

# FSSRP 示例配置

## 目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[规则](#)

[配置](#)

[网络图](#)

[配置](#)

[Catalyst 5500 LANE 模块 \( 仅限 LEC \)](#)

[7200 \( 主 LES/BUS + LEC \)](#)

[LS1010 \( LECS 、 LEC 和备份 LES/BUS \)](#)

[验证](#)

[LAN 仿真客户端](#)

[LAN 仿真服务器](#)

[LAN 仿真配置服务器](#)

[结论](#)

[show 与 debug 命令](#)

[相关信息](#)

## 简介

要改进ATM LAN仿真(LANE)简单服务器复制协议(SSRP)，思科介绍ATM LANE快速简单服务器冗余协议(FSSRP)。FSSRP与LANE SSRP有所不同仿真LAN (ELAN)的所有已配置的LANE服务器总是活跃的。支持FSSRP的LANE客户端有虚拟电路(VC)一次设立对最大数量四车道的服务器和广播及未知服务器(BUS)。如果一个单行道服务器(LES)断开，LANE客户端迅速转换到下个LES和BUS，造成没有数据或LANE地址解析协议(LE\_ARP)条目损耗和没有额外的信令。欲了解更详细的信息参考[文档](#)。

**注意：**在本文显示的多种服务的位置也许不是最佳的。在实现在真实网络的这样一配置前，请查看[LANE设计推荐](#)。

## 先决条件

### 要求

本文档没有任何特定的要求。

### 使用的组件

所有硬件组件(LAN仿真客户端[LEC]，LES，BUS，LANE配置服务器[LECS])可以是有能力的FSSRP。如果没有使用支持FSSRP的组件都，您不能受益于FSSRP功能。

下面FSSRP的支持的软件版本：

- Cisco IOS软件版本12.0(5)T及以上版本
- Catalyst LANE模块版本12.0和以上
- Cisco LightStream1010版本12.0(4a)W5(11a)和以上

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

## [规则](#)

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

## [配置](#)

本部分提供有关如何配置本文档所述功能的信息。

**注意：**要查找本文档所用命令的其他信息，请使用[命令查找工具](#)（[仅限注册用户](#)）。

## [网络图](#)

本文档使用以下网络设置：

## [配置](#)

您在ATM端口里(执行FSSRP的端口的)接口配置必须配置**通道fssrp**。

## [Catalyst 5500 LANE 模块 \( 仅限 LEC \)](#)

下面当前配置：

```
5500
!
hostname ATM
!
interface Ethernet0
!       interface ATM0
atm preferred phy A
atm pvc 1 0 5 qsaal
atm pvc 2 0 16 ilmi
no atm ilmi-keepalive
lane fssrp ! interface ATM0.1 multipoint lane
client ethernet 1 admin ! end
```

## [7200 \( 主 LES/BUS + LEC \)](#)

下面当前配置：

## 7200

```
version 12.1
!
interface ATM4/0
no ip address
no ip route-cache cef
atm pvc 1 0 5 qsaal
atm pvc 2 0 16 ilmi
no atm ilmi-keepalive
lane fssrp ! interface ATM4/0.2 multipoint lane
server-bus ethernet admin elan-id 1 ! interface ATM4/0.3
multipoint lane client ethernet admin ! end
```

## [LS1010 \( LECS 、 LEC 和备份 LES/BUS \)](#)

下面当前配置：

## LS1010

```
version 12.0
!
hostname Casimir
!
!
atm lecs-address-default
47.0091.8100.0000.0060.3e5a.4501.0060.3e5a.4505.00 1
atm address
47.0091.8100.0000.0060.3e5a.4501.0060.3e5a.4501.00
atm router pnni
no aesa embedded-number left-justified
node 1 level 56 lowest
redistribute atm-static
!
!
lane database FSSRPConfig name admin server-atm-
address 47.00918100000000603E5A4501.0030199AB871.02 name
admin server-atm-address
47.00918100000000603E5A4501.00603E5A4503.02 name admin
elan-id 1 !! interface ATM2/0/0 no ip address no ip
directed-broadcast atm maxvp-number 0 lane config auto-
config-atm-address lane config database FSSRPConfig lane
fssrp ! interface ATM2/0/0.1 multipoint no ip directed-
broadcast lane client ethernet admin ! interface
ATM2/0/0.2 multipoint no ip directed-broadcast lane
server-bus ethernet admin elan-id 1 ! end
```

## 验证

本部分所提供的信息可用于确认您的配置是否正常工作。

## [LAN 仿真客户端](#)

您能验证LEC运行FSSRP和发现更多关于提供服务的LES/BUS对为ELAN通过发出show lane client detail命令。

如下所示，所有LEC加入激活和备份LES。所以，在故障的情况下活动LES的失败，新连接不需要设置。

```

ATM# show lane client detail LE Client ATM0.1 ELAN name: admin Admin: up State: operational
Client ID: 2 LEC up for 33 minutes 20 seconds ELAN ID: 1 Join Attempt: 16 This LEC is running in
Fast SSRP mode Known LE Servers: 2 <-- LEC aware of both LESes Last Fail Reason: Link went down
HW Address: 00e0.1410.d830 Type: ethernet Max Frame Size: 1516 ANID: 1 ATM Address:
47.00918100000000603E5A4501.00E01410D830.01 VCD rxFrames txFrames Type ATM Address 0 0 0
configure 47.00918100000000603E5A4501.00603E5A4505 LEC ID: 2, State: LESBUS_ACTIVE 44 1 1003
direct 47.00918100000000603E5A4501.00603E5A4503.02 46 1035 0 distribute
47.00918100000000603E5A4501.00603E5A4503.02 48 0 1057 send
47.00918100000000603E5A4501.00603E5A4504.02 50 99 0 forward
47.00918100000000603E5A4501.00603E5A4504.02 LEC ID: 3, State: LESBUS_ACTIVE <-- LEC joined the
Backup LES 45 1 2 direct 47.00918100000000603E5A4501.0030199AB871.02 47 34 0 distribute
47.00918100000000603E5A4501.0030199AB871.02 49 0 0 send
47.00918100000000603E5A4501.0030199AB872.02 51 0 0 forward
47.00918100000000603E5A4501.0030199AB872.02 Ischia# show lane client detail LE Client ATM4/0.3
ELAN name: admin Admin: up State: operational Client ID: 3 LEC up for 34 minutes 13 seconds ELAN
ID: 1 Join Attempt: 7 This LEC is running in Fast SSRP mode Known LE Servers: 2 <-- LEC aware of
both LESes Last Fail Reason: Locally deactivate HW Address: 0030.199a.b870 Type: ethernet Max
Frame Size: 1516 ATM Address: 47.00918100000000603E5A4501.0030199AB870.03 VCD rxFrames txFrames
Type ATM Address 0 0 0 configure 47.00918100000000603E5A4501.00603E5A4505.00 LEC ID: 3, State:
LESBUS_ACTIVE 66 1 2 direct 47.00918100000000603E5A4501.00603E5A4503.02 67 1059 0 distribute
47.00918100000000603E5A4501.00603E5A4503.02 68 0 74 send
47.00918100000000603E5A4501.00603E5A4504.02 69 1186 0 forward
47.00918100000000603E5A4501.00603E5A4504.02 LEC ID: 2, State: LESBUS_ACTIVE <-- LEC joined the
Backup LES 70 1 2 direct 47.00918100000000603E5A4501.0030199AB871.02 74 36 0 distribute
47.00918100000000603E5A4501.0030199AB871.02 76 0 0 send
47.00918100000000603E5A4501.0030199AB872.02 79 0 0 forward
47.00918100000000603E5A4501.0030199AB872.02 Casimir# show lane client detail LE Client
ATM2/0/0.1 ELAN name: admin Admin: up State: operational Client ID: 1 LEC up for 36 minutes 16
seconds ELAN ID: 1 Join Attempt: 2 This LEC is running in Fast SSRP mode Known LE Servers: 2 <--
LEC aware of both LESes Last Fail Reason: Local config change HW Address: 0060.3e5a.4502 Type:
ethernet Max Frame Size: 1516 ATM Address: 47.00918100000000603E5A4501.00603E5A4502.01 VCD
rxFrames txFrames Type ATM Address 0 0 0 configure 47.00918100000000603E5A4501.00603E5A4505.00
LEC ID: 1, State: LESBUS_ACTIVE 143 1 2 direct 47.00918100000000603E5A4501.00603E5A4503.02 146
1120 0 distribute 47.00918100000000603E5A4501.00603E5A4503.02 147 0 38 send
47.00918100000000603E5A4501.00603E5A4504.02 150 1228 0 forward
47.00918100000000603E5A4501.00603E5A4504.02 LEC ID: 1, State: LESBUS_ACTIVE <-- LEC joined the
Backup LES 177 1 2 direct 47.00918100000000603E5A4501.0030199AB871.02 178 37 0 distribute
47.00918100000000603E5A4501.0030199AB871.02 179 0 0 send
47.00918100000000603E5A4501.0030199AB872.02 180 0 0 forward
47.00918100000000603E5A4501.0030199AB872.02

```

## LAN 仿真服务器

您能发出**show lane server**命令验证LES的状态。如下所示，在7200平台的LES在备用模式运行，并且在LS1010的LES是活跃的。激活和备份有对所有三个客户端的一连接。

```

Ischia# show lane server LE Server ATM4/0.2, Elan name: admin, Admin: up, State: operational
This LES is running in Fast SSRP mode Master/Backup: Backup, Type: ethernet, Max Frame Size:
1516 locally set elan-id: 1 elan-id obtained from LECS: 1 ATM address:
47.00918100000000603E5A4501.0030199AB871.02 LECS used:
47.00918100000000603E5A4501.00603E5A4505.00 connected, vcd 65, fssrp control distribute: vcd 73,
3 members, 38 packets <-- LEC joined the LES while in Backup state proxy/ (ST: Init, Conn,
Waiting, Adding, Joined, Operational, Reject, Term) lecid ST vcd pkts Hardware Addr ATM Address
1P O 71 2 0060.3e5a.4502 47.00918100000000603E5A4501.00603E5A4502.01 2P O 72 2 0030.199a.b870
47.00918100000000603E5A4501.0030199AB870.03 3P O 80 2 00e0.1410.d830
47.00918100000000603E5A4501.00E01410D830.01

```

## LAN 仿真配置服务器

LCES状态可以通过发出**show lane config**命令显示。如下所示，LECS跟踪LES和备份LES/BUS，与LES作为活动一个。

```
Casimir# show lane config Config table: FSSRPConfig Admin: up State: operational This LECS is running in Fast SSRP mode LECS Mastership State: active master list of global LECS addresses (23 seconds to update): 47.00918100000000603E5A4501.00603E5A4505.00 &lt;----- me ATM Address of this LECS: 47.00918100000000603E5A4501.00603E5A4505.00 (auto) vcd rxCnt txCnt callingParty 138 1 47 47.00918100000000603E5A4501.00603E5A4503.02 LES admin 1 active, fssrp 174 1 46 47.00918100000000603E5A4501.0030199AB871.02 LES admin 0 backup, fssrp cumulative total number of unrecognized packets received so far: 0 cumulative total number of config requests received so far: 26 cumulative total number of config failures so far: 3 cause of last failure: no configuration culprit for the last failure: 47.00918100000000603E5A4501.0030199AB870.03 With the command show lane config you can verify the Database indeed is being bound to the LECS. Casimir# show lane database FSSRPConfig LANE Config Server database table 'FSSRPConfig' bound to interface/s: ATM2/0/0 no default elan elan 'admin': un-restricted, elan-id 1 server 47.00918100000000603E5A4501.0030199AB871.02 (prio 0) server 47.00918100000000603E5A4501.00603E5A4503.02 (prio 1)
```

## 结论

当FSSRP启用在LAN网云的所有组件，LEC能加入备份LES/BUS。这在故障的情况下主要LAN仿真服务器/总线的一失败减少切换时间。

## show 与 debug 命令

[命令输出解释程序工具](#) ( [仅限注册用户](#) ) 支持某些 **show** 命令，使用此工具可以查看对 show 命令输出的分析。

- [show LANE client detail](#)
- [show lane server](#)
- [show LANE database](#)
- [show LANE config](#)
- [debug lane client state](#)
- [debug lane server](#)
- [debug LANE config events](#)

## 相关信息

- [ATM LANE快速简单服务器冗余协议](#)
- [LANE 高级设置 - 使用两个物理网络的 SSRP](#)
- [LANE 设计推荐](#)
- [LANE技术支持](#)
- [ATM技术支持](#)
- [技术支持和文档 - Cisco Systems](#)