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# Hard-coding ATM Addresses for LES/LEC/BUS/LECS

Document ID: 10462

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**Introduction**

**Prerequisites**

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**MAC Addresses on the Catalyst 5000**

**MAC Address on the Catalyst 55xx and 6000**

**Change the MAC Address on a Router or Catalyst LANE Module**

**Hardcode the ATM Addresses of the Services Without Changing the MAC Address**

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## Introduction

The ATM addresses that are used for the LEC/LECS/BUS/LES can be derived from the media access control (MAC) addresses of the ATM card.

This document explains from where the MAC addresses are derived. It also gives a configuration example that describes how to hardcode the ATM addresses.

**Note:** The locations of the various services shown in this document might not be optimal. Before you implement this type of configuration in a live network, review the LANE Design Recommendations.

## Prerequisites

### Requirements

There are no specific requirements for this document.

### Components Used

This document is not restricted to specific software and hardware versions.

### Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

## MAC Addresses on the Catalyst 5000

On the Catalyst 5000, the MAC addresses are provided by the hardware. If you have a Catalyst 5000 and replace the supervisor, the MAC addresses change.

This output is taken from a Catalyst 5000.

```

C5000-SUP (enable) show module
Mod Module-Name          Ports Module-Type          Model          Serial-Num Status
-----
1                        2      100BaseTX Supervisor    WS-X5009      004840147ok
2                        24     10/100BaseTX Ethernet   WS-X5225R    012107887 ok
3                        2      MM OC-3 Dual-Phy ATM    WS-X5158      005096158ok

Mod MAC-Address(es)          Hw      Fw      Sw
-----
1  00-e0-b0-12-14-00 to 00-e0-b0-12-17-ff 2.3    2.2(2)  4.5(4)
2  00-50-a2-f4-76-40 to 00-50-a2-f4-76-57 3.1    4.3(1)  4.5(4)
3  00-60-2f-45-03-61                2.0    1.3     11.3(10)WA4(13a)
C5000-SUP (enable) ses 3
Trying ATM-3...
Connected to ATM-3.
Escape character is '^]'.

C5000-ATM>en
C5000-ATM#show lane def
interface ATM0:
LANE Client:      ...00E0B0121420.**
LANE Server:      ...00E0B0121421.**
LANE Bus:         ...00E0B0121422.**
LANE Config Server: ..00E0B0121423.00

```

**Note:** \*\* is the subinterface number byte in hex.

## MAC Address on the Catalyst 55xx and 6000

On the Catalyst 5500, 5505, and new generations such as the 6000, MAC addresses are given by the backplane, or more precisely, by the clocking module on it.

This output was taken on a Catalyst 5505.

```

C5505-SUP> (enable) show module
Mod Module-Name          Ports Module-Type          Model          Serial-Num Status
-----
1                        2      100BaseTX Supervisor    WS-X5509      007405058ok
2                        12     10/100BaseTX Ethernet   WS-X5213      002294461 ok
5                        2      MM OC-3 Dual-Phy ATM    WS-X5158      005912905ok

Mod MAC-Address(es)          Hw      Fw      Sw
-----
1  00-80-1c-dd-94-00 to 00-80-1c-dd-97-ff 2.3    3.1(2)  4.5(3)
2  00-60-5c-c2-f5-bc to 00-60-5c-c2-f5-c7 1.2    1.4     4.5(3)
5  00-60-2f-45-0d-bd                2.0    1.3     11.3(6)WA4(9d)

Mod Sub-Type Sub-Model Sub-Serial Sub-Hw
-----
1  EARL 1+ WS-F5511 0007401131 1.0
C5505-SUP> (enable) ses 5
Trying ATM-5...
Connected to ATM-5.
Escape character is '^]'.

C5505-ATM(5)>en
C5505-ATM(5)#show lane def
interface ATM0:
LANE Client:      ...00801CDD9440.**
LANE Server:      ...00801CDD9441.**
LANE Bus:         ...00801CDD9442.**

```

LANE Config Server: ...00801CDD9443.00

**Note:** \*\* is the subinterface number byte in hex.

If you replace the 5158 (or 5161, and so on) by another one in the same slot (using 5500 and higher), the MAC addresses are unchanged. This is the same for the supervisor.

If you change the chassis itself, the MAC addresses is different and the ATM addresses change.

If you have a 5500 or 5505, the replacement of the board by another one does not change the output of the **show lane default** command. Therefore, the replacement is truly plug and play.

On the other hand, even though you can see that the output stays the same on a Catalyst 5000 or Catalyst 5505, the MAC addresses do come from different places.

## Change the MAC Address on a Router or Catalyst LANE Module

The MAC address used by the router or LANE module can be changed manually. On the LANE module:

```
LANE-Eth#show run
Building configuration...

!
interface ATM0
  mac-address 0000.0000.0001
```

The result is:

```
LANE-Eth#show lane default
interface ATM0:
LANE Client:      47.009181000000006047508401.000000000001.**
LANE Server:     47.009181000000006047508401.000000000002.**
LANE Bus:        47.009181000000006047508401.000000000003.**
LANE Config Server: 47.009181000000006047508401.000000000004.00
```

**Note:** \*\* is the subinterface number byte in hex.

## Hardcode the ATM Addresses of the Services Without Changing the MAC Address

Use this setup:



Place the LEC/LES/BUS on the router and LECS/LEC on the LS1010. On the router:

```
<snip>
interface ATM2/0
```

```

no ip address
atm pvc 1 0 5 qsaal
atm pvc 2 0 16 ilmi
!
interface ATM2/0.2 multipoint
ip address 172.17.241.96 255.255.248.0
lane client-atm-address ...11223344556602
lane server-atm-address ...1122334455AA02
lane bus-atm-address ...1122334455BB02
lane server-bus ethernet elan1
lane client ethernet elan1

```

On the LS1010, this database is defined:

```

lane database elan_database
name elan1 server-atm-address
47.0091810000000060705A8F01.1122334455AA.02

```

The prefix was taken from LS1010 **show lane default** and the last part copied from the router configuration. When you go back to the router, you see this output:

```

Lisa#show lane
LE Server ATM2/0.2 ELAN name: elan1 Admin: up State: operational

type: ethernet Max Frame Size: 1516
ATM address: 47.0091810000000060705A8F01.1122334455AA.02
LECS used: 47.0091810000000060705A8F01.0060705A8F05.00 connected, vcd 1450
control distribute: vcd 1452, 3 members, 196 packets

proxy/ (ST: Init, Conn, Waiting, Adding, Joined, Operational, Reject,
Term)
lecid ST vcd pkts Hardware Addr ATM Address
1 O 1451 6 0060.705a.8f02 47.0091810000000060705A8F01.0060705A8F02.01
2 O 1455 10 00e0.f9b1.b410 47.0091810000000060705A8F01.112233445566.02
3P O 1466 59 0090.86fb.1040 47.0091810000000060705A8F01.009086FB1040.02

LE BUS ATM2/0.2 ELAN name: elan1 Admin: up State: operational
type: ethernet Max Frame Size: 1516
ATM address: 47.0091810000000060705A8F01.1122334455BB.02
data forward: vcd 1454, 3 members, 244 packets, 5 unicasts

lecid vcd pkts ATM Address
1 1453 32 47.0091810000000060705A8F01.0060705A8F02.01
2 1458 28 47.0091810000000060705A8F01.112233445566.02
3 1467 58 47.0091810000000060705A8F01.009086FB1040.02

LE Client ATM2/0.2 ELAN name: elan1 Admin: up State: operational

Client ID: 2 LEC up for 22 minutes 53 seconds
Join Attempt: 605
HW Address: 00e0.f9b1.b410 Type: ethernet Max Frame Size:
1516
ATM Address: 47.0091810000000060705A8F01.112233445566.02

VCD rxFrames txFrames Type ATM Address
0 0 0 configure 00.00000000000000000000000000.000000000000.00
1456 1 10 direct 47.0091810000000060705A8F01.1122334455AA.02
1457 196 0 distribute 47.0091810000000060705A8F01.1122334455AA.02
1459 0 28 send 47.0091810000000060705A8F01.1122334455BB.02
1460 245 0 forward 47.0091810000000060705A8F01.1122334455BB.02

```

## Related Information

- [ATM Technology Support Pages](#)
  - [Technical Support – Cisco Systems](#)
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