

FSSRP 示例配置

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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](#)。

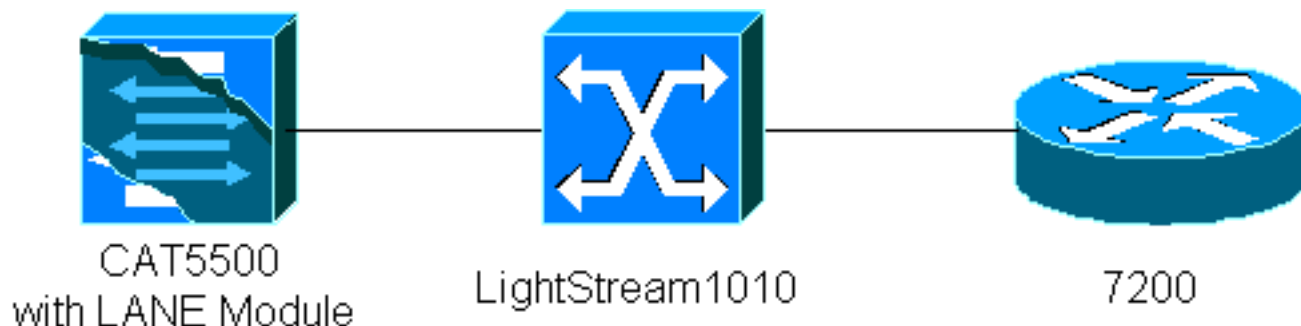
配置

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 gsaal
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 gsaal
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](#)

LECS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 &alt----- 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](#)