

配置 PC 作为使用 L3 SSG/SSD 的 PPPoA 客户端

Contents

[Introduction](#)

[开始使用前](#)

[Conventions](#)

[Prerequisites](#)

[Components Used](#)

[Configure](#)

[Network Diagram](#)

[配置](#)

[RADIUS配置文件](#)

[Verify](#)

[Troubleshoot](#)

[有何单个登录SSD 2.5.1功能？](#)

[什么，在我配置SSG和SSD前，需要了解？](#)

[应做什么，在启动后PPPoA会话，但是，在设置前SSD登录？](#)

[如何测试SSD单一登录功能？](#)

[如何运行SSD调试？](#)

[示例调试输出](#)

[NRP1输出](#)

[\(LAC\)输出的L2TP接入集中器](#)

[LNS输出](#)

[Related Information](#)

[Introduction](#)

在本文描述的配置示例显示访问互联网服务提供商的一个远程客户端(ISP)网络使用在异步传输模式的点对点协议(PPPoA)。

使用第3层服务选择网关/服务选择公告(SSG/SSD)，远程客户端要访问一项第2层隧道协议服务。L2TP服务在配置表示用15.15.15.5的主机IP地址。使用动态主机配置协议(DHCP)，Cisco 677提供一个IP地址给从10.0.0.2 IP地址池的PC给10.0.0.254，以255.255.255.0掩码。并且，端口地址转换(PAT)在Cisco 677被启用。

有此配置示例的三个测试：

- 在服务的不同的步骤的期间与SS相关的调试由远程客户端登录。
- 单个登录SSD 2.5.1功能。
- 启用SSD调试。

开始使用前

Conventions

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

Prerequisites

本文档没有任何特定的前提条件。

Components Used

本文档中的信息基于以下软件和硬件版本。

- Cisco C6400R软件(C6400R-G4P5-M)，版本12.1(5)DC1
- Cisco7200软件(C7200-IS-M)，版本12.2(1)

本文档中的信息都是基于特定实验室环境中的设备创建的。All of the devices used in this document started with a cleared (default) configuration.如果您是在真实网络上操作，请确保您在使用任何命令前已经了解其潜在影响。

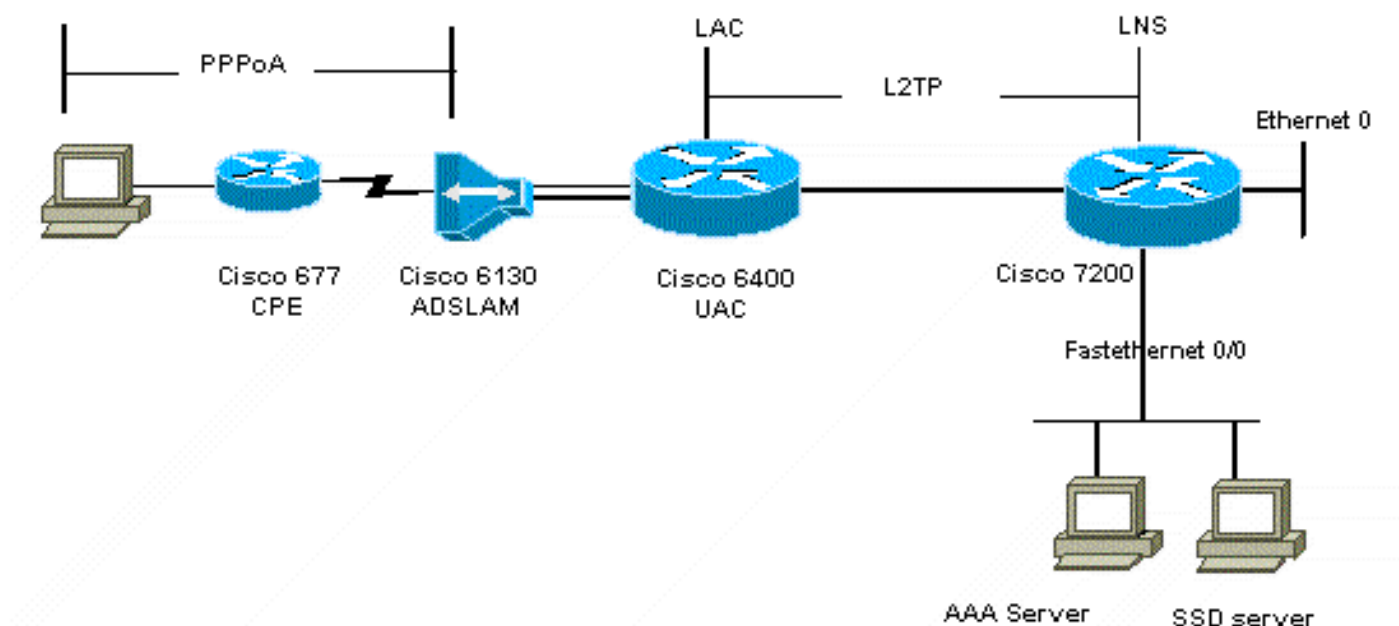
Configure

本部分提供有关如何配置本文档所述功能的信息。

Note: 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](#)）。

Network Diagram

本文档使用下图所示的网络设置。



配置

本文档使用如下所示的配置。

- [Cisco 6400 LAC \(airielle_nrp3\)](#)
- [Cisco 7204 LNS \(主机名- ior\)](#)
- [Cisco 677](#)

Cisco 6400 LAC (airielle_nrp3)

```
Building configuration...
```

```
Current configuration : 125008 bytes
```

```
!  
! Last configuration change at 02:11:30 UTC Mon Jun 18  
2001  
! NVRAM config last updated at 00:43:51 UTC Mon Jun 18  
2001  
!  
version 12.1  
no service single-slot-reload-enable  
service timestamps debug datetime msec  
service timestamps log uptime  
no service password-encryption  
!  
hostname arielle_nrp3  
!  
boot system tftp c6400r-g4p5-mz.121-5.DC1 172.17.247.195  
logging rate-limit console 10 except errors  
aaa new-model  
aaa authentication login default none  
aaa authentication login tty enable  
aaa authentication ppp ayman group radius  
aaa nas port extended  
enable password ww  
!  
username ayman@cairo.com password 0 ayman  
redundancy  
main-cpu  
  auto-sync standard  
no secondary console enable  
ip subnet-zero  
ip cef  
no ip finger  
no ip domain-lookup  
!  
!  
vpdn enable  
no vpdn logging  
vpdn search-order domain  
!  
!  
ssg enable  
ssg default-network 10.200.56.0 255.255.255.0  
ssg service-password cisco  
ssg radius-helper auth-port 1645 acct-port 1646  
ssg radius-helper key cisco  
ssg next-hop download nxthoptbl cisco  
ssg bind direction downlink Virtual-Template66
```

```
ssg service-search-order remote local
!
!
interface Loopback3
ip address 200.200.200.1 255.255.255.252
!
!
interface ATM0/0/0.61 point-to-point
description LAC L2TP connection to Ior
ip address 14.14.14.6 255.255.255.252
pvc 61/61
 broadcast
 encapsulation aal5snap
!
!
!
interface ATM0/0/0.5555 multipoint
pvc 66/66
 encapsulation aal5mux ppp Virtual-Template66
!
!
!
interface Ethernet0/0/1
no ip address
!
interface Ethernet0/0/0
ip address 3.0.0.2 255.255.255.0
no ip mroute-cache
shutdown
tag-switching ip
!
interface FastEthernet0/0/0
ip address 10.200.56.6 255.255.255.0
no ip mroute-cache
half-duplex
!
!
interface Virtual-Template66
ip unnumbered Loopback3
peer default ip address pool ayman
ppp authentication pap ayman
!
!
router eigrp 5
network 14.14.14.4 0.0.0.3
no auto-summary
no eigrp log-neighbor-changes
!
ip local pool ayman 212.93.193.114 212.93.193.126
ip route 10.0.0.0 255.255.255.0 212.93.193.114
!
radius-server host 10.200.56.16 auth-port 1645 acct-port
1646
radius-server retransmit 3
radius-server attribute 25 nas-port format d
radius-server attribute nas-port format d
radius-server key cisco
!
!
line con 0
exec-timeout 0 0
login authentication tty
transport input none
line aux 0
```

```
line vty 0 4
exec-timeout 0 0
password ww
login authentication tty
!
end
```

Cisco 7204 LNS (主机名- ior)

```
Building configuration...

Current configuration : 6769 bytes
!
version 12.2
no service single-slot-reload-enable
service timestamps debug datetime msec localtime show-
timezone
service timestamps log datetime localtime show-timezone
no service password-encryption
!
hostname ior
!
boot system flash c7200-is-mz.122-1.bin
logging buffered 16384 debugging
logging rate-limit console 10 except errors
aaa new-model
aaa authentication login default none
aaa authentication login tty enable
aaa authentication ppp ayman local
aaa nas port extended
enable password 7 03134C
!
username ayman@cairo.com password 0 ayman
clock timezone GMT+1 1
clock summer-time PDT recurring
ip subnet-zero
no ip source-route
ip cef
!
!
no ip finger
ip tcp window-size 8192
ip ftp username tftp
ip ftp password 7 061118
ip host rund 172.17.247.195
ip host PAGENT-SECURITY-V3 57.63.30.76 95.26.0.0
!
!
!
!
!
vpdn enable
no vpdn logging
vpdn search-order domain
!
vpdn-group 1
accept-dialin
    protocol l2tp
    virtual-template 24
terminate-from hostname nap
local name cairo
l2tp tunnel password 7 052827261363
!
```

```
!  
interface Loopback1  
ip address 212.93.194.5 255.255.255.252  
!  
interface Loopback2  
ip address 15.15.15.5 255.255.255.252  
!  
!  
interface FastEthernet0/0  
ip address 10.200.56.2 255.255.255.0  
ip ospf network point-to-multipoint  
no ip mroute-cache  
load-interval 60  
duplex half  
no cdp enable  
!  
interface ATM2/0  
no ip mroute-cache  
atm pvc 1 0 5 qsaal  
atm pvc 2 0 16 ilmi  
no atm ilmi-keepalive  
!  
!  
!  
!  
!  
interface ATM2/0.61 point-to-point  
description L2TP tunnel link  
ip address 14.14.14.5 255.255.255.252  
pvc 61/61  
    broadcast  
    encapsulation aal5snap  
!  
!  
interface ATM2/0.5555 multipoint  
pvc 55/55  
    encapsulation aal5mux ppp Virtual-Template24  
!  
!  
!  
interface Virtual-Template24  
ip unnumbered Loopback1  
peer default ip address pool SSG-L2TP  
ppp authentication pap ayman  
!  
!  
router eigrp 5  
network 14.14.14.4 0.0.0.3  
network 15.15.15.4 0.0.0.3  
no auto-summary  
no eigrp log-neighbor-changes  
!  
!  
ip route 212.93.193.112 255.255.255.252 14.14.14.6  
ip local pool SSG-L2TP 212.93.197.114 212.93.197.126  
radius-server host 10.200.56.16 auth-port 1645 acct-port  
1646  
radius-server retransmit 3  
radius-server attribute 25 nas-port format d  
radius-server attribute nas-port format d  
radius-server key cisco  
radius-server vsa send accounting  
radius-server vsa send authentication  
!
```

```
!  
!  
!  
line con 0  
exec-timeout 0 0  
password 7 010411  
login authentication tty  
transport input none  
line aux 0  
password 7 021113  
line vty 0 4  
exec-timeout 0 0  
password 7 010411  
login authentication tty  
line vty 5 15  
!  
end  
!
```

在您实现新的配置前，您必须重置Cisco 677到其默认配置。要恢复默认配置请使用**set nvram erase**命令;例如：

```
cbos#set nvram erase  
Erasing running configuration.  
You must use "write" for changes to be permanent.
```

```
cbos#write  
NVRAM written.
```

```
cbos#reboot
```

启用在Cisco 677 Cisco宽带操作系统(CBOS)的DHCP服务功能自动地创建名为的一个池"pool0"并且分配10.0.0.0子网与255.255.255.0掩码的。默认情况下，Cisco 677以太网接口的IP地址分配10.0.0.1的地址，并且"pool0"然后能租用在10.0.0.2和10.0.0.254之间的IP地址本地LAN clients/PC的。

Cisco 677

```
cbos#set nvram erase  
Erasing running configuration.  
You must use "write" for changes to be permanent.
```

```
cbos#write  
NVRAM written.
```

```
cbos#reboot
```

[RADIUS配置文件](#)

以下远程拨入用户服务(RADIUS)配置文件是为异地用户和为服务。

- [远程用户Hisham配置文件](#)
- [配置文件服务组传播](#)
- [服务组城市配置文件](#)
- [cairo.com服务配置文件](#)
- [下一跳表配置文件](#)

远程用户Hisham配置文件

```
cbos#set nvram erase
Erasing running configuration.
You must use "write" for changes to be permanent.

cbos#write
NVRAM written.

cbos#reboot
```

配置文件服务组传播

```
cbos#set nvram erase
Erasing running configuration.
You must use "write" for changes to be permanent.

cbos#write
NVRAM written.

cbos#reboot
```

服务组城市配置文件

```
cbos#set nvram erase
Erasing running configuration.
You must use "write" for changes to be permanent.

cbos#write
NVRAM written.

cbos#reboot
```

cairo.com服务配置文件

```
cbos#set nvram erase
Erasing running configuration.
You must use "write" for changes to be permanent.

cbos#write
NVRAM written.

cbos#reboot
```

下一跳表配置文件

```
cbos#set nvram erase
Erasing running configuration.
You must use "write" for changes to be permanent.

cbos#write
NVRAM written.

cbos#reboot
```

[Verify](#)

当前没有可用于此配置的验证过程。

Troubleshoot

有何单个登录SSD 2.5.1功能？

此功能适用于SSD服务器。当SSD服务器找不到在其高速缓冲存储器数据库的一个主机对象发送HTTP数据流时的远程客户端的，发送一个访问请求到SSG。如果SSG有一个主机对象，发送一次访问接受消息对SSD。用户能然后准许对服务的访问。

如果没有在SSD或SSG的主机对象，则用户在与正常SSD登录认证程序的SSD应该验证。

什么，在我配置SSG和SSD前，需要了解？

在您配置SSD或SSG前，您必须验证以下：

- SSD、SSG，并且验证、授权和统计(AAA)是运行的全部和所有网络实体能互相连接。
- 异地用户能在注册前ping在默认网络(SSG的所有主机，SSD，AAA)到SSD服务器。
- 网络接入提供商(NAP)，在这种情况下Cisco 6400 NRP1，能ping服务目的网络。
- 远程客户端不能ping远程服务目的地网络。

应做什么，在起动后PPPoA会话，但是，在设置前SSD登录？

在配置后所有SSG命令，您必须验证顺利地下载了用户服务的下一跳表。发出**show ssg binding**命令。

```
arielle_nrp3# show ssg binding
cairo.com_key      -> 14.14.14.5 (NHT)
```

```
arielle_nrp3# show ssg next-hop
Next hop table loaded from profile nxthoptbl:
cairo.com_key      -> 14.14.14.5
End of next hop table.
```

检查所有您的方向捆绑是活跃的在SSG。

```
arielle_nrp3# show ssg direction
Virtual-Template66: Downlink
!--- You can verify this by enabling debug ssg ctrl-events after the !--- remote user tries to
initiate its PPPoA session to access the NRP.
```

```
Jun 18 02:13:12.791: SSG-CTL-EVN: Handling PPP logon for user hisham.
Jun 18 02:13:12.791: SSG-CTL-EVN: Locate/create SSG sub-block from/for Virtual-Access3.
Jun 18 02:13:12.791: SSG-CTL-EVN: Checking for old HostObject in the sub-block.
Jun 18 02:13:12.791: SSG-CTL-EVN: SSG: pptterm: NO extra data for PPP logon
Jun 18 02:13:12.791: SSG-CTL-EVN: Authenticating user hisham for PPP logon.
Jun 18 02:13:12.799: SSG-CTL-EVN: Creating HostObject for the PPP user hisham.
Jun 18 02:13:12.799: SSG-CTL-EVN: Set Host Mac Address .
Jun 18 02:13:12.799: SSG-CTL-EVN: ** attr->type = 6
Jun 18 02:13:12.799: SSG-CTL-EVN: ATTR_LOOP = 1
Jun 18 02:13:12.799: SSG-CTL-EVN: ** attr->type = 7
Jun 18 02:13:12.799: SSG-CTL-EVN: ATTR_LOOP = 2
Jun 18 02:13:12.799: SSG-CTL-EVN: ATTR_LOOP = 3
Jun 18 02:13:12.799: SSG-CTL-EVN: ATTR_LOOP = 4
Jun 18 02:13:12.799: SSG-CTL-EVN: PPP logon for user hisham is accepted.
```

The link is Virtual-Access3

Jun 18 02:13:12.799: SSG-CTL-EVN: Bind the HostObject to Virtual-Access3.

```
!--- Downlink binding success. Jun 18 02:13:12.867: SSG-CTL-EVN: IPCP is up. Locate SSG sub-
block from Virtual-Access3. Jun 18 02:13:12.871: SSG-CTL-EVN: Locate HostObject from the sub-
block. Jun 18 02:13:12.871: SSG-CTL-EVN: Set Host IP 212.93.193.114. !--- Host object is
created. Jun 18 02:13:12.879: SSG-CTL-EVN: Host Mac Address lookup failed Jun 18 02:13:12.879:
SSG-CTL-EVN: Activate the HostObject. Link=Virtual-Access3 !--- Host object is active. Jun 18
02:13:12.879: SSG-CTL-EVN: ##### ssg_l2tp_ip_up: 03:49:01: %LINEPROTO-5-UPDOWN: Line protocol on
Interface Virtual-Access3, changed state to up
```

当客户端启动HTTP会话对SSD服务器时，用户看到SSD服务器登录主页。

Note: 切记通过发出unix shell命令root@crazyball[/export/home/ssd251/ssd]startSSD.sh开始SSD服务器操作。

如何测试SSD单一登录功能？

1. 配置参数(REAUTHENTICATE=off)在dashboard.conf文件。DEFAULT值是 REAUTHENTICATE=on。
2. 对任何网页的登录在SSD。例如，而您被注册对cairo.com服务主页，请关闭您的浏览器，再然后打开它与http://10.200.56.40:8080。

在SSD的主机对象仍然在高速缓冲存储器，因此您应该能再登录到SSD服务页您被记录了在以前上。默认行为是重新鉴别在SSD;即您必须达到SSD登录主页。

如何运行SSD调试？

1. 键入在浏览器的地址栏的https://10.200.56.40:8443/log。
2. 点击**集合选项**。所有调试您选择了运行，并且输出登陆日志文件。日志文件名的格式是 yy_mm_dd.request.log。
3. 连接对在日志文件驻留的SSD服务器的目录。
4. 使用UNIX编辑器，请打开文件/export/home/ssd251/ssd/logs/vi yy_mm_dd.request.log查看调试输出。

示例调试输出

NRP1输出

```
arielle_nrp3# show debugging
SSG:
SSG data path packets debugging is on
SSG control path events debugging is on
SSG control path packets debugging is on
SSG packets debugging is on
Radius protocol debugging is on
Just before the SSD logon, the output of these debugs are :
Jun 18 23:30:08.414:
SSG-DATA:CEF-SSGSubBlock=0(AT0/0/0.61:0.0.0.0->0.0.0.0)
Jun 18 23:30:09.530:
SSG-DATA:CEF-FIB_FLAG_RECEIVE=1(Vi3:212.93.193.114->10.200.56.6)
Jun 18 23:30:11.142:
SSG-DATA:CEF-SSGSubBlock=0(AT0/0/0.61:0.0.0.0->0.0.0.0)
Jun 18 23:30:11.494:
SSG-DATA:CEF-FIB_FLAG_RECEIVE=1(Vi3:212.93.193.114->10.200.56.6)
Jun 18 23:30:12.482:
```

SSG-DATA:CEF-FIB_FLAG_RECEIVE=1(Vi3:212.93.193.114->10.200.56.6)
Jun 18 23:30:13.310:
SSG-DATA:CEF-SSGSubBlock=0(AT0/0/0.61:0.0.0.0->0.0.0.0)
Jun 18 23:30:14.462:

Jun 18 23:39:39.610: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 18 23:39:39.638:
SSG-DATA:CEF-UP-DefaultNetwork=1(Vi3:212.93.193.114->10.200.56.40)
Jun 18 23:39:39.638:
SSG-DATA:CEF-UP-DefaultNetwork=1(Vi3:212.93.193.114->10.200.56.40)
Jun 18 23:39:39.642: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 18 23:39:39.642:
SSG-DATA:CEF-UP-DefaultNetwork=1(Vi3:212.93.193.114->10.200.56.40)
Jun 18 23:39:39.646: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 18 23:39:39.674:
SSG-DATA:CEF-UP-DefaultNetwork=1(Vi3:212.93.193.114->10.200.56.40)
Jun 18 23:39:39.678:
SSG-DATA:CEF-UP-DefaultNetwork=1(Vi3:212.93.193.114->10.200.56.40)
Jun 18 23:39:39.678: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 18 23:39:39.682:
SSG-DATA:CEF-UP-DefaultNetwork=1(Vi3:212.93.193.114->10.200.56.40)
Jun 18 23:39:39.686:
SSG-DATA:CEF-UP-DefaultNetwork=1(Vi3:212.93.193.114->10.200.56.40)
Jun 18 23:39:39.686: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 18 23:39:39.698: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 18 23:39:39.742: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 18 23:39:39.926: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 18 23:39:39.926: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 18 23:39:39.926: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 18 23:39:39.926: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)

Jun 19 00:39:17.477: RADIUS: Initial Transmit id 18 10.200.56.16:1645,
Access-Request, len 58
Jun 19 00:39:17.477: Attribute 4 6 D45DC301
Jun 19 00:39:17.477: Attribute 61 6 00000000
Jun 19 00:39:17.477: Attribute 1 8 68697368
Jun 19 00:39:17.477: Attribute 2 18 31B0CDC2
Jun 19 00:39:17.481: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 19 00:39:17.481: RADIUS: Received from id 18 10.200.56.16:1645,
Access-Accept, len 70
Jun 19 00:39:17.481: Attribute 6 6 00000002
Jun 19 00:39:17.481: Attribute 7 6 00000001
Jun 19 00:39:17.481: Attribute 26 20 00000009FA0E4754
Jun 19 00:39:17.481: Attribute 26 18 00000009FA0C4742
Jun 19 00:39:17.481: RADIUS: saved authorization data for user 61E73934 at
61E72A58
Jun 19 00:39:17.481: SSG-CTL-EVN: Creating HostObject for host
212.93.193.114.
Jun 19 00:39:17.489: SSG-CTL-EVN: Set Host Mac Address .
Jun 19 00:39:17.489: SSG-CTL-EVN: ** attr->type = 6
Jun 19 00:39:17.489: SSG-CTL-EVN: ATTR_LOOP = 1
Jun 19 00:39:17.489: SSG-CTL-EVN: ** attr->type = 7
Jun 19 00:39:17.493: SSG-CTL-EVN: ATTR_LOOP = 2
Jun 19 00:39:17.493: SSG-CTL-EVN: ATTR_LOOP = 3
Jun 19 00:39:17.493: SSG-CTL-EVN: ATTR_LOOP = 4
Jun 19 00:39:17.493: SSG-CTL-EVN: Account logon is accepted
(212.93.193.114,hisham).

arielle_nrp3# show ssg host 212.93.193.114

----- HostObject Content -----
Activated: TRUE
Interface: Virtual-Access3
User Name: hisham

```
Host IP: 212.93.193.114
Msg IP: 10.200.56.40 (9902)
Host DNS IP: 0.0.0.0
Maximum Session Timeout: 0 seconds
Host Idle Timeout: 0 seconds
Class Attr: NONE
User logged on since: 01:54:33.000 UTC Tue Jun 19 2001
User last activity at: 01:54:33.000 UTC Tue Jun 19 2001
Default Service: NONE
DNS Default Service: NONE
Active Services: NONE
```

```
!--- No Services are active yet. AutoService: NONE Subscribed Services: The following output
also results from the debug commands that are turned on before the SSD logon. Jun 19
02:06:39.529: SSG-DATA:CEF-FIB_FLAG_RECEIVE=1(Vi3:212.93.193.114->10.200.56.6) Jun 19
02:06:40.789: SSG-DATA:CEF-MulticastDest=1(AT0/0/0.61:14.14.14.5->224.0.0.10) Jun 19
02:06:41.581: SSG-DATA:CEF-FIB_FLAG_RECEIVE=1(Vi3:212.93.193.114->10.200.56.6) Jun 19
02:06:42.509: SSG-DATA:CEF-FIB_FLAG_RECEIVE=1(Vi3:212.93.193.114->10.200.56.6) Jun 19
02:06:43.313: SSG-DATA:CEF-UP-DefaultNetwork=1(Vi3:212.93.193.114->10.200.56.40) Jun 19
02:06:43.313: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0) Jun 19 02:06:43.349: SSG-
DATA:CEF-UP-DefaultNetwork=1(Vi3:212.93.193.114->10.200.56.40) Jun 19 02:06:43.353:
arielle_nrp3# show ssg host 212.93.193.114
```

```
----- HostObject Content -----
```

```
Activated: TRUE
Interface: Virtual-Access3
User Name: hisham
Host IP: 212.93.193.114
Msg IP: 10.200.56.40 (9902)
```

```
!--- Message server IP & port address, and TCP port used. !--- This is configured in the
dashboard.conf file. Host DNS IP: 0.0.0.0 Maximum Session Timeout: 0 seconds Host Idle Timeout:
0 seconds Class Attr: NONE User logged on since: 01:54:33.000 UTC Tue Jun 19 2001 User last
activity at: 01:54:33.000 UTC Tue Jun 19 2001 Default Service: NONE DNS Default Service: NONE
Active Services: NONE AutoService: NONE Subscribed Services: arielle_nrp3#
```

这时用户未注册对任何服务。客户端首先看到中东，开罗，然后在服务列表的Egyptian Capital在SSD网页。在客户端点击Egyptian Capital后，用户名和密码字段在页上出现。激活的服务未被关联给客户端。用户名和密码客户端提供获得访问到cairo.com服务必须匹配L2TP网络服务器配置的那些(LNS)。在此设置，LNS本地验证用户。用户名是ayman@cairo.com，并且密码是ayman。

(LAC)输出的L2TP接入集中器

```
arielle_nrp3# show debugging
```

```
SSG:
SSG data path packets debugging is on
SSG control path events debugging is on
SSG control path packets debugging is on
SSG packets debugging is on
```

```
VPN:
L2X protocol events debugging is on
L2X data packets debugging is on
L2X control packets debugging is on
L2TP data sequencing debugging is on
Radius protocol debugging is on
```

```
Jun 19 02:34:48.121:
SSG-DATA:CEF-FIB_FLAG_RECEIVE=1(Vi3:212.93.193.114->10.200.56.6)
Jun 19 02:34:48.157:
SSG-DATA:CEF-FIB_FLAG_RECEIVE=1(Vi3:212.93.193.114->10.200.56.6)
Jun 19 02:34:49.681:
SSG-DATA:CEF-UP-DefaultNetwork=1(Vi3:212.93.193.114->10.200.56.40)
Jun 19 02:34:49.685: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 19 02:34:49.717:
```

```
SSG-DATA:CEF-UP-DefaultNetwork=1(Vi3:212.93.193.114->10.200.56.40)
Jun 19 02:34:49.725:
SSG-DATA:CEF-UP-DefaultNetwork=1(Vi3:212.93.193.114->10.200.56.40)
Jun 19 02:34:49.725: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 19 02:34:49.777: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 19 02:34:49.777: SSG-CTL-PAK: Received Packet:
sIP=10.200.56.40 sPort=37638 dIP=10.200.56.6 dPort=1645
Jun 19 02:34:49.777:   header: code=1, id=19, len=102,
auth=3F53BB3F2939DAA1E5D9435792491CD3
Jun 19 02:34:49.777:   attr: type=1, len=17, val=ayman@cairo.com
Jun 19 02:34:49.777:   attr: type=2, len=18, val=(89)(C4)/}(BB)(8F)
Jun 19 02:34:49.777:   attr: type=6, len=6, val=(00)(00)(00)(02)
Jun 19 02:34:49.777:   attr: type=26, len=23,

Jun 19 02:34:49.777: SSG-CTL-EVN: Downloading service profile for service
cairo.com.
Jun 19 02:34:49.777: RADIUS: ustruct sharecount=1
Jun 19 02:34:49.777: RADIUS: Initial Transmit id 73 10.200.56.16:1645,
Access-Request, len 67
Jun 19 02:34:49.777:   Attribute 4 6 D45DC301
Jun 19 02:34:49.777:   Attribute 61 6 00000000
Jun 19 02:34:49.777:   Attribute 1 11 63616972
Jun 19 02:34:49.777:   Attribute 2 18 51CF64B7
Jun 19 02:34:49.777:   Attribute 6 6 00000005
Jun 19 02:34:49.785: SSG-DATA:CEF-SSGSubBlock=0(Fa0/0/0:0.0.0.0->0.0.0.0)
Jun 19 02:34:49.785: RADIUS: Received from id 73 10.200.56.16:1645,
Access-Accept, len 275
Jun 19 02:34:49.785:   Attribute 6 6 00000005
Jun 19 02:34:49.785:   Attribute 26 27 0000000901157670
Jun 19 02:34:49.785:   Attribute 26 40 0000000901227670
Jun 19 02:34:49.785:   Attribute 26 30 0000000901187670
Jun 19 02:34:49.785:   Attribute 26 37 00000009011F7670

Jun 19 02:34:49.789: SSG-CTL-EVN: ##### ssg_l2tp_disc_cause: termCause=1026
Jun 19 02:34:49.789: SSG-CTL-EVN: ssg_l2tp_disc_routine:
Jun 19 02:34:49.801: SSG-CTL-EVN: Checking service mode.
Jun 19 02:34:49.801: SSG-CTL-EVN: ServiceLogon: Enqueue request of service
cairo.com
```

```
arielle_nrp3# show ssg host 212.93.193.114
```

```
----- HostObject Content -----
```

```
Activated: TRUE
Interface: Virtual-Access3
User Name: hisham
Host IP: 212.93.193.114
Msg IP: 10.200.56.40 (9902)
Host DNS IP: 0.0.0.0
Maximum Session Timeout: 0 seconds
Host Idle Timeout: 0 seconds
Class Attr: NONE
User logged on since: 01:54:33.000 UTC Tue Jun 19 2001
User last activity at: 02:34:49.000 UTC Tue Jun 19 2001
Default Service: NONE
DNS Default Service: NONE
Active Services: cairo.com
!--- A service is active. AutoService: NONE Subscribed Services: arielle_nrp3# show ssg service
cairo.com
```

```
----- ServiceInfo Content -----
```

```
Uplink IDB:
Name: cairo.com
Type: TUNNEL
Mode: CONCURRENT
Service Session Timeout: 0 seconds
```

```
Service Idle Timeout: 0 seconds
Authentication Type: CHAP
Next Hop Gateway Key: cairo.com_key
DNS Server(s):
TunnelId: nap
TunnelPassword: CAIRO
HomeGateway Addresses: 15.15.15.5
Included Network Segments:
15.15.15.4/255.255.255.252
Excluded Network Segments:
ConnectionCount 1
Full User Name not used
Domain List: cairo.com;
Active Connections:
1 : RealIP=212.93.197.114, Subscriber=212.93.193.114
----- End of ServiceInfo Content -----
```

在以上输出，RealIP是业务网产生的IP地址用户Hisham。订户字段显示SSG NRP访问网络产生IP地址用户Hisham。

```
arielle_nrp3# show ssg connection 212.93.193.114 cairo.com
----- ConnectionObject Content -----
User Name: ayman@cairo.com Owner
Host: 212.93.193.114 Associated Service: cairo.com Connection State: 0 (UP) Connection
Started since: 02:34:51.000 UTC Tue Jun 19 2001 User last activity at: 02:34:51.000
UTC Tue Jun 19 2001 Connection Real IP: 212.93.197.114 L2TP VIDB: Virtual-Access4
L2TP Session Key: 0 Connection Traffic Statistics: Input Bytes = 0 (HI = 0), Input
packets = 0 Output Bytes = 0 (HI = 0), Output packets = 0
```

[LNS输出](#)

```
ior# show debugging VPN
L2X protocol events debugging is on
L2X data packets debugging is on
L2X control packets debugging is on
L2TP data sequencing debugging is on

*Jun 18 19:27:09.851 PDT: L2X: Parse AVP 0, len 8, flag 0x8000 (M)
*Jun 18 19:27:09.851 PDT: L2X: Parse SCCRQ
*Jun 18 19:27:09.851 PDT: L2X: Parse AVP 2, len 8, flag 0x8000 (M)
*Jun 18 19:27:09.851 PDT: L2X: Protocol Ver 256
*Jun 18 19:27:09.851 PDT: L2X: Parse AVP 3, len 10, flag 0x8000 (M)
*Jun 18 19:27:09.851 PDT: L2X: Framing Cap 0x0
*Jun 18 19:27:09.851 PDT: L2X: Parse AVP 4, len 10, flag 0x8000 (M)
*Jun 18 19:27:09.851 PDT: L2X: Bearer Cap 0x0
*Jun 18 19:27:09.855 PDT: L2X: Parse AVP 6, len 8, flag 0x0

*Jun 18 19:27:09.855 PDT: L2X: I SCCRQ, flg TLS, ver 2, len 128, tnl 0, cl 0, ns 0, nr 0
C8 02 00 80 00 00 00 00 00 00 00 00 80 08 00 00
00 00 00 01 80 08 00 00 00 02 01 00 80 0A 00 00
00 03 00 00 00 00 80 0A 00 00 00 04 00 00 00 ...
*Jun 18 19:27:09.855 PDT: L2TP: I SCCRQ from nap tnl 13552
*Jun 18 19:27:09.855 PDT: Tnl 4818 L2TP: Got a challenge in SCCRQ, nap
*Jun 18 19:27:09.855 PDT: Tnl 4818 L2TP: New tunnel created for remote nap,
```

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