DES3526-L2MGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : other(1) 2 : enable(2) 3 : disable(3)
Parent node	swL2IpMacBindingPortEntry
First child	None
Description	This object enable\disable the IP-MAC binding on the specified port.

Показать состояние IP MAC Port Binding на портах:

snmpwalk -v2c -c public 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.1.1.2

Управление связками IP MAC Port Binding

Команды:

Показать IP-адрес в связке IP MAC Port Binding:

snmpwalk -v2c -c public 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.2.1.1

Object name	swL2IpMacBindingIpIndex
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.2.1.1
Module	DES3526-L2MGMT-MIB
Base syntax	IP Address
Composed syntax	IpAddress
Access	Read-Only
Status	Current
Parent node	swL2IpMacBindingEntry
First child	None
Description	The IP address of IP-MAC binding.

Показать MAC-адрес в связке IP MAC Port Binding:

snmpwalk -v2c -c public 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.2.1.2

Object name	swL2IpMacBindingMac
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.2.1.2
Module	DES3526-L2MGMT-MIB
Base syntax	Octet String
Composed syntax	MacAddress
Access	Read-Create
Status	Current
Value list	1 : 6..6
Parent node	swL2IpMacBindingEntry
First child	None
Description	The MAC address of IP-MAC binding.

Показать статус связки IP MAC Port Binding:

snmpwalk -v2c -c public 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.2.1.3

Object name	swL2IpMacBindingStatus
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.2.1.3
Module	DES3526-L2MGMT-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	swL2IpMacBindingEntry
First child	None
Description	The status of this entry.

Показать порты, на которые эта связка IP MAC Port Binding назначена:

snmpwalk -v2c -c public 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.2.1.4

Object name	swL2IpMacBindingPorts
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.2.1.4
Module	DES3526-L2MGMT-MIB
Base syntax	Octet String
Composed syntax	PortList
Access	Read-Create
Status	Current
Value list	1 : 0..127
Parent node	swL2IpMacBindingEntry
First child	None
Description	The port members of this entry.

Отобразить актина ли связка IP-MAC-Port Binding:

snmpwalk -v2c -c public 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.2.1.5

Object name	swL2IpMacBindingAction
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.2.1.5
Module	DES3526-L2MGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : inactive(0) 2 : active(1)
Parent node	swL2IpMacBindingEntry
First child	None
Description	The action of this entry.

Показать режим IP MAC Port Binding:

snmpwalk -v2c -c public 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.2.1.6

Object name	swL2IpMacBindingMode
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.2.1.6
Module	DES3526-L2MGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : arp(0) 2 : acl(1)
Parent node	swL2IpMacBindingEntry
First child	None
Description	The mode of this entry.

Создание правила IP MAC Port Binding:

Шаг 1. Задать IP-адрес связки:

snmpset -v2c -c private 192.168.0.1

1.3.6.1.4.1.171.11.64.1.2.7.2.1.3.192.168.0.100 i 4

192.168.0.100 → IP-адрес

IP Index	MAC	Status	Ports	Action	Mode
192.168.0.100	000000000000	active	FFFFFFC0	active	arp

Шаг 2. Назначить эту связку на порт 1:

snmpset -v2c -c private 192.168.0.1

1.3.6.1.4.1.171.11.64.1.2.7.2.1.4.192.168.0.100 x 80000000

80000000 → Порт 1

8 → 1000 (двоичный код) → 1000 1 = порт 1 000 = порт 2 – порт 4

IP Index	MAC	Status	Ports	Action	Mode
192.168.0.100	000000000000	active	80000000	active	arp

Шаг 3. Задать MAC-адрес (AA-BB-CC-DD-EE-FF) связки:

snmpset -v2c -c private 192.168.0.1

1.3.6.1.4.1.171.11.64.1.2.7.2.1.2.192.168.0.100 x AABBCCDDEEFF

IP Index	MAC	Status	Ports	Action	Mode
192.168.0.100	AABBCCDDEEFF	active	80000000	active	arp

Шаг 4. Задать режим связки IP MAC Port Binding (ARP / ACL):

snmpset -v2c -c private 192.168.0.1

1.3.6.1.4.1.171.11.64.1.2.7.2.1.6.192.168.0.100 i 1

0 → ARP

1 → ACL

IP Index	MAC	Status	Ports	Action	Mode
192.168.0.100	AABBCCDDEEFF	active	80000000	active	acl

Шаг 5. Включить IP-MAC-Port Binding на этом порту:

```
snmpset -v2c -c private 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.1.1.2.1 i 2
```

Удаление правила IP MAC Port Binding:

Object name	swL2IpMacBindingStatus
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.2.1.3
Module	DES3526-L2MGMT-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	swL2IpMacBindingEntry
First child	None
Description	The status of this entry.

На коммутаторе создано два правила IP-MAC-Port Binding:

```
create address_binding ip_mac ipaddress 192.168.0.19 mac_address AA-BB-CC-DD-EE-FF ports 19 mode acl
```

```
create address_binding ip_mac ipaddress 192.168.0.20 mac_address AA-BB-CC-DD-EE-FF ports 20
```

Команды удаления записей:

```
snmpset -v2c -c private 192.168.0.1  
1.3.6.1.4.1.171.11.64.1.2.7.2.1.3.192.168.0.20 i 6
```

```
snmpset -v2c -c private 192.168.0.1  
1.3.6.1.4.1.171.11.64.1.2.7.2.1.3.192.168.0.19 i 6
```


Управление и мониторинг Block листа IP MAC Port Binding

Команды:

Показать Block лист IP MAC Port Binding по VID:

snmpwalk -v2c -c public 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.3.1.1

Object name	swL2IpMacBindingBlockedVID
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.3.1.1
Module	DES3526-L2MGMT-MIB
Base syntax	Gauge
Composed syntax	VlanIndex
Access	Read-Only
Status	Current
Parent node	swL2IpMacBindingBlockedEntry
First child	None
Description	The object specifies VLAN ID.

Показать заблокированный MAC-адрес IP MAC Port Binding:

snmpwalk -v2c -c public 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.3.1.2

Object name	swL2IpMacBindingBlockedMac
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.3.1.2
Module	DES3526-L2MGMT-MIB
Base syntax	Octet String
Composed syntax	MacAddress
Access	Read-Only
Status	Current
Value list	1 : 6..6
Parent node	swL2IpMacBindingBlockedEntry
First child	None
Description	The MAC address which was blocked.

Показать имя VLAN-а заблокированной связки IP MAC Binding:

snmpwalk -v2c -c public 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.3.1.3

Object name	swL2IpMacBindingBlockedVlanName
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.3.1.3
Module	DES3526-L2MGMT-MIB
Base syntax	Octet String
Composed syntax	DisplayString
Access	Read-Only
Status	Current
Parent node	swL2IpMacBindingBlockedEntry
First child	None
Description	This object specifies VLAN name.

Показать порт, на котором была заблокирована связка IP MAC Port Binding:

snmpwalk -v2c -c public 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.3.1.4

Object name	swL2IpMacBindingBlockedPort
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.3.1.4
Module	DES3526-L2MGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : 0..65535
Parent node	swL2IpMacBindingBlockedEntry
First child	None
Description	The port with which the MAC is associated.

Показать тип блокировки связки IP MAC Binding Port на порту:

snmpwalk -v2c -c public 192.168.0.1 1.3.6.1.4.1.171.11.64.1.2.7.3.1.5

Object name	swL2IpMacBindingBlockedType
Object ID	1.3.6.1.4.1.171.11.64.1.2.7.3.1.5
Module	DES3526-L2MGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : other(1) 2 : blockByAddrBind(2) 3 : delete(3)
Parent node	swL2IpMacBindingBlockedEntry
First child	None
Description	The value is always blockByAddrBind. This entry will be delete by setting value delete(3).

Удаление записи из Block листа:

**snmpset -v2c -c private 192.168.0.1
1.3.6.1.4.1.171.11.64.1.2.7.3.1.5.1.0.23.49.153.78.235 i 3**

0.23.49.153.78.235 ➔ MAC-адрес 001731994EEB

00 (Hex) ➔ 0 (десятичное)
17 (Hex) ➔ 23 (десятичное)
31 (Hex) ➔ 49 (десятичное)
99 (Hex) ➔ 153 (десятичное)
4E (Hex) ➔ 78 (десятичное)
EB (Hex) ➔ 235 (десятичное)