

Configuración básica de switch Huawei

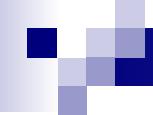


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**ETECSA
División Territorial de Villa Clara
2013**

Objetivos

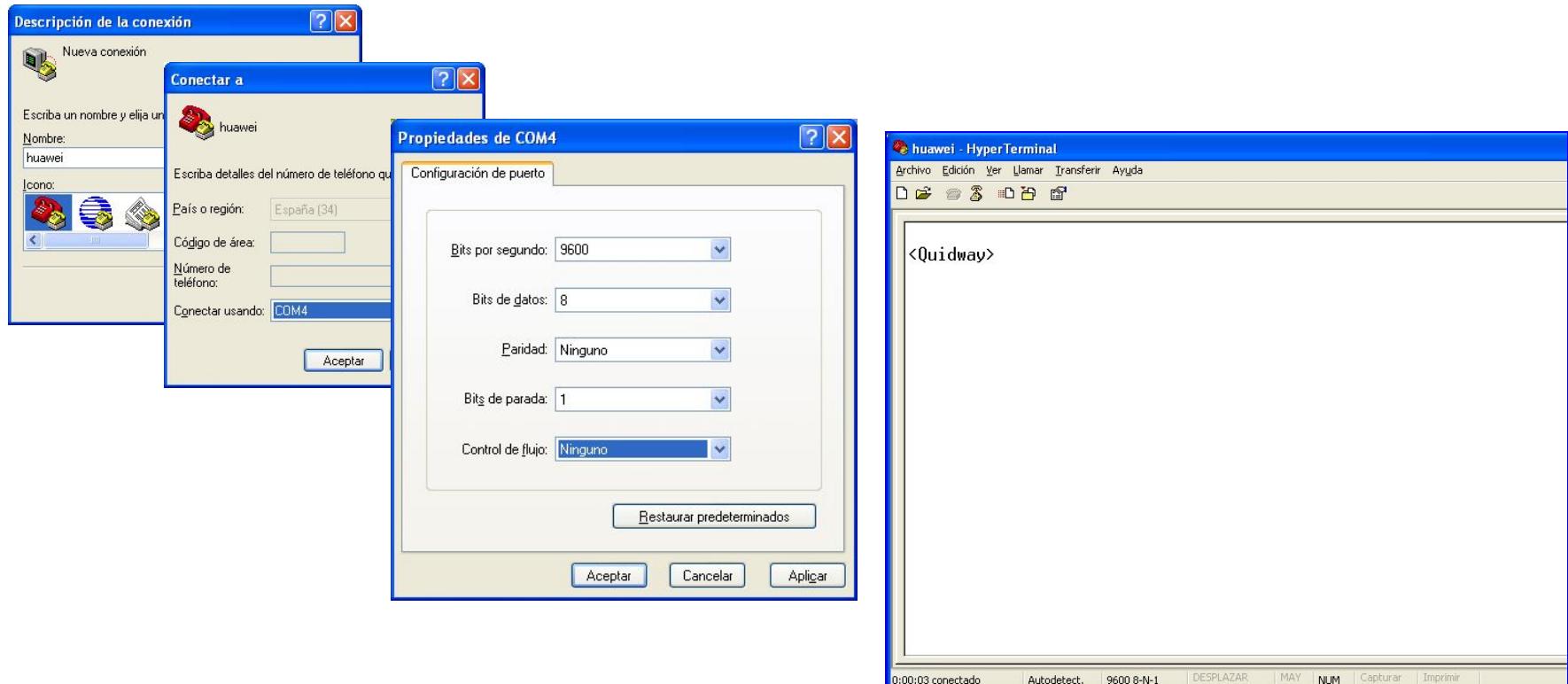
- Describir las características de los switch huawei
- Utilizar las principales tecnologías de los switch L2
 - VLANs
 - SNMP
 - ACLs
 - Spanning Tree
 - Port Mirroring
 - Troncales por agregación de enlaces
- Familiarizarse con la CLI de Huawei
- Aprender a configurar un switch Huawei con los elementos básicos



Administración

- Consola de administración local (interfaz RS232)
- Telnet
- SSH
- HTTP

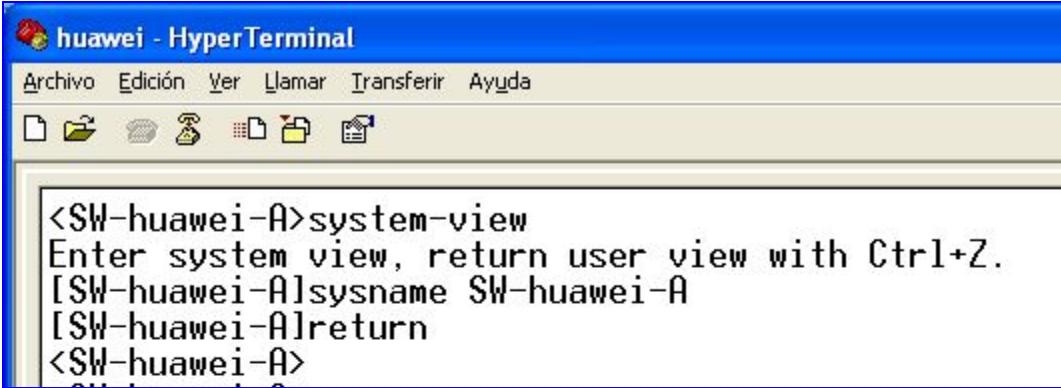
Conexión inicial con el SW Huawei



- Conexión usando la interfaz RS232 y el software HyperTerminal

Ponerle nombre al equipo

```
system-view  
sysname SW-huawei-A  
return
```

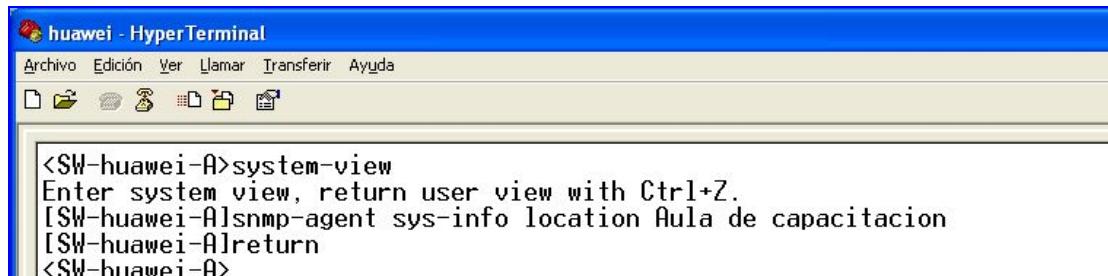


The screenshot shows the 'huawei - HyperTerminal' window. The menu bar includes 'Archivo', 'Edición', 'Ver', 'Llamar', 'Transferir', and 'Ayuda'. Below the menu is a toolbar with icons for file operations. The main terminal window displays the following text:

```
<SW-huawei-A>system-view
Enter system view, return user view with Ctrl+Z.
[SW-huawei-A]sysname SW-huawei-A
[SW-huawei-A]return
<SW-huawei-A>
```

Poner localización y contacto

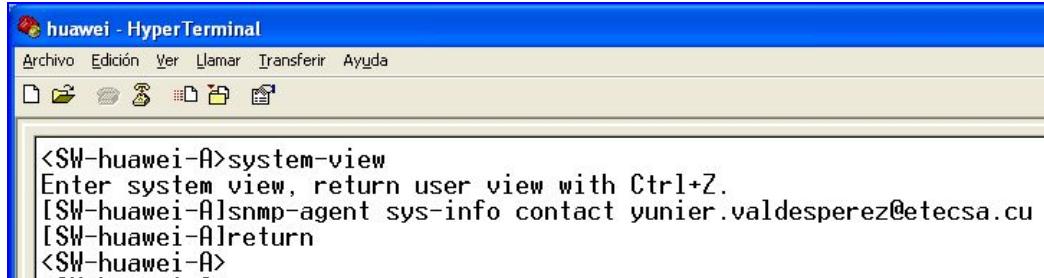
```
## Poner Localización del equipo  
system-view  
snmp-agent sys-info location Aula de capacitacion  
Return
```



A screenshot of the Huawei HyperTerminal application window. The title bar says "huawei - HyperTerminal". The menu bar includes "Archivo", "Edición", "Ver", "Llamar", "Transferir", and "Ayuda". Below the menu is a toolbar with icons for file operations. The main terminal window shows the following command sequence:

```
<SW-huawei-A>system-view  
Enter system view, return user view with Ctrl+Z.  
[SW-huawei-A]snmp-agent sys-info location Aula de capacitacion  
[SW-huawei-A]return  
<SW-huawei-A>
```

```
## Poner contacto del equipo  
system-view  
snmp-agent sys-info contact yunier.valdesperez@etecsa.cu  
return
```



A screenshot of the Huawei HyperTerminal application window. The title bar says "huawei - HyperTerminal". The menu bar includes "Archivo", "Edición", "Ver", "Llamar", "Transferir", and "Ayuda". Below the menu is a toolbar with icons for file operations. The main terminal window shows the following command sequence:

```
<SW-huawei-A>system-view  
Enter system view, return user view with Ctrl+Z.  
[SW-huawei-A]snmp-agent sys-info contact yunier.valdesperez@etecsa.cu  
[SW-huawei-A]return  
<SW-huawei-A>
```

Crear VLAN

```
## Creación de VLANs
```

```
system-view
```

```
vlan 10
```

```
description subred-10
```

```
quit
```

```
vlan 20
```

```
description subred-20
```

```
quit
```

```
vlan 30
```

```
description subred-30
```

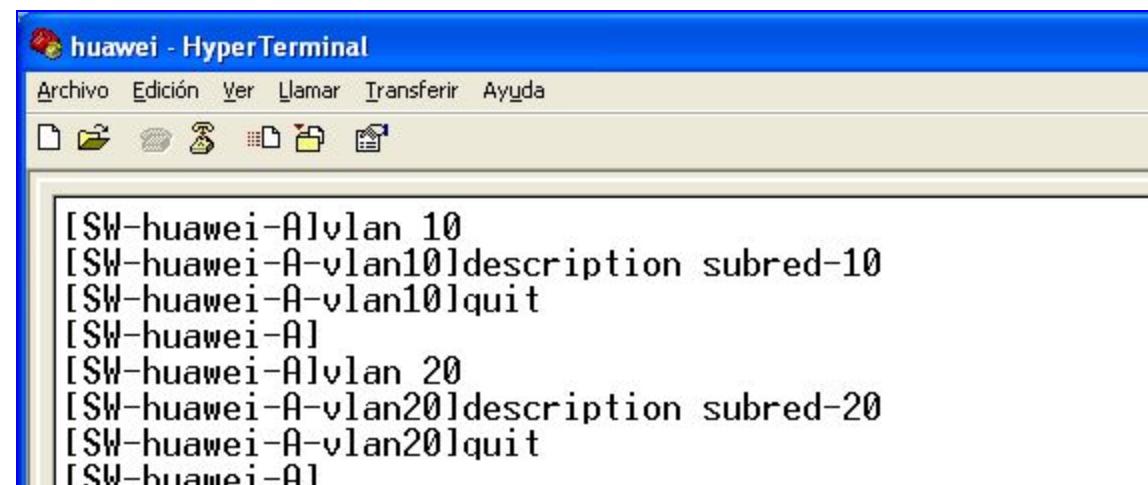
```
quit
```

```
vlan 192
```

```
description subred-192
```

```
quit
```

```
return
```



The screenshot shows a Windows-style terminal window titled "huawei - HyperTerminal". The menu bar includes "Archivo", "Edición", "Ver", "Llamar", "Transferir", and "Ayuda". Below the menu is a toolbar with icons for file operations. The main window displays the following configuration commands:

```
[SW-huawei-A]vlan 10
[SW-huawei-A-vlan10]description subred-10
[SW-huawei-A-vlan10]quit
[SW-huawei-A]
[SW-huawei-A]vlan 20
[SW-huawei-A-vlan20]description subred-20
[SW-huawei-A-vlan20]quit
[SW-huawei-A]
```

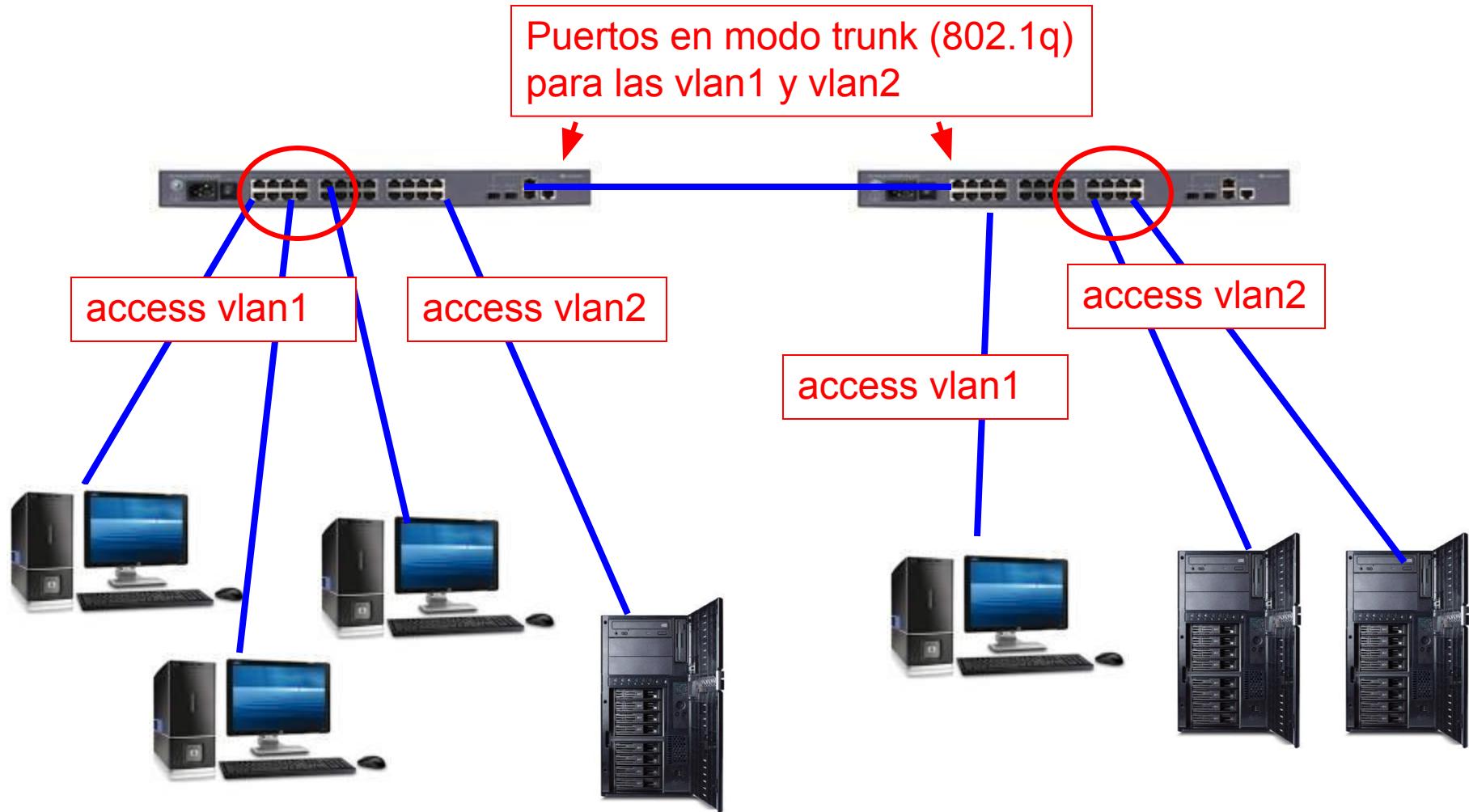
Adicionar puertos a una VLAN

```
## modo access
system-view
interface ethernet 0/0/1
port link-type access
port default vlan 10
quit
interface ethernet 0/0/2
port link-type access
port default vlan 10
quit
interface ethernet 0/0/3
port link-type access
port default vlan 10
quit
```

```
## modo hybrid
system-view
interface GigabitEthernet 0/0/1
port link-type hybrid
port hybrid tagged vlan all
port hybrid untagged vlan 192
port hybrid pvid vlan 192
return
```

```
## modo trunk
system-view
interface GigabitEthernet 0/0/2
port link-type trunk
port trunk allow-pass vlan all
return
```

Adicionar puertos a una VLAN



Crear una interfaz VLAN y ponerle IP

```
## system-view  
interface vlanif 1  
undo ip address dhcp-alloc  
return
```



Se elimina la configuración de
La VLAN por default

```
## crear la interfaz y asignarle dirección IP  
system-view  
interface vlanif 192  
ip address 192.168.190.251 255.255.255.192  
return
```



La vlan 192 debe ser existir

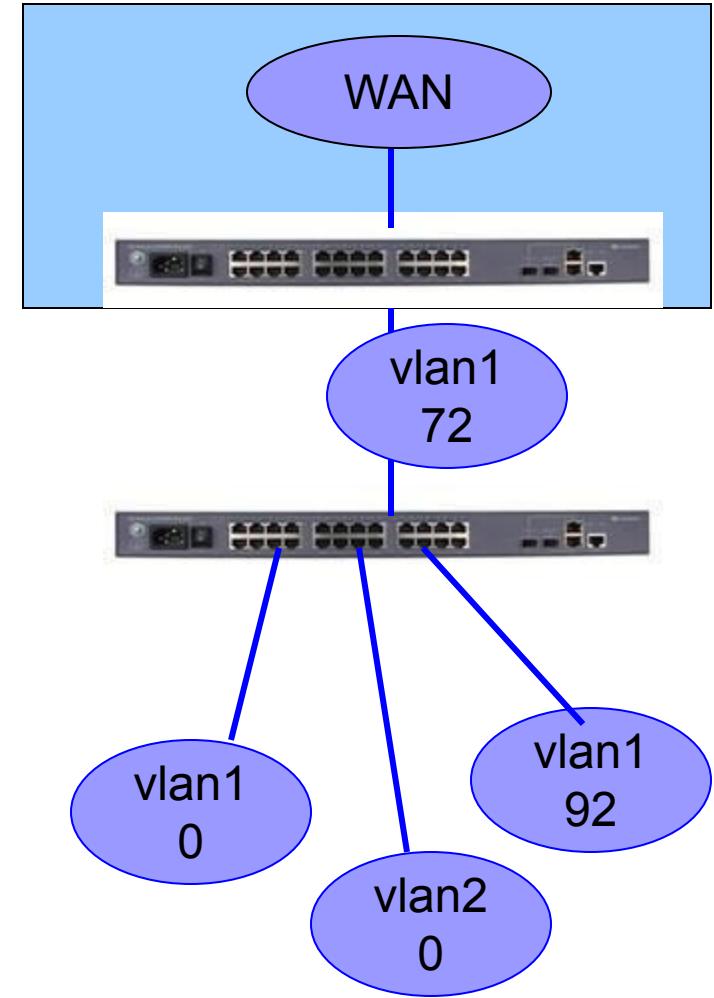
```
## configurar la ruta por defecto  
system-view  
ip route-static 0.0.0.0 0 192.168.190.193  
return
```



Se crea una ruta estatica que
dirige todo el trafico hacia el
Gateway de la subred

Enrutamiento entre VLANs

```
system-view
interface vlanif 10
ip address 192.168.10.1 255.255.255.0
quit
system-view
interface vlanif 20
ip address 192.168.20.1 255.255.255.0
quit
system-view
interface vlanif 192
ip address 192.168.190.193 255.255.255.192
quit
system-view
interface vlanif 172
ip address 172.16.1.1 255.255.255.252
quit
## configurar la ruta por defecto
system-view
ip route-static 0.0.0.0 172.16.1.2
return
```



Habilitar SNMP

Habilitar SNMP

system-view

snmp-agent sys-info version all

snmp-agent community write 1qaz2wsx

snmp-agent community read 3edc4rfv

return

Soporta 3 versiones del protocolo

Switch Port Mapper

All | 192.168.190.83 | Scan Now | Tools |

Physical Location not Specified
Switch Port Mapper allows to specify the physical location of the devices connected to a switch. Click here.

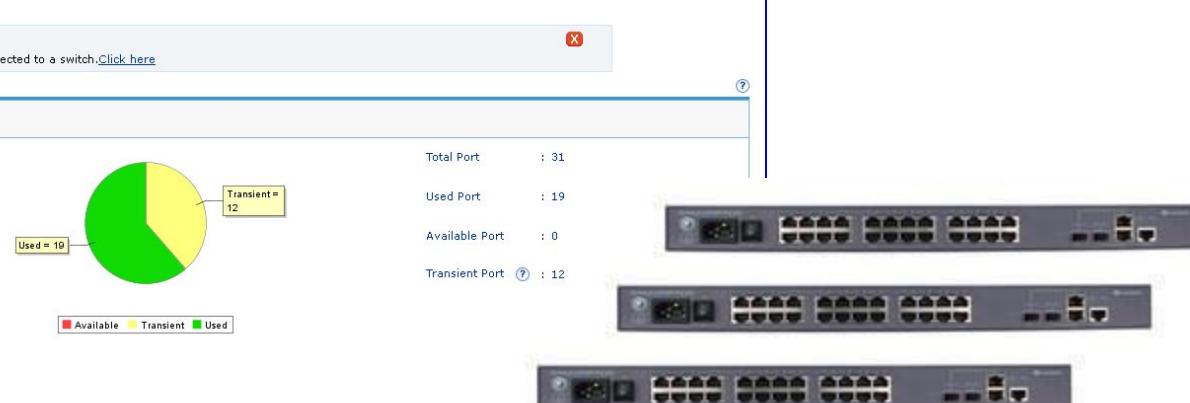
Port Details | Port History | Alerts | Publish

Summary Data of Switch : 192.168.190.83

Switch Name : 192.168.190.83 Total Port : 31
Switch Location : taller Marta Abreu Used Port : 19
Switch Type : Others Available Port : 0
Description : Quidway S3328 Series Ethernet Switches Huawei Versatile Routing Platform Software VRP (R) Software, Version 5.30 (S3328-V100R002C02B093) Copyright (C) 2007-2008 Huawei Technologies Co., Ltd. Transient Port : 12
Switch UpTime : 2013-02-21 09:36:13.815
Last Scan Time : 2013-03-07 13:56:06.27
Port Usage : 61.29 %
Exclude ports : 0
Scanning Status : ✓ Finished

Actions | Filter : -- All Ports -- | Show Legends | Import Switch Port Details | Add Custom Column | Export As : CSV | 1 - 31 of 31 | 100 |

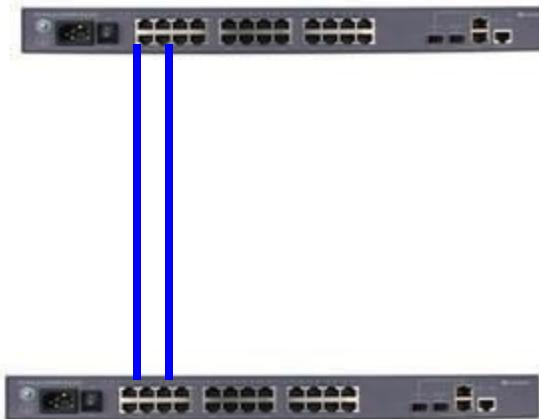
Port No.	Availability	Last change Time	Status	Connected Mac	IP Address	DNS Name	Device Type	Vlan ID	Vlan Name	IF Speed
1	Used	22 Feb 2013, 07:04 AM	Up		[9]	[VLAN 0009]	100 Mbps			
2	Transient	21 Feb 2013, 09:36 AM	Down	00:00:00:00:00:10 00:16:76:88:51:48	192.168.9.78 or99.vcl.tel.eteccsa.cu					10 Mbps
3	Used	07 Mar 2013, 09:28 AM	Up		[9]	[VLAN 0009]	100 Mbps			



Habilitar Spanning Tree

```
## habilitar el protocolo STP  
system-view  
stp enabled  
return
```

- Protección contra lazos (tormenta broadcast)
- Redundancia de enlace
- Por defecto se habilita en todas las interfaces



Troncal por agregación de enlace

```
## Crear el troncal  
system-view  
interface eth-trunk 10  
mode manual  
load-balance dst-ip  
Return
```

```
## agregar enlaces al trunk  
system-view  
Interface ethernet 0/0/21  
Undo ndp enable  
Undo ntdp enable  
eth-trunk 10  
quit  
Interface ethernet 0/0/22  
Undo ndp enable  
Undo ntdp enable  
eth-trunk 10  
quit
```

El modo puede ser manual o usando LACP (Link Aggregation Control Protocol)

El balance se puede establecer por:

src-mac : dir mac fuente

dst-mac : dir mac destino

src-ip : dir ip fuente

dst-ip: dir ip destino

src-dst-mac: mac (fuente XOR destino)

src-dst-ip: ip (fuente XOR destino)



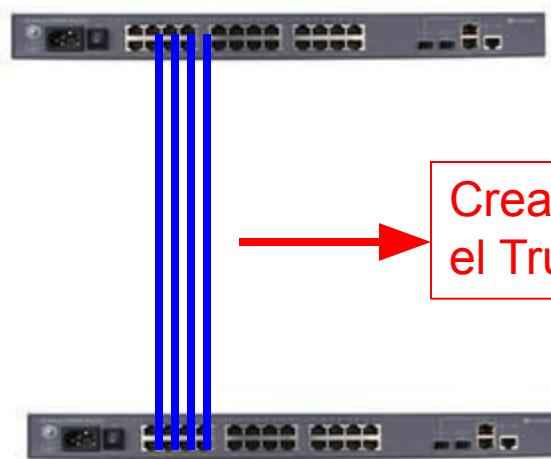
Se pueden agregar hasta 8 interfaces del mismo tipo



Se consigue mayor ancho de banda en el enlace

Troncal por agregación de enlace y las VLANs

```
## configurar VLAN a través del enlace troncal  
system-view  
interface Eth-Trunk 10  
port link-type trunk  
port trunk allow-pass vlan all  
return
```



Puerto espejo para monitorizar trafico

```
# crear el punto de observación 1 en la interfaz 20
```

```
system-view
```

```
observe-port 1 interface Ethernet 0/0/20
```

```
quit
```

```
# agregar interfaces a monitorear
```

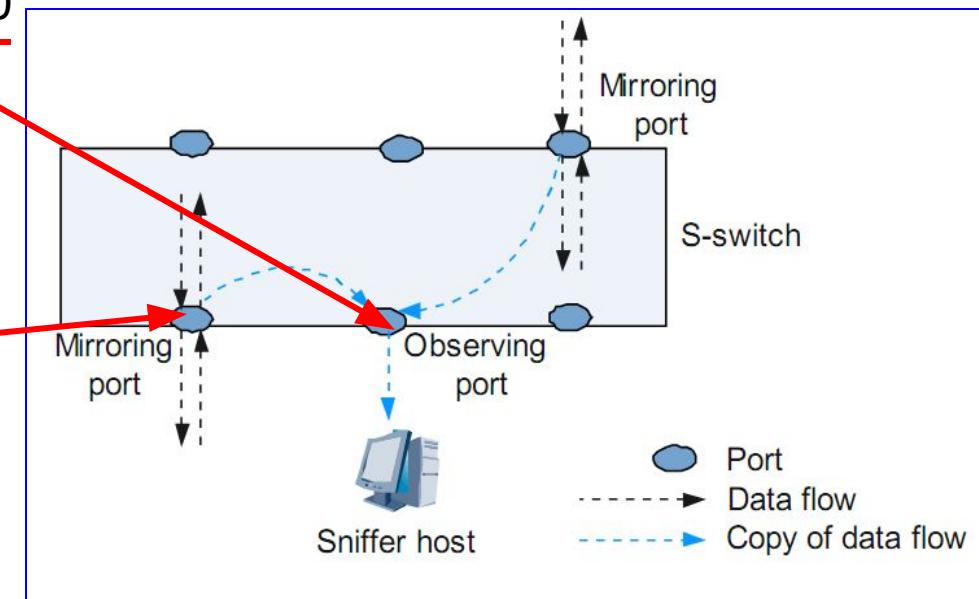
```
interface Ethernet 0/0/12
```

```
port-mirroring to observe-port 1 both
```

```
interface Ethernet 0/0/13
```

```
port-mirroring to observe-port 1 both
```

```
return
```



inbound: trafico de entrada

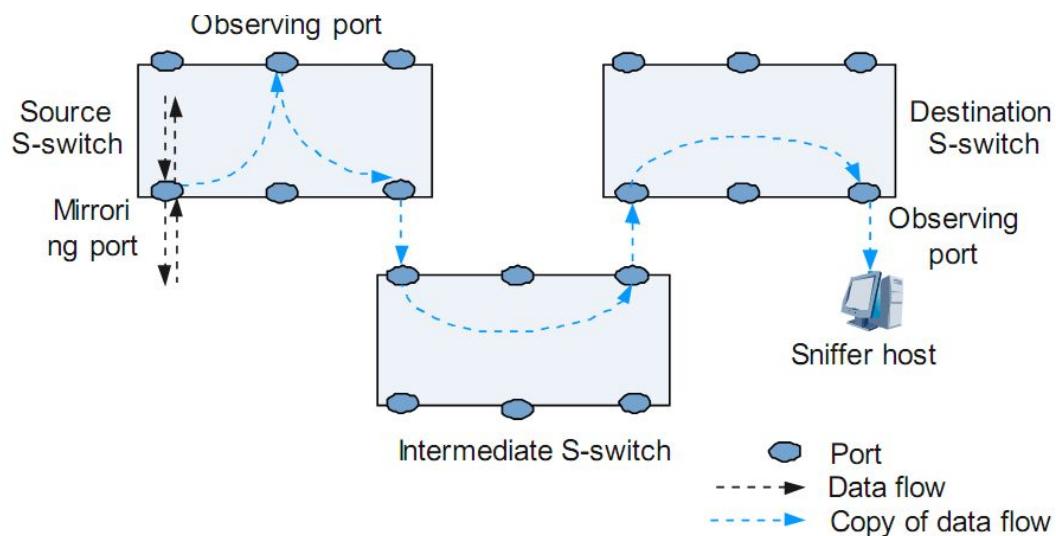
outbound: trafico de salida

both: trafico entrada/salida

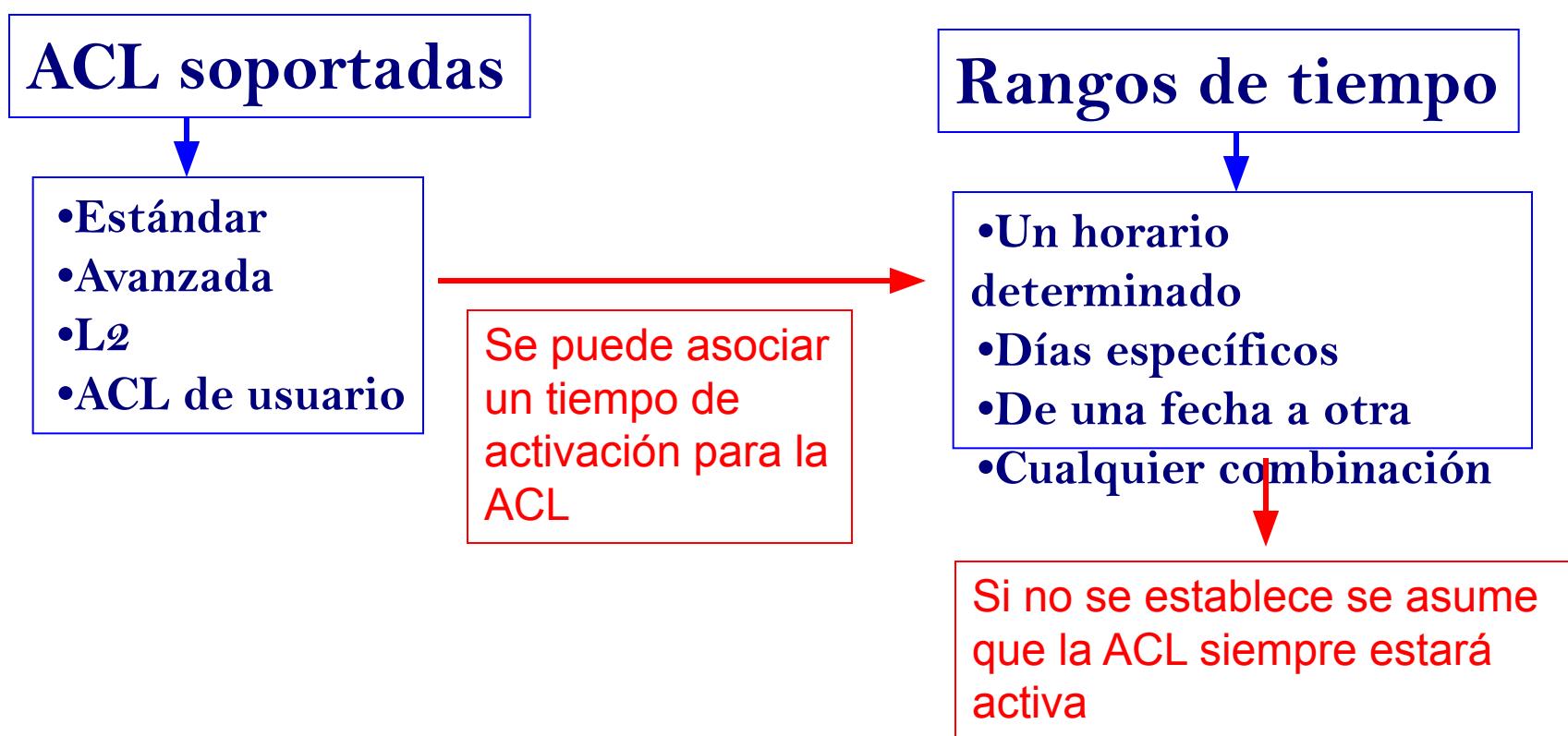
Puerto espejo para monitorizar trafico

```
## basado en direcciones MAC  
system-view  
observe-port 1 interface Ethernet 0/0/20  
vlan 192  
mac-mirroring 0013-8f87-2c6c to observe-port 1 inbound  
return
```

Monitorización de puerto remoto



Listas de Control de Acceso (ACL)



Listas de Control de Acceso (ACL)

ACL Estándar

- Filtrado por dirección IP de origen
- Ubicadas en la numeración 2000-2999

```
rule [ rule-id ] { deny | permit } [ source { source-address source-wildcard | any } |  
time-range time-name ]
```

```
system-view
```

```
acl 2002
```

```
description denegar el trafico de las subredes externas
```

```
rule 1 deny source 192.168.9.0 0.0.0.255
```

```
rule 2 deny source 192.168.30.0 0.0.0.255
```

```
rule 3 permit source 192.168.37.4 0
```

```
rule 4 deny source 192.168.37.0 0.0.0.255
```

```
quit
```

```
interface GigabitEthernet 0/0/1
```

```
traffic-filter inbound acl 2002
```

```
return
```

•El orden es importante

•Se aplican a una interfaz

Listas de Control de Acceso (ACL)

ACL Avanzada



- Filtrado de trafico mas específico
- Ubicadas en la numeración 3000-3999

```
rule [ rule-id ] { deny | permit } { tcp | udp } [ destination { destination-address  
destination-wildcard | any } | destination-port operator port | precedence  
precedence | source { source-address source-wildcard | any } | source-port  
operator port | time-range time-name ]
```

```
system-view
```

```
acl 3002
```

```
description permitir el acceso ssh solo a la subred de administracion
```

```
rule 1 permit tcp destination 192.168.190.0 0.0.0.255 destination-port eq 22 source  
192.168.9.0 0.0.0.255
```

```
rule 2 deny tcp destination 192.168.190.0 0.0.0.255 destination-port eq 22
```

```
quit
```

```
interface GigabitEthernet 0/0/1
```

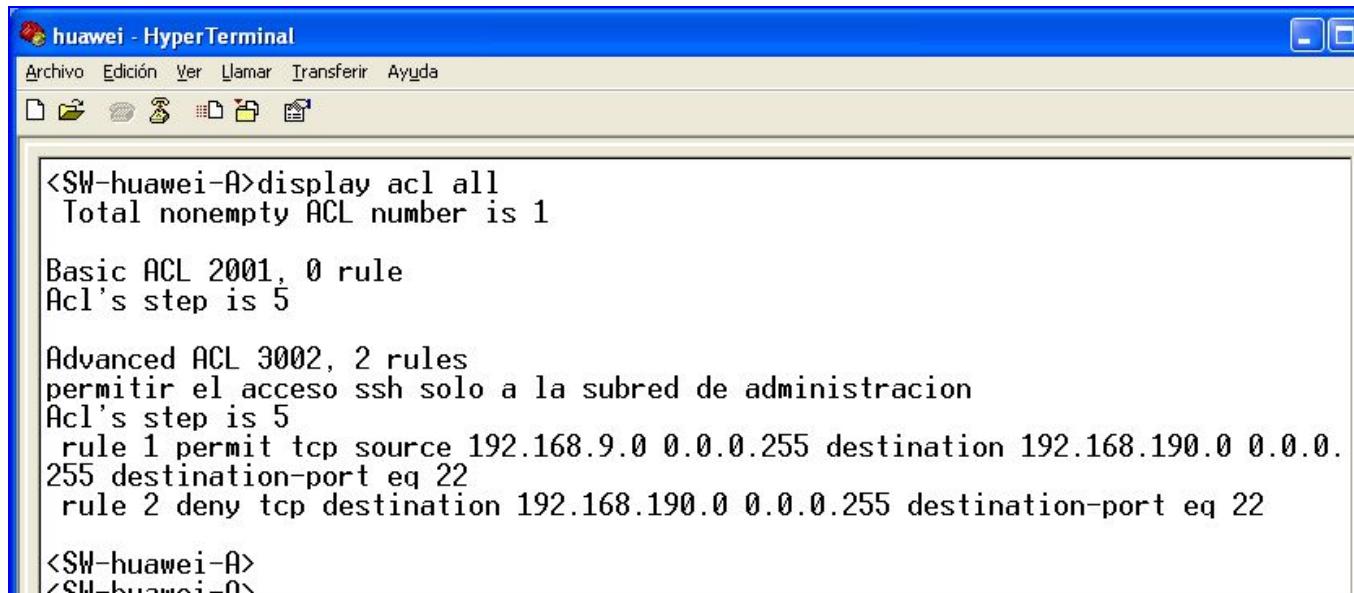
```
traffic-filter inbound acl 3002
```

```
return
```

Listas de Control de Acceso (ACL)

```
## ver la configuración de las ACLs  
display acl all
```

```
## ver la configuración de una ACL  
determinada  
display acl 3002
```



The screenshot shows a Windows-style application window titled "huawei - HyperTerminal". The menu bar includes "Archivo", "Edición", "Ver", "Llamar", "Transferir", and "Ayuda". Below the menu is a toolbar with icons for file operations like Open, Save, Print, and Copy/Paste. The main window displays the command-line interface output:

```
<SW-huawei-A>display acl all  
Total nonempty ACL number is 1  
  
Basic ACL 2001, 0 rule  
Acl's step is 5  
  
Advanced ACL 3002, 2 rules  
permitir el acceso ssh solo a la subred de administracion  
Acl's step is 5  
rule 1 permit tcp source 192.168.9.0 0.0.0.255 destination 192.168.190.0 0.0.0.  
255 destination-port eq 22  
rule 2 deny tcp destination 192.168.190.0 0.0.0.255 destination-port eq 22  
  
<SW-huawei-A>  
<SW-huawei-A>
```

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