Troubleshoot Mac Address Table Manager on Catalyst 9000 Series Switches

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Related Information

Introduction

This document describes how to understand and troubleshoot Mac Address Table Manager on Catalyst 9000 Series Switches.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on these software and hardware versions:

- Cisco Catalyst 9200, 9300, 9400, 9500 non-High Performance series switches on Cisco IOS® XE 16.x & 17.x software
- Cisco Catalyst 9500 High Performance, 9600 series switches on Cisco IOS® XE 16.x & 17.x software

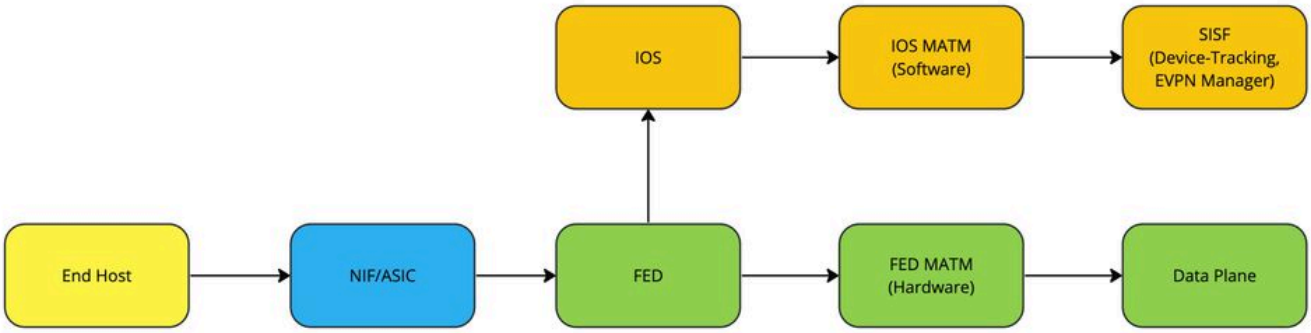
The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

The Mac Address Table Manager (MATM) is the database where learned Mac Addresses are written and stored. The two types of MATM outlined in this document are:

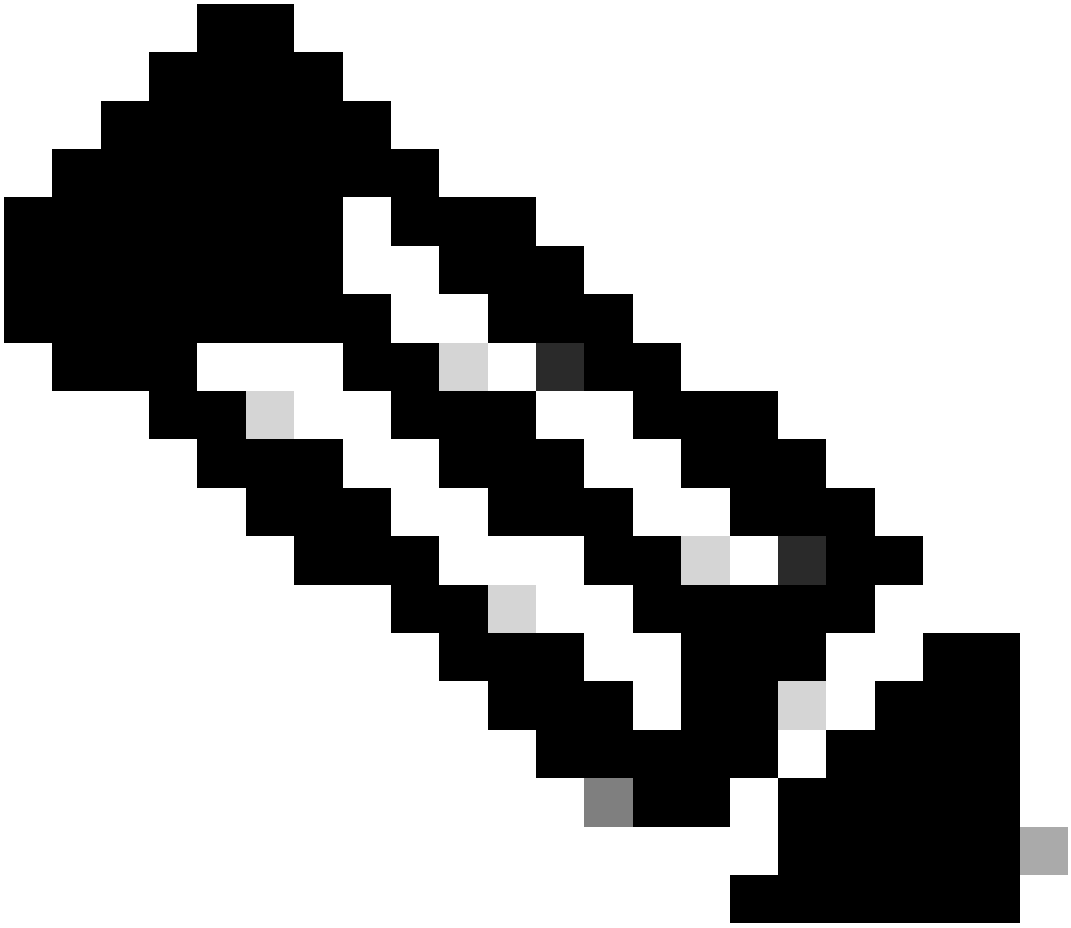
- IOS MATM (Software)
- FED MATM (Hardware)

When an End Host first sends a packet into a Switch it goes through the NIF/ASIC and get punted into FED. From here FED punts this new End Host information up to IOS for IOS MATM to write the information into its database, while simultaneously writing the same information into FED MATM as seen in the diagram below:



The importance of each MATM depends on what type of traffic is being passed:

- Locally Switch traffic utilizes FED MATM to forward packets in Hardware (Data Plane)
- Control Plane functions such as LISP (SDA Fabric) or EVPN that use Device-Tracking Database which is built from IOS MATM

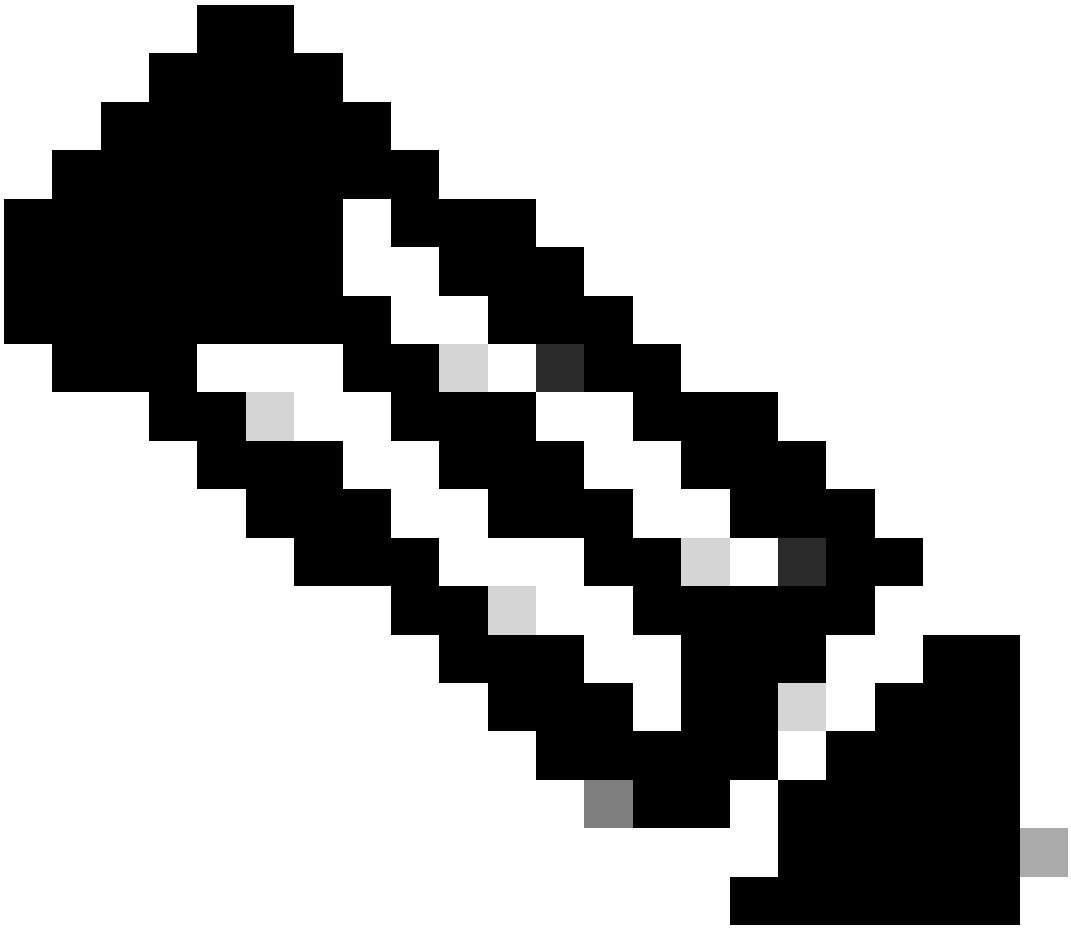


Note: When an SVI is created on a Switch, it is first created and written in IOS MATM and then pushed down to FED MATM for Learning.

Terminology

MATM	Mac Address Table Manager
Mac Address	12 digit unique hardware identifier for a device on a network
diHandle	Destination Index Handle
pmap_intf	Port Map Interface

NIF	Network Interface
FED	Forward Engine Driver
IOS	Internetwork Operating System
Data Plane	Traffic Forwarded on Hardware
SISF	Switch Integrated Security Features
TCAM	Ternary Content-Addressable Memory
SVI	Switch Virtual Interface



Note: Per-platform, the CLI sometimes includes the term switch and sometimes does not. (show platform soft fed switch <number|active|standby> matm macTable versus show platform soft fed active matm macTable)

Configure

There are no configuration requirements.

Verify

Dynamic Mac Address Learning in FED MATM

<#root>

Switch#

show platform software fed switch active matm macTable vlan 100 mac 9c54.1631.8bd1

VLAN   MAC   Type Seq#   EC_Bi Flags machandle   siHandle   riHandl
---

100

9c54.1631.8bd1

0x1

     248   0   0

0x7f7490c93bd8

0x7f7490c73d98

      0x0

0x7f7490a4e108

            300   8

TenGigabitEthernet2/1/1

                                    Yes

======platform hardware details ======

Asic: 0

 htm-handle = 0x7f7490c80ce8 MVID = 5 gpn = 1
 SI = 0xb6 RI = 0x1a DI = 0x537d
 DI = 0x537d pmap = 0x00000000 0x00000000

Asic: 1

SI = 0xb6 RI = 0x1a DI = 0x537d

DI = 0x537d pmap = 0x00000000 0x10000000 pmap_intf : [TenGigabitEthernet2/1/1]

This is a snippet from the bottom of the output of

show platform software fed switch active matm macTable

to showcase the classification of

Type

to help indicate how the

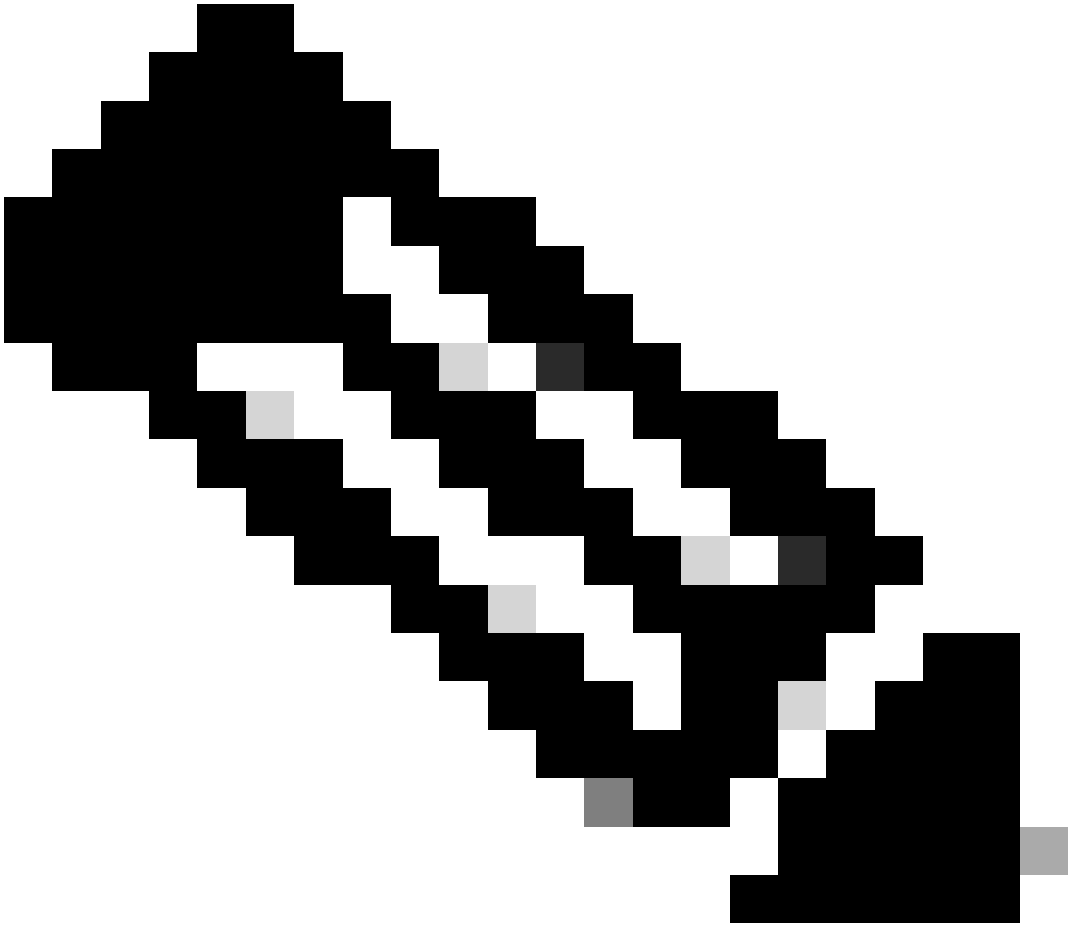
Mac Address

is being learned on the

Switch:

Type:

MAT_DYNAMIC_ADDR	**0x1**							
MAT_STATIC_ADDR	0x2	MAT_CPU_ADDR	0x4	MAT_DISCARD_ADDR	0x8			
MAT_ALL_VLANS	0x10	MAT_NO_FORWARD	0x20	MAT_IPMULT_ADDR	0x40	MAT_RES		
MAT_DO_NOT_AGE	0x100	MAT_SECURE_ADDR	0x200	MAT_NO_PORT	0x400	MAT_DRO		
MAT_DUP_ADDR	0x1000	MAT_NULL_DESTINATION	0x2000	MAT_DOT1X_ADDR	0x4000	MAT_ROU		
MAT_WIRELESS_ADDR	0x10000	MAT_SECURE_CFG_ADDR	0x20000	MAT_OPQ_DATA_PRESENT	0x40000	MAT_WIR		
MAT_DLR_ADDR	0x100000	MAT_MRP_ADDR	0x200000	MAT_MSRP_ADDR	0x400000	MAT_LIS		
MAT_LISP_REMOTE_ADDR	0x1000000	MAT_VPLS_ADDR	0x2000000	MAT_LISP_GW_ADDR	0x4000000			



Note: Troubleshooting generally begins with checking IOS MATM, but FED learns it first in this case

Dynamic Mac Address Learning in IOS MATM

<#root>

```
Switch#
show mac address-table address 9c54.1631.8bd1                <--- What IOS Matm sees

          Mac Address Table
-------------------------------------------

Vlan    Mac Address       Type        Ports
----    -----------       --------    -----

100    9c54.1631.8bd1    DYNAMIC     Te2/1/1                      <--- Showcases which vlan, how its lea
Total Mac Addresses for this criterion: 1
```

- Check that hardware programming matches ios programming for an inconsistencies

<#root>

Switch#

show platform software fed switch active matm macTable vlan 100 mac 9c54.1631.8bd1 detail

```
VLAN   MAC                  Type  Seq#    EC_Bi  Flags  machandle           siHandle            riHandl
-------------------------------------------------------------------------------------------------------
```

100

9c54.1631.8bd1

0x1

```
     248      0      0
```

0x7f7490c93bd8

0x7f7490c73d98

```
      0x0
```

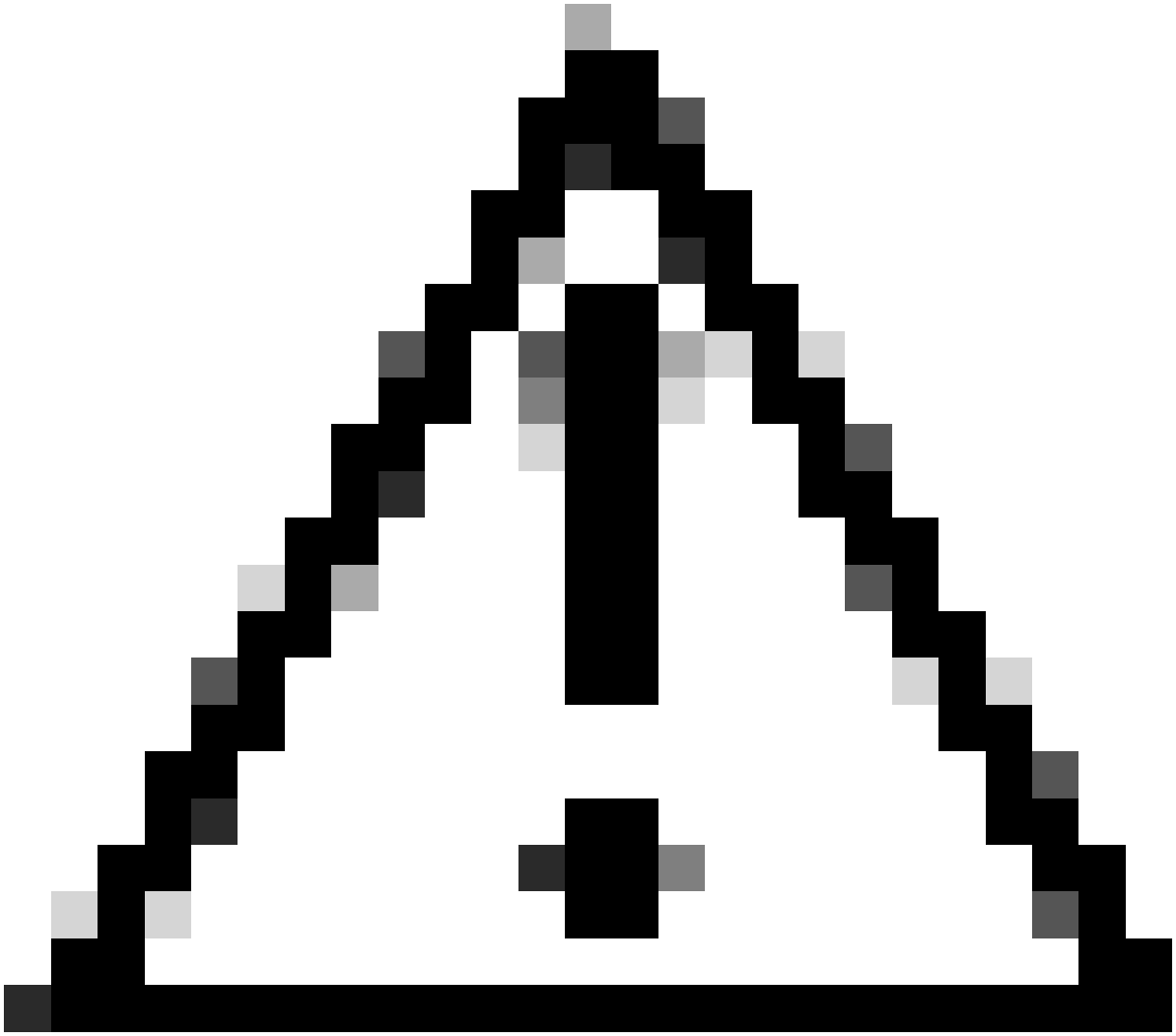
0x7f7490a4e108

```
            300        5                                                    Yes

Detailed Resource Information (ASIC_INSTANCE# 0)
----------------------------------------
Number of HTM Entries:
```

1

```
Entry 0: (handle 0x7f7490c80ce8)

Absolute Index: 6442
Time Stamp: 5
KEY - vlan:5 mac:0x9c5416318bd1 l3_if:0 gpn:125 epoch:0 static:0 flood_en:0 vlan_lead_wless_flood_en: 0
MASK - vlan:0 mac:0x0 l3_if:0 gpn:0 epoch:0 static:0 flood_en:0 vlan_lead_wless_flood_en: 0 client_home_
SRC_AD - need_to_learn:0 lrn_v:0 catchall:0 static_mac:0 chain_ptr_v:0 chain_ptr: 0 static_entry_v:0 au
DST_AD - si:0xb6 bridge:0 replicate:0 blk_fwd_o:0 v4_rmac:0 v6_rmac:0 catchall:0 ign_src_lrn:0 port_mas


============================================================
Detailed Resource Information (ASIC_INSTANCE# 0)
----------------------------------------

Station Index (SI) [0xb6]
RI = 0x1a
DI = 0x537d
stationTableGenericLabel = 0
stationFdConstructionLabel = 0x7
lookupSkipIdIndex = 0
rcpServiceId = 0
dejaVuPreCheckEn = 0x1
```

```
Replication Bitmap: CD


Detailed Resource Information (ASIC_INSTANCE# 1)
----------------------------------------

Station Index (SI) [0xb6]
RI = 0x1a
DI = 0x537d
stationTableGenericLabel = 0
stationFdConstructionLabel = 0x7
lookupSkipIdIndex = 0
rcpServiceId = 0
dejaVuPreCheckEn = 0x1
Replication Bitmap: LD

============================================================
Detailed Resource Information (ASIC_INSTANCE# 0)
----------------------------------------

Destination index   = 0x537d
pmap                = 0x00000000 0x00000000
cmi                 = 0x0
rcp_pmap            = 0x0
al_rsc_cmi
CPU Map Index (CMI) [0]
ctiLo0              = 0
ctiLo1              = 0
ctiLo2              = 0
cpuQNum0            = 0
cpuQNum1            = 0
cpuQNum2            = 0
npuIndex            = 0
stripSeg            = 0
copySeg             = 0


Detailed Resource Information (ASIC_INSTANCE# 1)          <--- Note the ASIC Instance # as it is based
----------------------------------------

Destination index   = 0x537d
pmap                = 0x00000000 0x10000000
pmap_intf : [TenGigabitEthernet2/1/1]                     <--- Port map interface is learned correctly

cmi                 = 0x0
rcp_pmap            = 0x0
al_rsc_cmi
CPU Map Index (CMI) [0]
ctiLo0              = 0
ctiLo1              = 0
ctiLo2              = 0
cpuQNum0            = 0
cpuQNum1            = 0
cpuQNum2            = 0
npuIndex            = 0
stripSeg            = 0
copySeg             = 0
============================================================
```



Caution: If you run the detailed command for an interface with the syntax of active but the interface is on another switch, you get no port map interface output

Static Mac Address Learning in IOS MATM

This example uses a Switch SVI Mac Address to showcase proper programming

<#root>

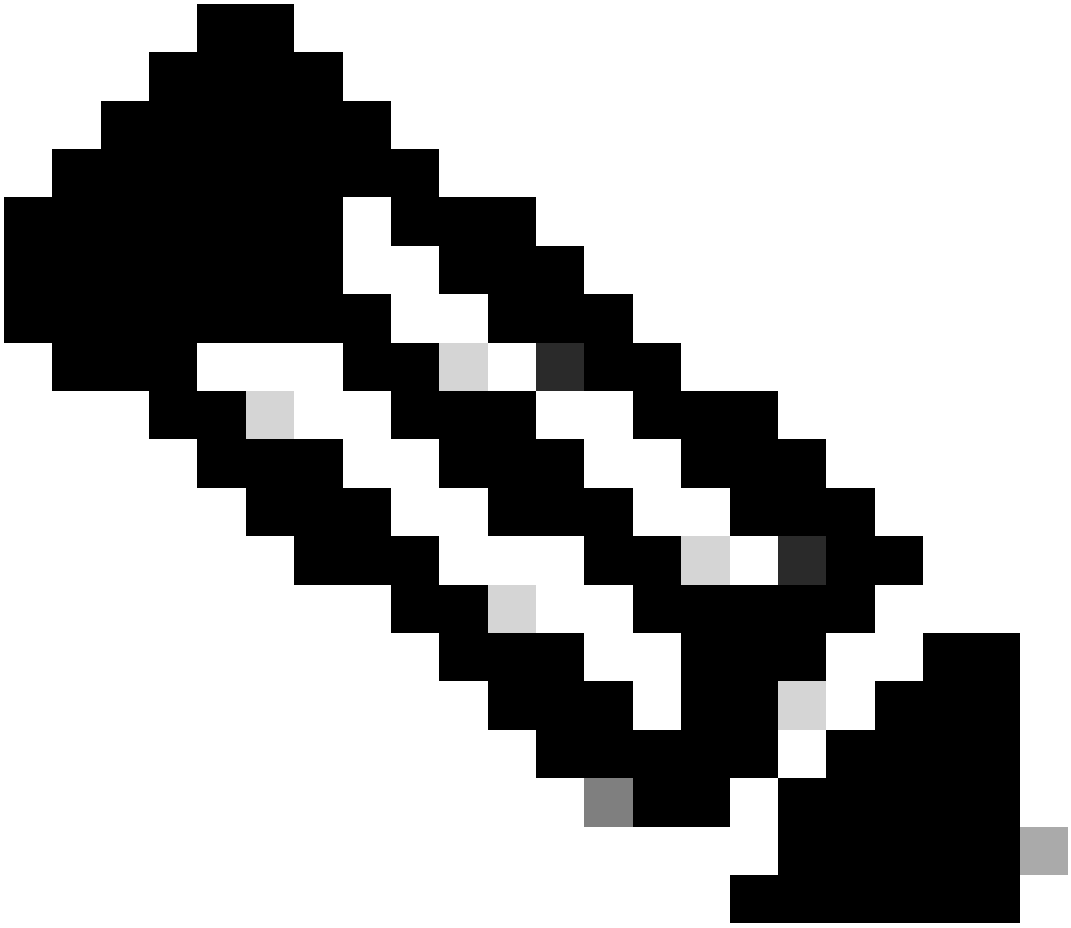
```
Switch#
show run interface vlan 100                                                    <--- Verify SVI co

Building configuration...

Current configuration : 82 bytes
!
interface Vlan100
 ip address 192.168.1.2 255.255.255.0
```

```
end

Switchk#
show interface vlan 100
Vlan100 is up
, line protocol is up , Autostate Enabled

Hardware is Ethernet SVI, address is 706b.b929.f751
 (
bia 706b.b929.f751
)
<--- Mac Address assigned to SVI 100 by the Switch
  Internet address is 192.168.1.2/24
 <snippet>

Switch#
show mac address-table address 706b.b929.f751                                    <--- Verify macTa
          Mac Address Table
-------------------------------------------

Vlan    Mac Address       Type        Ports
----    -----------       --------    -----

100    706b.b929.f751    STATIC      Vl100

Total Mac Addresses for this criterion:
 1
```

Static Mac Address Learning in FED MATM

```
<#root>

Switch#
show platform software fed switch active matm macTable vlan 100                    <--- Verify macTab
VLAN   MAC                  Type  Seq#    EC_Bi  Flags  machandle           siHandle            riHandl
-------------------------------------------------------------------------------------------------------

100    706b.b929.f751     0x8002
       0      0     64  0x7fc210e57908      0x7fc210cb7d78      0x0                0x0
 0        0

Vlan100
```

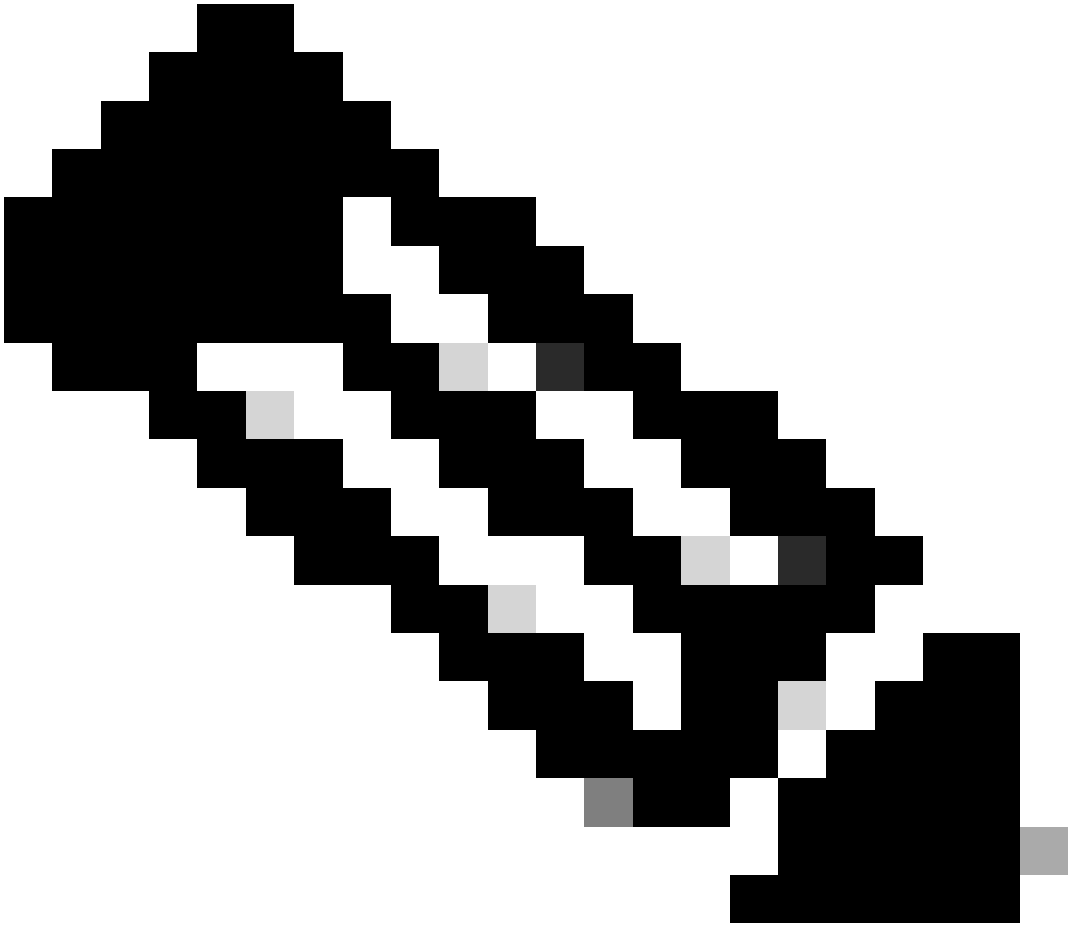
```
                                                    Yes


100     0027.90be.20d1      0x101     192       0      64  0x7fc210cdc058      0x7fc210cd6da8      0x0



Total Mac number of addresses:: 2
Summary:
Total number of secure addresses:: 0
Total number of drop addresses:: 0
Total number of lisp local addresses:: 0
Total number of lisp remote addresses:: 0
*a_time=aging_time(secs)  *e_time=total_elapsed_time(secs)
Type:
MAT_DYNAMIC_ADDR           0x1

MAT_STATIC_ADDR            0x2

  MAT_CPU_ADDR               0x4  MAT_DISCARD_ADDR           0x8
MAT_ALL_VLANS             0x10  MAT_NO_FORWARD            0x20  MAT_IPMULT_ADDR           0x40  MAT_RES
MAT_DO_NOT_AGE           0x100  MAT_SECURE_ADDR          0x200  MAT_NO_PORT              0x400  MAT_DRO

 <--- Note 0x8000 + 0x2 == 0x8002 ---> Routed Address that is Statically assigned on the Switch (SVI)

MAT_DUP_ADDR            0x1000  MAT_NULL_DESTINATION    0x2000  MAT_DOT1X_ADDR          0x4000

MAT_ROUTER_ADDR         0x8000

MAT_WIRELESS_ADDR      0x10000  MAT_SECURE_CFG_ADDR    0x20000  MAT_OPQ_DATA_PRESENT   0x40000  MAT_WIR
MAT_DLR_ADDR          0x100000  MAT_MRP_ADDR          0x200000  MAT_MSRP_ADDR         0x400000  MAT_LIS
MAT_LISP_REMOTE_ADDR 0x1000000  MAT_VPLS_ADDR        0x2000000  MAT_LISP_GW_ADDR     0x4000000
```



Note: An SVI created on a Switch has no **diHandle** due to it being a **Routed Address**

EVPN Mac Address Learning in MATM

Determine the Vlan the mac is expected to be learn on and verify matm



Note: For further information on EVPN see BGP EVPN VXLAN Configuration Guide

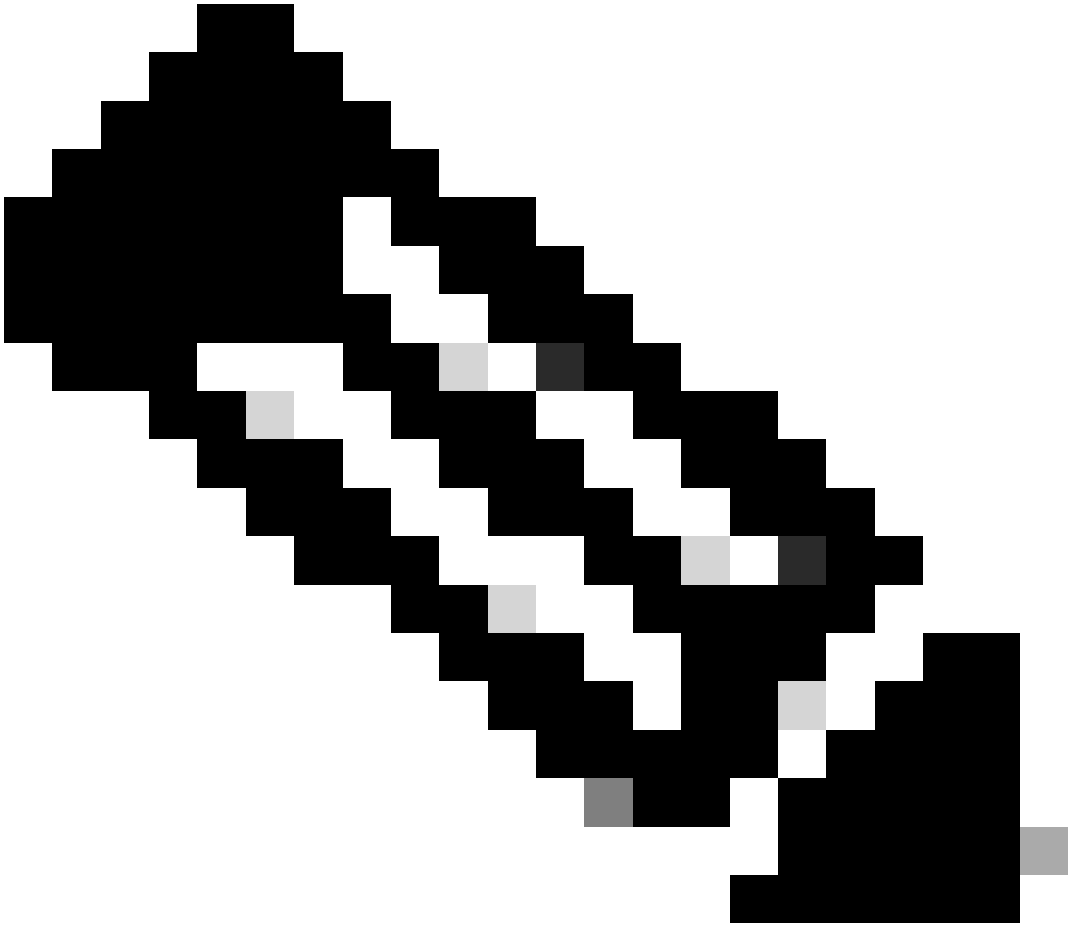
<#root>

Switch#

show platform software fed switch active matm macTable vlan 201

```
VLAN    MAC                  Type   Seq#    EC_Bi   Flags  machandle          siHandle           riHandl
-------------------------------------------------------------------------------------------------------
201     0006.f601.cd42        0x1   32436       0       0  0x71e058dc3368      0x71e058655018      0x0


201     0006.f601.cd01        0x1   32437       0       0  0x71e058dae308      0x71e058655018      0x0


201
0006.f617.ee81  0x1000001       0      0     64
```

```
  0x71e059191ee8      0x71e058e11468

 0x71e058ef0d18

      0x0                           0

5335175  VTEP 172.16.255.4 adj_id 1376

                                  No



Total Mac number of addresses:: 4
Summary:
Total number of secure addresses:: 0
Total number of drop addresses:: 0
Total number of lisp local addresses:: 0

Total number of lisp remote addresses:: 2                          <--- Remotely learned addresses from EV

*a_time=aging_time(secs)  *e_time=total_elapsed_time(secs)
Type:

MAT_DYNAMIC_ADDR           0x1

  MAT_STATIC_ADDR             0x2  MAT_CPU_ADDR                0x4  MAT_DISCARD_ADDR            0x8
MAT_ALL_VLANS               0x10  MAT_NO_FORWARD             0x20  MAT_IPMULT_ADDR            0x40  MAT_RES
MAT_DO_NOT_AGE             0x100  MAT_SECURE_ADDR           0x200  MAT_NO_PORT               0x400  MAT_DRO
MAT_DUP_ADDR              0x1000  MAT_NULL_DESTINATION     0x2000  MAT_DOT1X_ADDR           0x4000  MAT_ROU

<--- Note 0x1000000 + 0x1 == 0x1000001 ---> Mac Address remotely learned Dynamically via EVPN

MAT_WIRELESS_ADDR       0x10000  MAT_SECURE_CFG_ADDR     0x20000  MAT_OPQ_DATA_PRESENT   0x40000  MAT_WIR
MAT_DLR_ADDR           0x100000  MAT_MRP_ADDR           0x200000  MAT_MSRP_ADDR          0x400000  MAT_LIS

MAT_LISP_REMOTE_ADDR 0x1000000

  MAT_VPLS_ADDR         0x2000000  MAT_LISP_GW_ADDR      0x4000000
```



Note: The EVPN Type flag uses the same notation of MAT_LISP_REMOTE_ADDR as LISP Mac Learning

Troubleshoot

Network Connectivity Issue

This example uses a **Switch Stack of 2 C9300-48UN** wherein **SVI 100** is the **L3 Gateway** on the network and its own Mac Address is not programmed correctly including:

- Destination Device is connected to a port on Switch 2
- Source Device is connected to a port on Switch 1
- SVI 100 is Gateway
- No connectivity to Destination Device from Source Device (ICMP is used to test)
- If Destination Device connects to Switch 1 Connectivity is restored

Check IP ARP and Mac Address of Destination Device

```
<#root>

Switch#

show ip arp 192.168.1.3

Protocol  Address          Age (min)  Hardware Addr   Type   Interface
Internet

192.168.1.3

             6

9c54.1631.8bd1

  ARPA

Vlan100                    <--- ARP Resolved on Vlan 100 correctly

Switch#

show mac add address 9c54.1631.8bd1

          Mac Address Table
-------------------------------------------

Vlan    Mac Address       Type        Ports
----    -----------       --------    -----


100    9c54.1631.8bd1    DYNAMIC     Te2/1/1                                          <--- IOS Programme

Total Mac Addresses for this criterion: 1
```

Check Egress and Ingress Traffic on Port Connected to Destination Device

The main goal is to check ingress traffic is seen, and this can be done via **EPC** and this example uses **ICMP Traffic**

```
<#root>

Switch#

monitor capture tac interface Te2/1/1 both match any start


<wait some time>

Switch#

monitor capture tac stop


Switch#

show monitor capture tac buffer brief | i ICMP


  908   4.969635  192.168.1.2 -> 192.168.1.3  ICMP 114 Echo (ping) request  id=0x0008, seq=0/0, ttl=255

 909   4.970165  192.168.1.3 -> 192.168.1.2  ICMP 118 Echo (ping) reply    id=0x0008, seq=0/0, ttl=254 (

  910   4.970425  192.168.1.2 -> 192.168.1.3  ICMP 114 Echo (ping) request  id=0x0008, seq=1/256, ttl=2
```

```
911   4.970724  192.168.1.3 -> 192.168.1.2  ICMP 118 Echo (ping) reply    id=0x0008, seq=1/256, ttl=254
  912   4.970889  192.168.1.2 -> 192.168.1.3  ICMP 114 Echo (ping) request  id=0x0008, seq=2/512, ttl=2
913   4.971211  192.168.1.3 -> 192.168.1.2  ICMP 118 Echo (ping) reply    id=0x0008, seq=2/512, ttl=254
  914   4.971436  192.168.1.2 -> 192.168.1.3  ICMP 114 Echo (ping) request  id=0x0008, seq=3/768, ttl=2
 915   4.971558  192.168.1.3 -> 192.168.1.2  ICMP 118 Echo (ping) reply    id=0x0008, seq=3/768, ttl=254
```

Check Detailed Output of Return Traffic

```
<#root>

Switch#

show monitor capture tac buffer detailed | begin Frame 909

Starting the packet display ........ Press Ctrl + Shift + 6 to exit

Frame 1: 118 bytes on wire (944 bits), 118 bytes captured (944 bits) on interface /tmp/epc_ws/wif_to_ts
    Interface id: 0 (/tmp/epc_ws/wif_to_ts_pipe)
        Interface name: /tmp/epc_ws/wif_to_ts_pipe
    Encapsulation type: Ethernet (1)
    Arrival Time: Apr 19, 2024 19:14:13.044770000 UTC
    [Time shift for this packet: 0.000000000 seconds]
    Epoch Time: 1713554053.044770000 seconds
    [Time delta from previous captured frame: 0.000000000 seconds]
    [Time delta from previous displayed frame: 0.000000000 seconds]
    [Time since reference or first frame: 0.000000000 seconds]
    Frame Number: 1
    Frame Length: 118 bytes (944 bits)
    Capture Length: 118 bytes (944 bits)
    [Frame is marked: False]
    [Frame is ignored: False]
    [Protocols in frame: eth:ethertype:vlan:ethertype:ip:icmp:data]

Ethernet II, Src: 9c:54:16:31:8b:d1 (9c:54:16:31:8b:d1), Dst: 70:6b:b9:29:f7:51 (70:6b:b9:29:f7:51)
    Destination: 70:6b:b9:29:f7:51 (70:6b:b9:29:f7:51)
        Address: 70:6b:b9:29:f7:51 (70:6b:b9:29:f7:51)

        .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
        .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
    Source: 9c:54:16:31:8b:d1 (9c:54:16:31:8b:d1)
        Address: 9c:54:16:31:8b:d1 (9c:54:16:31:8b:d1)
        .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
        .... ...0 .... .... .... .... = IG bit: Individual address (unicast)

Switch#

show interface vlan 100

Vlan100 is up, line protocol is up , Autostate Enabled

Hardware is Ethernet SVI, address is 706b.b929.f751 (bia 706b.b929.f751)

  Internet address is 192.168.1.4/24
```

Check Mac Address for SVI 100

<#root>

Switch#

show mac address-table address 706b.b929.f751

```
          Mac Address Table
-------------------------------------------

Vlan    Mac Address       Type        Ports
----    -----------       --------    -----                                          <

--- IOS does not have SVI 100 Mac Address programmed at all (unexpected)
```

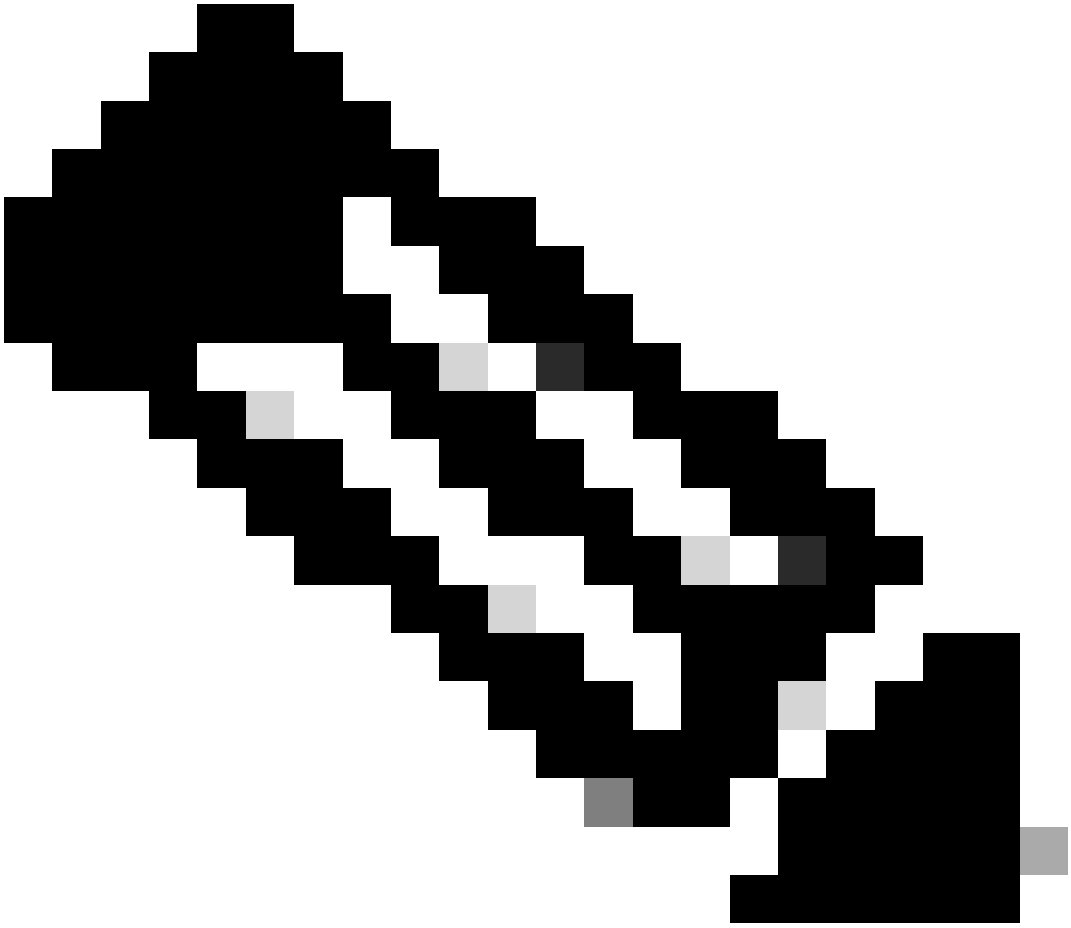
<#root>

Switch#

show platform software fed switch active matm macTable vlan 100 mac 706b.b929.f751

```
VLAN   MAC                  Type  Seq#    EC_Bi  Flags  machandle           siHandle            riHandl
-------------------------------------------------------------------------------------------------------

100    706b.b929.f751     0x8002       0      0     64  0x7fc210e57908      0x7fc210cb7d78      0x0
```

```
======platform hardware details ======

Asic: 0                                                                                 <

--- Matm on Switch 1 (Active) has the SVI 100 MAC Programmed Correctly


 htm-handle = 0x7fc210cb9e68 MVID = 5 gpn = 1
 SI = 0x2d RI = 0x1 DI = 0x5234
Asic: 1
 SI = 0x2d RI = 0x1 DI = 0x5234
```



Note: The reason connectivity is restored when the Destination Device connects to Switch 1 is that MATM is still programmed properly compared to Switch 2

<#root>

```
Switch#

show platform software fed switch 2 matm macTable vlan 100 mac 706b.b929.f751

Total Mac number of addresses:: 0                                                    <--- Matm on Swit

Summary:
Total number of secure addresses:: 0
Total number of drop addresses:: 0
Total number of lisp local addresses:: 0
Total number of lisp remote addresses:: 0
```

Possible Connectivity Issue Causes

Check MATM Hardware Resources

If Switch Hardware Resources, which is responsible for programming Mac Addresses is exhausted, then no more Addresses can be learned

<#root>

Switch#

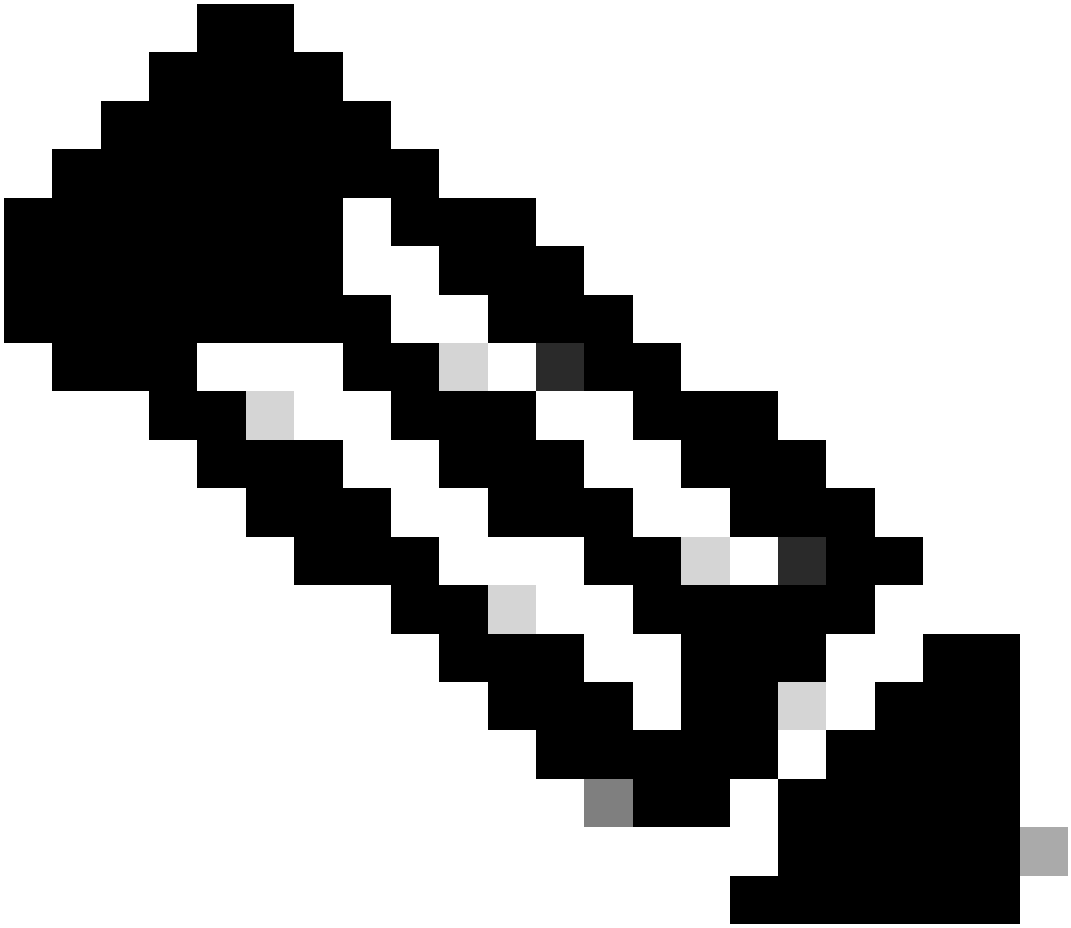
show platform hardware fed switch active fwd-asic resource tcam utilization

Codes: EM - Exact_Match, I - Input, O - Output, IO - Input & Output, NA - Not Applicable

CAM Utilization for ASIC [0]

Table	Subtype	Dir	**Max**	**Used**	**%Used**	V4	V6	MPLS	Other
Mac Address Table	**EM**	**I**	**32768**	**31788**	**97.01%**	**0**	**0**	**0**	**31788**
Mac Address Table	**TCAM**	**I**	**1024**	**1019**	**99.51%**	**0**	**0**	**0**	**1019**
L3 Multicast	EM	I	8192	0	0.00%	0	0	0	0
L3 Multicast	TCAM	I	512	9	1.76%	3	6	0	0
L2 Multicast	EM	I	8192	0	0.00%	0	0	0	0
L2 Multicast	TCAM	I	512	11	2.15%	3	8	0	0
IP Route Table	EM	I	24576	3	0.01%	2	0	1	0
IP Route Table	TCAM	I	8192	19	0.23%	6	10	2	1
QOS ACL	TCAM	IO	5120	85	1.66%	28	38	0	19
	TCAM	I		45	0.88%	15	20	0	10
	TCAM	O		40	0.78%	13	18	0	9
Security ACL	TCAM	IO	5120	131	2.56%	26	60	0	45
	TCAM	I		88	1.72%	12	36	0	40
	TCAM	O		43	0.84%	14	24	0	5
Netflow ACL	TCAM	I	256	6	2.34%	2	2	0	2
PBR ACL	TCAM	I	1024	36	3.52%	30	6	0	0
Netflow ACL	TCAM	O	768	6	0.78%	2	2	0	2
Flow SPAN ACL	TCAM	IO	1024	13	1.27%	3	6	0	4
	TCAM	I		5	0.49%	1	2	0	2
	TCAM	O		8	0.78%	2	4	0	2
Control Plane	TCAM	I	512	290	56.64%	138	106	0	46
Tunnel Termination	TCAM	I	512	20	3.91%	8	12	0	0
Lisp Inst Mapping	TCAM	I	2048	1	0.05%	0	0	0	1
Security Association	TCAM	I	256	4	1.56%	2	2	0	0
CTS Cell Matrix/VPN Label	EM	O	8192	0	0.00%	0	0	0	0
CTS Cell Matrix/VPN Label	TCAM	O	512	1	0.20%	0	0	0	1
Client Table	EM	I	4096	0	0.00%	0	0	0	0
Client Table	TCAM	I	256	0	0.00%	0	0	0	0
Input Group LE	TCAM	I	1024	0	0.00%	0	0	0	0

```
Output Group LE         TCAM         O         1024         0    0.00%         0         0         0
Macsec SPD              TCAM         I          256         2    0.78%         0         0         0
```



Note: For more information on Hardware Resources see Understand Hardware Resources on Catalyst 9000 Switches

MATM Syslog Errors

MATM Log Message	Definition	Recovery Action
MATM-3-MAX_ENTRIES: Switch 1 F0/0: fed: The maximum number of MAC addresses has been reached:32768	Hardware reserved for Mac Addresses has run out of space	Reduce the scale number of Mac Addresses being learned on the Switch

Potential Fixes

Option #1

Reduce the amount of Mac Addresses being learned on the Switch

- A network loop can be occurring and once that is resolved, Hardware Resources subsides and normal Mac Learning continues
- Network scaling has an effect and use a Switch with larger hardware capacity. (Example: C9300 has maximum of 32768 Mac Address vs C9500H has maximum of 82,000)

Option #2

A legitimate misprogramming is occurring.

1. Collect all pertinent data
    - Show tech-support
    - Tracelog Archive
    - Debug MATM
2. **Power Cycle** the device
    - If issue remains, open case with Cisco TAC

Related Information

Understand Hardware Resources on Catalyst 9000 Switches

BGP EVPN VXLAN Configuration Guide