

使用L3 SSG/SSD將PC配置為PPPoA客戶端

目錄

[簡介](#)

[開始之前](#)

[慣例](#)

[必要條件](#)

[採用元件](#)

[設定](#)

[網路圖表](#)

[組態](#)

[RADIUS設定檔](#)

[驗證](#)

[疑難排解](#)

[單點登入SSD 2.5.1功能是什麼？](#)

[配置SSG和SSD之前，需要瞭解哪些資訊？](#)

[在PPPoA會話啟動後、設定SSD登入之前該怎麼做？](#)

[如何測試SSD單點登入功能？](#)

[如何運行SSD調試？](#)

[調試輸出示例](#)

[NRP1輸出](#)

[L2TP存取集中器\(LAC\)輸出](#)

[LNS輸出](#)

[相關資訊](#)

簡介

本文檔中介紹的示例配置顯示了使用非同步傳輸模式(PPPoA)上的點對點協定訪問Internet服務提供商(ISP)網路的遠端客戶端。

遠端使用者端想要使用第3層服務選取閘道/服務選取儀表板(SSG/SSD)存取第2層通道通訊協定(L2TP)服務。L2TP服務在配置中用主機IP地址15.15.15.5表示。使用動態主機配置協定(DHCP),Cisco 677將IP地址從10.0.0.2到10.0.0.254的地址池提供給PC，掩碼為255.255.255.0。此外，Cisco 677上啟用了埠地址轉換(PAT)。

此示例配置有三個測試：

- 遠端客戶端在服務登入的不同步驟中進行SSG相關的調試。
- 單點登入SSD 2.5.1功能。
- 啟用SSD調試。

開始之前

慣例

如需文件慣例的詳細資訊，請參閱[思科技術提示慣例](#)。

必要條件

本文件沒有特定先決條件。

採用元件

本檔案中的資訊是根據以下軟體和硬體版本。

- Cisco C6400R軟體(C6400R-G4P5-M)，版本12.1(5)DC1
- Cisco 7200軟體(C7200-IS-M)，版本12.2(1)

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您在即時網路中工作，請確保在使用任何命令之前瞭解其潛在影響。

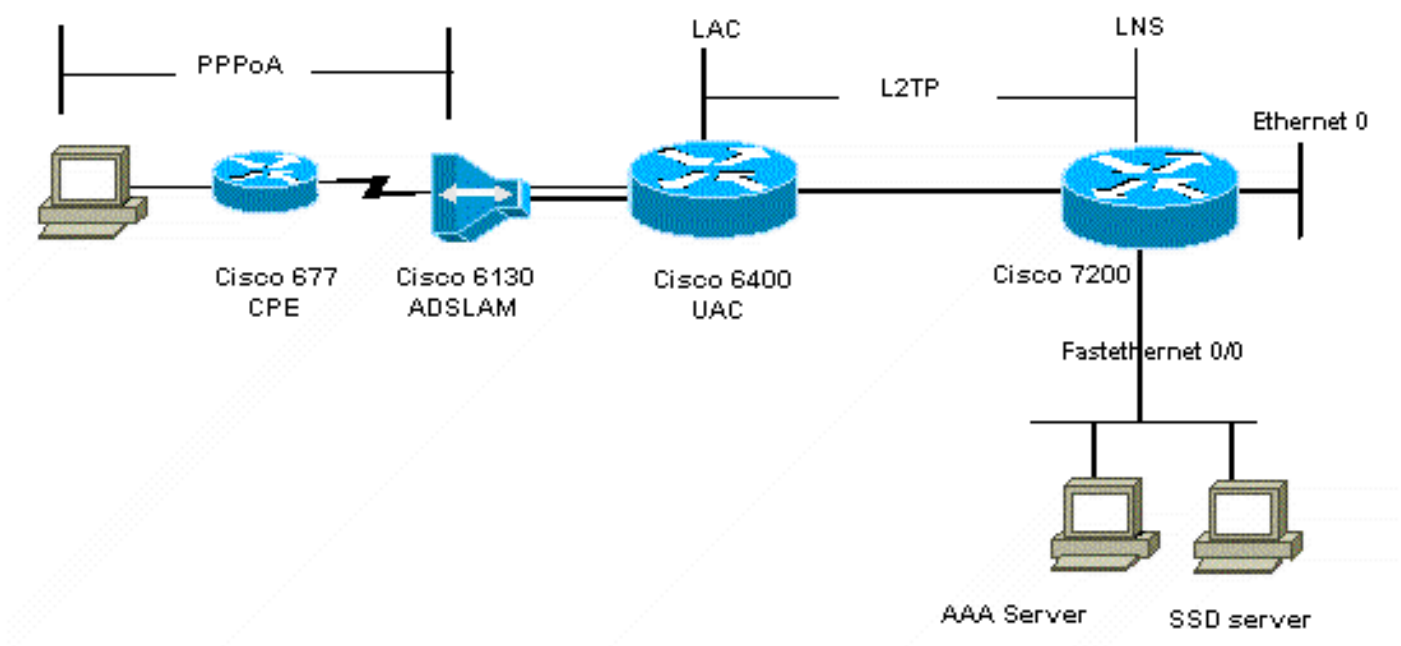
設定

本節提供用於設定本文件中所述功能的資訊。

注意：要查詢有關本文檔中使用的命令的其他資訊，請使用[命令查詢工具](#)（[僅限註冊客戶](#)）。

網路圖表

本文檔使用下圖所示的網路設定。



組態

本文檔使用如下所示的配置。

- [Cisco 6400 LAC\(airele_nrp3\)](#)
- [Cisco 7204 LNS \(主機名ior \)](#)
- [思科677](#)

Cisco 6400 LAC(airele_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 (主機名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
!
```

實施新配置之前，您必須將Cisco 677重置為其預設配置。若要還原預設組態，請使用**set nvram erase**指令；例如：

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

cbos#write
NVRAM written.

cbos#reboot
```

在Cisco 677 Cisco Broadband Operating System(CBOS)上啟用DHCP伺服器功能將自動建立一個名為「pool0」的池，並分配一個子網為10.0.0.0，掩碼為255.255.255.0。預設情況下，Cisco 677乙太網介面的IP地址分配的是10.0.0.1的地址，然後「pool0」可以為本地LAN客戶端租用10.0.0.254之間的IP地址/PC。

思科677

```
!--- This configuration must be done !--- after NVRAM
has been erased. set ppp wanipcp 0.0.0.0 set ppp wan0-0
login hisham set ppp wan0-0 password hisham set dhcp
server enabled set nat enabled set int wan0-0 close set
int wan0-0 vpi 1 set int wan0-0 vci 60 set int wan0-0
open write reboot
```

RADIUS設定檔

以下遠端撥入使用者服務(RADIUS)配置檔案適用於遠端使用者和服務。

- [遠端使用者hisham的配置檔案](#)
- [服務組差旅概況](#)
- [服務組城市概況](#)
- [cairo.com服務配置檔案](#)
- [下一跳表的配置檔案](#)

遠端使用者hisham的配置檔案

```
root@canonball[/opt/csecure/CLI]ViewProfile -p 9900 -u
hisham
User Profile Information
user = hisham{
profile_id = 119
profile_cycle = 11
member = ayman
radius=SSG-6400 {
check_items= {
2=hisham
}
reply_attributes= {
6=2
7=1
9,250="GTravelling"
}
}
}
```

服務組差旅概況

```
root@canonball[/opt/csecure/CLI]ViewProfile -p 9900 -u
Travelling
User Profile Information
user = Travelling{
profile_id = 165
profile_cycle = 3
member = Services
radius=SSG-6400 {
check_items= {
2=cisco
}
reply_attributes= {
6=5
9,250="IMiddle East"
9,250="GCities"
}
}
}
```

服務組城市概況

```
User Profile Information
user = Cities{
profile_id = 167
profile_cycle = 3
member = Services
radius=SSG-6400 {
check_items= {
2=cisco
}
reply_attributes= {
6=5
9,250="ICairo"
9,250="Ncairo.com"
}
}
}
```

cairo.com服務配置檔案

```
root@canonball[/opt/csecure/CLI]ViewProfile -p 9900 -u
cairo.com
```



```
User Profile Information
user = cairo.com{
profile_id = 144
profile_cycle = 17
member = Services
radius=SSG-6400 {
check_items= {
2=cisco
}
reply_attributes= {
6=5
9,1="vpdn:tunnel-id=nap"
9,1="vpdn:l2tp-tunnel-password=CAIRO"
9,1="vpdn:tunnel-type=l2tp"
9,1="vpdn:ip-addresses=15.15.15.5"
9,251="Ocairo.com"
9,251="R15.15.15.4;255.255.255.252"
9,251="TT"
9,251="IEgyptian Capital"
9,251="Gcairo.com_key"
}
}
}
```

下一跳表的配置檔案

```
root@canonball[/opt/csecure/CLI]ViewProfile -p 9900 -u
nxthoptbl
User Profile Information
user = nxthoptbl{
profile_id = 168
profile_cycle = 2
member = Services
radius=SSG-6400 {
check_items= {
2=cisco
}
reply_attributes= {
6=5
9,253="Gcairo.com_key;14.14.14.5"
}
}
}
```

驗證

目前沒有適用於此組態的驗證程序。

疑難排解

單點登入SSD 2.5.1功能是什麼？

此功能適用於SSD伺服器。當SSD伺服器在其快取資料庫中找不到傳送HTTP流量的遠端客戶端的主機對象時，它會向SSG傳送訪問請求。如果SSG有主機對象，則會向SSD傳送訪問接受消息。然後，使用者可以授予對服務的訪問許可權。

如果SSD或SSG上沒有主機對象，則使用者應使用正常的SSD登入身份驗證過程在SSD上進行身份驗證。

配置SSG和SSD之前，需要瞭解哪些資訊？

在配置SSD或SSG之前，必須驗證以下內容：

- SSD、SSG以及身份驗證、授權和記帳(AAA)都在運行，所有網路實體可以彼此ping通。
- 遠端使用者可以在登入到SSD伺服器之前，對預設網路(SSG、SSD、AAA)中的任何主機執行ping操作。
- 網路存取提供程式(NAP) (在本例中為Cisco 6400 NRP1) 可以ping服務目的地網路。
- 遠端客戶端無法對遠端服務目標網路執行ping操作。

在PPPoA會話啟動後、設定SSD登入之前該怎麼做？

配置完所有SSG命令後，必須驗證是否已成功下載使用者服務的下一跳表。發出**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.
```

檢查所有方向繫結在SSG上是否處於活動狀態。

```
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
```

當客戶端向SSD伺服器啟動HTTP會話時，使用者會看到SSD伺服器登入首頁。

注意：請記住通過發出UNIX shell命令root@crazyball[/export/home/ssd251/ssd]startSSD.sh來啟動SSD伺服器操作。

[如何測試SSD單點登入功能？](#)

1. 在dashboard.conf檔案中配置引數(REAUTHENTICATE=off)。預設值為 REAUTHENTICATE=on。
2. 登入到SSD上的任何網頁。例如，當您登入到cairo.com服務首頁時，請關閉瀏覽器，然後使用http://10.200.56.40:8080再次開啟瀏覽器。

SSD上的主機對象仍位於快取中，因此您應該能夠再次登入到之前登入的SSD服務頁面。預設行為是在SSD上重新進行身份驗證；也就是說，您必須進入SSD登入首頁。

[如何運行SSD調試？](#)

1. 在瀏覽器的位址列中鍵入https://10.200.56.40:8443/log。
2. 按一下「Set Option」。您選擇的所有調試都將運行，並且輸出將記錄在日誌檔案中。日誌檔名的格式為yy_mm_dd.request.log。
3. 導航到日誌檔案所在的SSD伺服器上的目錄。
4. 使用UNIX編輯器開啟/export/home/ssd251/ssd/logs]vi ymm_dd.request.log檔案以檢視調試輸出。

[調試輸出示例](#)

[NRP1輸出](#)

```
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#
```

此時，使用者尚未登入任何服務。客戶端首先在SSD網頁上的服務清單中看到中東、開羅、埃及首都。客戶端點選Egyptian Capital後，使用者名稱和密碼欄位將顯示在頁面上。尚未將任何活動服務與客戶端關聯。使用者端提供的使用者名稱和密碼必須與L2TP網路伺服器(LNS)設定的使用者名稱和密碼一致，才能存取cairo.com服務。在此設定中，LNS正在本地驗證使用者。使用者名稱為ayman@cairo.com，密碼為ayman。

L2TP存取集中器(LAC)輸出

```
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
```

```
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 -----
```

在上面的輸出中，RealIP是服務網路向使用者hisham提供的IP地址。Subscriber欄位顯示SSG NRP訪問網路為使用者hisham指定的IP地址。

```
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輸出](#)

```
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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