

En Dios Confiamos



Av. Guillermo Prescott 574 – San Isidro
Central: 01 719-5090
Contacto: info@digicorp.com.pe
Web: www.digicorp.com.pe



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6 RAZONES PARA SER PARTNERS

BUSCAMOS LOGRAR EN CONJUNTO CON NUESTROS CANALES, EL DESARROLLO DEL MERCADO DE CONECTIVIDAD Y SEGURIDAD



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*PROGRAMA PARTNER
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PRODUCTOS QUE OFRECEMOS*



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*PROTECCIÓN PARA
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& MERCHANDISING*



***CAPACITACIONES
CONTINUAS***

CALENDARIO ACTIVIDADES

 Digicorp
FEBRERO 2019



WEBINAR



IDEAS DE NEGOCIO



TALLER TÉCNICO

mum
HOTEL HILTON
8 DE FEBRERO | 9:00 AM
MikroTik

VIERNES 01
TALLER TÉCNICO
HORARIO: 4:00 PM - 6:00 PM
@lhya

SABADO 02
TALLER TÉCNICO
HORARIO: 10:00 AM - 1:00 PM
**TECNOLOGÍA DMR
IMPLEMENTACIÓN DIGITAL CON
HYTERA**

VIERNES 08
WEBINAR
HORARIO: 10:00 AM - 11:00 AM
**CONOZCA LOS COMPONENTES
DE UN SISTEMA CONTRA
INCENDIO**

MARTES 12
WEBINAR
HORARIO: 10:00 AM - 11:00 AM
CO ELEMENTS*
CONOCE TODA LA GAMA DE
PRODUCTOS DE RF ELEMENTS

VIERNES 15
TALLER TÉCNICO
HORARIO: 4:00 PM - 6:00 PM
UBIQUITI
APRENDA A CONFIGURAR LA
SOLUCIÓN UNIFI
NIVEL BÁSICO

SABADO 16
TALLER TÉCNICO
HORARIO: 10:00 AM - 1:00 PM
ZKTeco
APRENDA A CONFIGURAR EL
SOFTWARE PARA CONTROL DE
ASISTENCIA

MARTES 19
WEBINAR
HORARIO: 10:00 AM - 11:00 AM
BRANDSTREAM
BENEFICIOS DE LA LINEA DE
ACCESS POINT DE GRANDSTREAM

VIERNES 22
IDEAS DE NEGOCIO
HORARIO: 4:00 PM - 6:00 PM
PARADOX
COMO CREAR UN NEGOCIO DE
CENTRAL DE MONITOREO
INALÁMBRICA & ANALÓGICA

SABADO 23
TALLER TÉCNICO
HORARIO: 10:00 AM - 1:00 PM
Intelbras
APRENDA A CONFIGURAR
CENTRALES DE CONDOMINIOS

PLAN DE CAPACITACIONES GRATUITAS



Conectividad de alta velocidad con Fibra Óptica

Caso de Éxito: Operador de TI con mas de **1500 usuarios** con **Mikrotik**





Conectividad de alta velocidad con Fibra Óptica

Empresa **peruana** de Telecomunicaciones con una **red propia de Fibra Óptica al 100%** en todo el país.

40 ciudades y más **de 2,000** clientes





Somos el **CUARTO** operador de
FIBRA ÓPTICA a nivel **NACIONAL**

Contamos con más de **3500 km** de
FIBRA ÓPTICA DESPLEGADA a nivel **NACIONAL**

Empresa **PERUANA** con una **RED PROPIA** de
FIBRA ÓPTICA AL 100% en todo el **PAÍS**

Estamos en más de **40 CIUDADES** y
contamos con más de **1,500 CLIENTES CON MIKROTIK**



Internet dedicado



Telefonía IP



Seguridad perimetral



Conectividad
de sedes



Cloud Server



WiFi Gestionado



Fibra Oscura



Última milla

Aplicaciones de

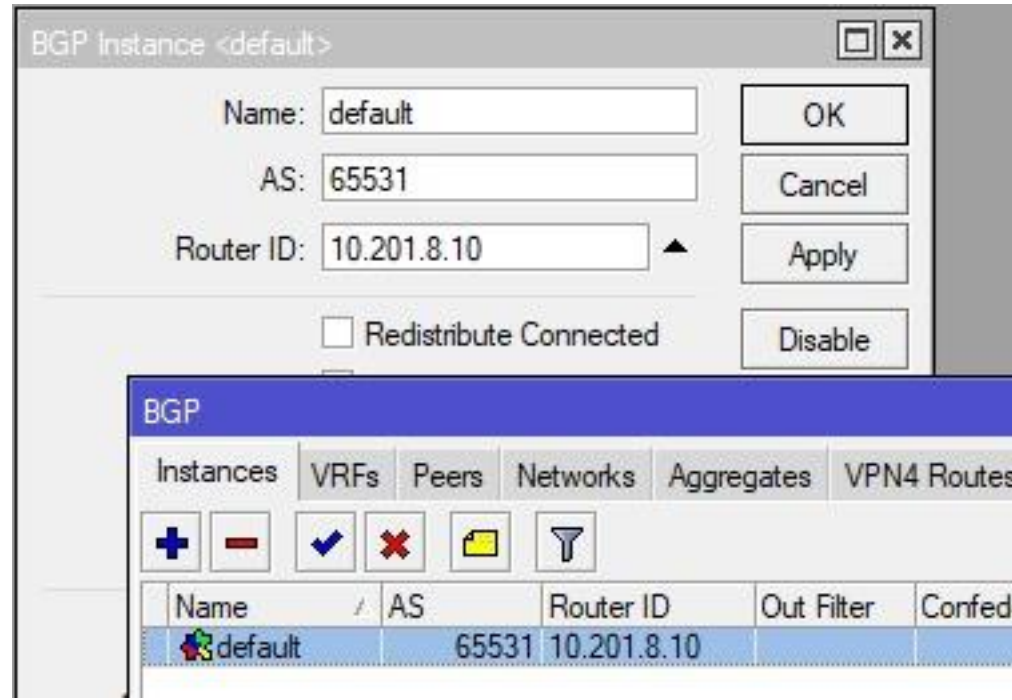
MIKROTIK en la red FIBERLUX



Nuestra Red Metro Ethernet

Nuestra Red Metro Ethernet

Redes L2L, ruteo estatico y dinamico



The screenshot shows a 'BGP Instance <default>' configuration window. The 'Name' field is set to 'default', 'AS' is '65531', and 'Router ID' is '10.201.8.10'. There are 'OK', 'Cancel', 'Apply', and 'Disable' buttons. A 'Redistribute Connected' checkbox is present and unchecked. Below the window is a 'BGP' tabbed interface with a table of instances.

Name	AS	Router ID	Out Filter	Confed
default	65531	10.201.8.10		

Nuestra Red Metro Ethernet

NAT

```
Session: [10.100.13.100.8250]  
Terminal  
>  
>  
>  
> ip firewall nat print  
Flags: X - disabled, I - invalid, D - dynamic  
0 chain=srcnat action=src-nat to-addresses=181.224.251.255  
  src-address=192.168.88.0/24 log=no log-prefix=""  
[ ] >
```

						00 Reset Counters	00 Reset All Counters	Find
#	Action	Chain	Src. Address	Dst. Address	Proto...	Src. Port	Dst. Port	In. Inte
0	src-nat	srcnat	192.168.88...					

Nuestra Red Metro Ethernet

Lan Extendida

Session: 10.100.30.222:8250

Address List

Address	Network	Interface
10.100.30.222...	10.100.30.192	BR_WAN

1 item

address (cc:2d:e0
 bridge port receive
 address (cc:2d:e0
 bridge port receive
 address (cc:2d:e0
 bridge port receive
 address (cc:2d:e0
 bridge port receive
 address (cc:2d:e0
 bridge port receive
 address (cc:2d:e0
 bridge port receive
 address (cc:2d:e0
 bridge port receive

Apr/20/1970 06:18:12	memory	system, info, account	user 2nsoporte logged in
Apr/20/1970 06:18:12	memory	system, info, account	user 2nsoporte logged out
Apr/22/1970 02:43:03	memory	interface, info	ether2 link down
Apr/22/1970 02:47:25	memory	interface, info	ether2 link up (speed 100

Nuestra Red Metro Ethernet

Túnel

```
Terminal
down
:te@Caja 1] > interface gre
add comment disable edit enable export find print remove set unset
:te@Caja 1] > interface gre print
Flags: X - disabled, R - running
0 R name="TO-AQP-BACK" mtu=auto actual-mtu=1476 local-address=10.201.48.90
remote-address=10.193.0.218 dscp=inherit clamp-tcp-mss=yes
dont-fragment=no allow-fast-path=yes
1 R name="TO-AQP-Princ" mtu=auto actual-mtu=1476 local-address=10.201.48.90
remote-address=10.193.0.226 dscp=inherit clamp-tcp-mss=yes
dont-fragment=no allow-fast-path=yes
2 R name="Tunnel-CruzDelSur-TDP" mtu=auto actual-mtu=1476
local-address=10.201.48.90 remote-address=10.100.68.218 dscp=inherit
clamp-tcp-mss=yes dont-fragment=no allow-fast-path=yes
:te@Caja 1] >
```

Nuestra Red Metro Ethernet

Balanceo de carga - mangle

```
Terminal
34  ;;; srv unitel a bitel2
    chain=prerouting action=mark-routing new-routing-mark=to_bitel2 passthrough=no
    dst-address=200.62.141.128/29 log=no log-prefix=""

35  ;;; youtube a telefonica
    chain=prerouting action=mark-routing new-routing-mark=to_telefonica passthrough=no
    dst-address=209.85.231.0/24 log=no log-prefix=""

36  ;;; youtube a bitel2
    chain=prerouting action=mark-routing new-routing-mark=to_bitel2 passthrough=no
    dst-address=190.238.117.0/24 log=no log-prefix=""

37  ;;; scordsoft a tdp - No subir antes de face
    chain=prerouting action=mark-routing new-routing-mark=to_bitel2 passthrough=no
    dst-address=108.179.198.155 log=no log-prefix=""

38  ;;; speedtest telefonica
    chain=prerouting action=mark-routing new-routing-mark=to_telefonica passthrough=no
    dst-address=72.21.92.82 log=no log-prefix=""

39  ;;; arellano-bit2
    chain=prerouting action=mark-routing new-routing-mark=to_bitel2 passthrough=no
    dst-address=72.9.159.15 log=no log-prefix=""

40  ;;; onedrive a flx
    chain=prerouting action=mark-routing new-routing-mark=to_telefonica2 passthrough=no
    dst-address=204.79.197.217 log=no log-prefix=""

41  ;;; youtub a bitel1
    chain=prerouting action=mark-routing new-routing-mark=to_bitel1 passthrough=no
    dst-address=181.176.244.16/28 log=no log-prefix=""

42  ;;; campus conti bitel 2
    chain=prerouting action=mark-routing new-routing-mark=to_bitel2 passthrough=no
    dst-address=52.20.194.245 log=no log-prefix=""

43  chain=prerouting action=accept dst-address=200.37.187.160/29 in-interface=bridgel log=no
    log-prefix=""
```

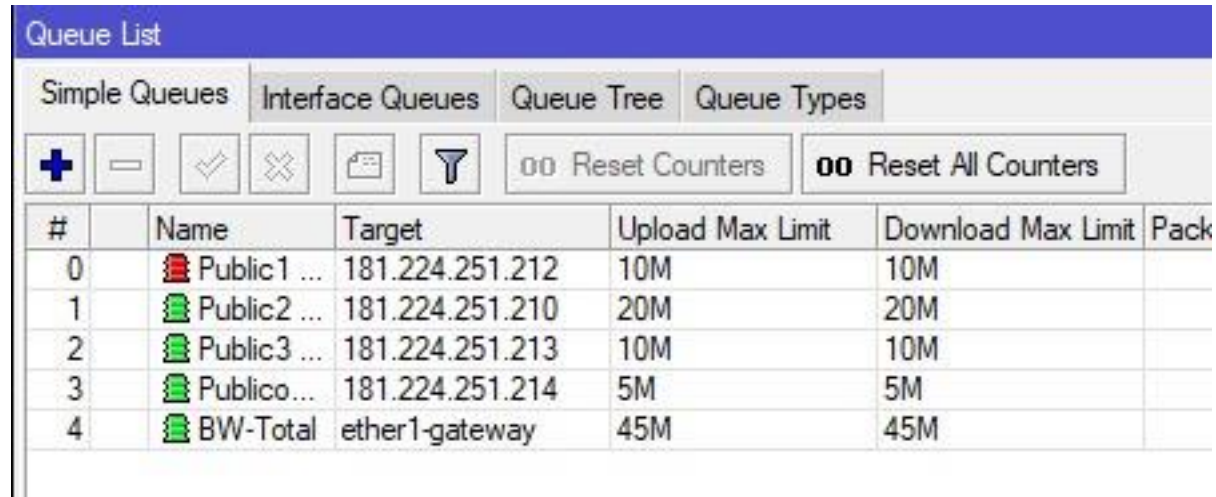
Nuestra Red Metro Ethernet

Balaneo de carga - mangle

::: Bitel2				
S	▶ 0.0.0.0/0	181.176.184.169 reachable ether3	4	
::: BITEL1				
AS	▶ 0.0.0.0/0	181.176.181.1 reachable ether2	1	to_bitel1
::: Telefonica				
AS	▶ 0.0.0.0/0	181.65.180.113 reachable ether1	1	to_telefonica
::: Bitel2				
AS	▶ 0.0.0.0/0	181.176.184.169 reachable ether3	1	to_bitel2
::: Bitel				
AS	▶ 0.0.0.0/0	181.65.180.113 reachable ether1	1	to_Rak
::: Telefonica2				
S	▶ 0.0.0.0/0	200.37.187.161 reachable sfp1	2	
AS	▶ 0.0.0.0/0	200.37.187.161 reachable sfp1	1	to_telefonica2
::: Telefonica2				

Nuestra Red Metro Ethernet

Colas de control de trafico



The screenshot shows a network management interface with a 'Queue List' window. The window has a blue title bar and several tabs: 'Simple Queues', 'Interface Queues', 'Queue Tree', and 'Queue Types'. Below the tabs are several icons for adding, deleting, and filtering queues, along with two buttons: 'Reset Counters' and 'Reset All Counters'. The main area contains a table with the following data:

#	Name	Target	Upload Max Limit	Download Max Limit	Pack
0	Public1 ...	181.224.251.212	10M	10M	
1	Public2 ...	181.224.251.210	20M	20M	
2	Public3 ...	181.224.251.213	10M	10M	
3	Publico...	181.224.251.214	5M	5M	
4	BW-Total	ether1-gateway	45M	45M	

Nuestra Red Metro Ethernet

Calidad de servicio - telefonía


Simple Queues									
Interface Queues									
Queue Tree									
Queue Types									
+		-		✓		✗		🔍	
Reset Counters					Reset All Counters				
Find									
Name	Parent	Packet ...	Limit At (b...	Max Limit ...	Avg. R...	Queued Bytes	Bytes	Packets	▼
carga	ether1			12M	1912 bps	0 B	98.7 MiB	649 769	
voz-ip	carga	pbx-cp		1M	1912 bps	0 B	98.7 MiB	649 769	
descarga	BR_LAN			12M	2.6 kbps	0 B	107.4 ...	611 506	
voz-ip-d	descarga	pbx-cp		1M	2.6 kbps	0 B	107.4 ...	611 506	



Soluciones de diagnóstico de fallas

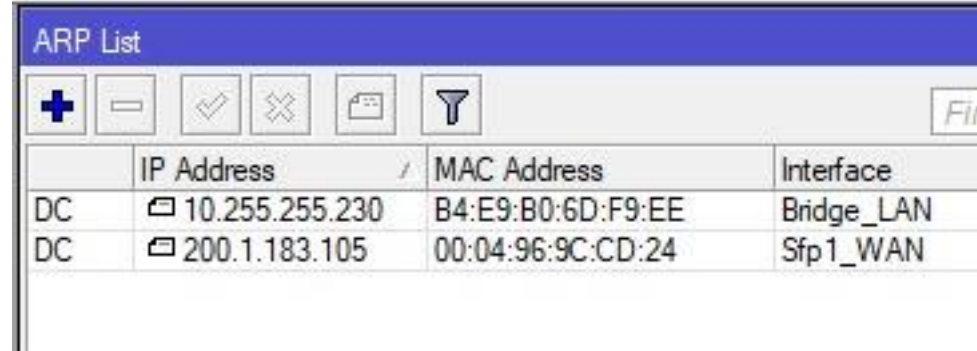
Soluciones de diagnóstico de fallas

Neighbor

Neighbor List						
Discovery Settings						
Interface	IP Address	MAC Address	Identity	Platform	Version	Board ...
 bridge-local	172.20.64.11	60:73:5C:45:C0:01	SW_SERVER...	cisco WS-C3750...	Cisco IOS Soft...	

Soluciones de diagnóstico de fallas

ARP



ARP List			
	IP Address	MAC Address	Interface
DC	10.255.255.230	B4:E9:B0:6D:F9:EE	Bridge_LAN
DC	200.1.183.105	00:04:96:9C:CD:24	Sfp1_WAN

Soluciones de diagnóstico de fallas

Ping

```

Terminal
3508 181.224.227.2      56 60 14ms
3509 181.224.227.2      56 60 14ms
3510 181.224.227.2      56 60 14ms
3511 181.224.227.2      56 60 15ms
3512 181.224.227.2      56 60 15ms
3513 181.224.227.2      56 60 15ms
3514 181.224.227.2      tim...
3515 181.224.227.2      tim...
3516 181.224.227.2      tim...
3517 181.224.227.2      tim...
3518 181.224.227.2      tim...
3519 181.224.227.2      tim...
      sent=3520 received=3502 packet-loss=0% min-rtt=14ms
      avg-rtt=15ms max-rtt=894ms
      SEQ HOST                SIZE TTL TIME  STATUS
3520 181.224.227.2          56 60 979ms
3521 181.224.227.2          56 60 113ms
3522 181.224.227.2          56 60 15ms
3523 181.224.227.2          56 60 14ms

Terminal
3506 181.224.229.2      56 59 14ms
3507 181.224.229.2      56 59 15ms
3508 181.224.229.2      56 59 15ms
3509 181.224.229.2      56 59 15ms
3510 181.224.229.2      56 59 15ms
3511 181.224.229.2      56 59 15ms
3512 181.224.229.2      tim...
3513 181.224.229.2      tim...
3514 181.224.229.2      tim...
3515 181.224.229.2      tim...
3516 181.224.229.2      tim...
3517 181.224.229.2      tim...
3518 181.224.229.2      56 59 621ms
3519 181.224.229.2      56 59 92ms
      sent=3520 received=3500 packet-loss=0% min-rtt=14ms
      avg-rtt=15ms max-rtt=621ms
      SEQ HOST                SIZE TTL TIME  STATUS
3520 181.224.229.2          56 59 15ms
3521 181.224.229.2          56 59 16ms

Terminal
3505 8.8.8.8             56 118 45ms
3506 8.8.8.8             56 118 45ms
3507 8.8.8.8             56 118 45ms
3508 8.8.8.8             56 118 45ms
3509 8.8.8.8             56 118 45ms
3510 8.8.8.8             tim...
3511 8.8.8.8             tim...
3512 8.8.8.8             tim...
3513 8.8.8.8             tim...

Terminal
3502 10.100.38.210      56 253 14ms
3503 10.100.38.210      56 253 14ms
3504 10.100.38.210      56 253 13ms
3505 10.100.38.210      56 253 13ms
3506 10.100.38.210      56 253 13ms
3507 10.100.38.210      56 253 13ms
3508 10.100.38.210      56 253 14ms
3509 10.100.38.210      56 253 13ms
3510 10.100.38.210      56 253 14ms
  
```

Traceroute

Traceroute (Running)

Traceroute To:

Packet Size:

Timeout: ms

Protocol:

Port:

Use DNS

Count:

Max Hops:

Src. Address:

Interface:

DSCP:

Routing Table:

Hop	/	Host	Loss	Sent	Last	Avg.	Best	Worst	Std. Dev.	History
1		10.100.248.1	0.0%	1554	0.6ms	0.7	0.4	9.5	0.8	-----
2		10.10.80.97	0.0%	1554	12.5ms	12.7	12.3	51.5	12.8	-----
3		10.100.38.210	3.5%	1554	12.4ms	12.5	12.3	18.6	12.4	-----
4		209.45.48.25	8.2%	1554	12.7ms	13.3	12.6	379.4	16.4	-----
5		10.10.50.105	4.7%	1554	12.9ms	13.2	12.7	191.8	13.4	-----
6		10.1.0.146	7.7%	1554	18.1ms	13.3	12.8	23.5	13.0	-----
7		10.100.1.154	7.6%	1554	13.6ms	15.8	13.1	113.0	17.2	-----

7 items

Torch

Torch (Running)

Interface: Sfp1_WAN

Entry Timeout: 00:00:03 s

Filters

Src. Address: 0.0.0.0/0

Dst. Address: 0.0.0.0/0

Src. Address6: ::/0

Dst. Address6: ::/0

MAC Protocol: all

Protocol: any

Port: any

VLAN Id: any

DSCP: any

Collect

Src. Address Src. Address6

Dst. Address Dst. Address6

MAC Protocol Port

Protocol VLAN Id

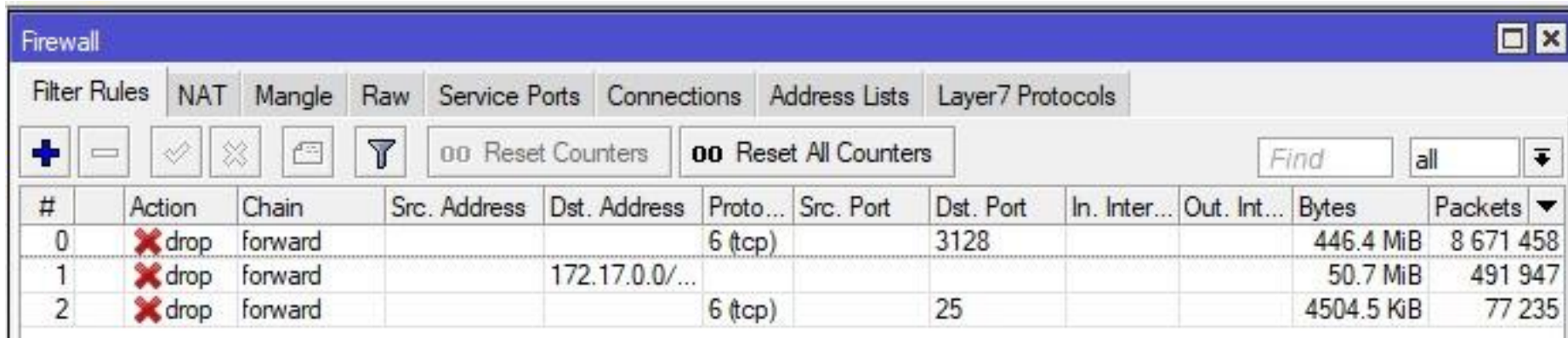
DSCP

Et...	Prot...	Src.	Dst.	VLAN Id	DSCP	Tx Rate	Rx Rate	Tx Pack...	Rx Pack...
800 (ip)	6 (tcp)	181.224.229.4:63681	200.1.183.110:8250			54.7 kbps	2.4 kbps	5	4
800 (ip)	6 (tcp)	172.217.3.78:443 (https)	200.1.183.110:55549			0 bps	0 bps	0	0
800 (ip)	6 (tcp)	172.217.3.78:443 (https)	200.1.183.110:56765			3.4 kbps	0 bps	1	0
800 (ip)	6 (tcp)	67.212.166.178:5310	200.1.183.110:51848			1296 bps	46.7 kbps	3	5
800 (ip)	6 (tcp)	172.217.2.78:443 (https)	200.1.183.110:52468			0 bps	0 bps	0	0
800 (ip)	6 (tcp)	157.240.14.52:443 (https)	200.1.183.110:62427			0 bps	0 bps	0	0
800 (ip)	6 (tcp)	157.240.14.53:443 (https)	200.1.183.110:38497			0 bps	0 bps	0	0
800 (ip)	6 (tcp)	208.80.54.71:443 (https)	200.1.183.110:50306			10.6 kbps	78.9 kbps	21	24
800 (ip)	6 (tcp)	172.217.3.78:443 (https)	200.1.183.110:51487			8.5 kbps	9.8 kbps	5	10
800 (ip)	6 (tcp)	172.217.2.206:443 (https)	200.1.183.110:58373			432 bps	2.5 kbps	1	1
800 (ip)	6 (tcp)	172.217.2.206:443 (https)	200.1.183.110:51041			432 bps	2.5 kbps	1	1
800 (ip)	50 (i...)	181.65.245.209	200.1.183.110			1072 bps	1648 bps	1	1
800 (ip)	17 (...)	216.58.192.46:443 (https)	200.1.183.110:53602			0 bps	0 bps	0	0
800 (ip)	6 (tcp)	64.233.186.154:443 (https)	200.1.183.110:65274			0 bps	0 bps	0	0
800 (ip)	6 (tcp)	40.102.32.130:443 (https)	200.1.183.110:57525			0 bps	0 bps	0	0

82 items Total Tx: 93.0 kbps Total Rx: 164.9 kbps Total Tx Packet: 55 Total Rx Packet: 65

Soluciones de diagnóstico de fallas

Firewall



The screenshot shows the Mikrotik WinBox Firewall Filter Rules configuration window. The 'Filter Rules' tab is active, displaying a table of three rules. All three rules are marked as 'drop' with a red 'X' icon. The table columns include #, Action, Chain, Src. Address, Dst. Address, Proto..., Src. Port, Dst. Port, In. Inter..., Out. Int..., Bytes, and Packets.

#	Action	Chain	Src. Address	Dst. Address	Proto...	Src. Port	Dst. Port	In. Inter...	Out. Int...	Bytes	Packets
0	✘ drop	forward			6 (tcp)		3128			446.4 MiB	8 671 458
1	✘ drop	forward		172.17.0.0/...						50.7 MiB	491 947
2	✘ drop	forward			6 (tcp)		25			4504.5 KiB	77 235

Wifi – Spectral Scan

AP Client <00:0C:42:D9:D2:63>

General 802.1x Signal Nstreme NV2 Statistics

Last Activity: 0.000 s

Tx/Rx Signal Strength: -63/-63 dBm

Tx/Rx Signal Strength Ch0: -66/-68 dBm

Tx/Rx Signal Strength Ch1: -67/-66 dBm

Tx/Rx Signal Strength Ch2:

Signal To Noise: 46 dB

Tx/Rx CCQ: 84/58 %

P Throughput:

– Signal Strengths

Rate	Strength	Last Measu... /
6Mbps	-63	00:00:00
HT40-0	-67	00:00:01.07
HT40-2	-68	00:00:01.10
HT40-3	-67	00:00:01.10
HT40-1	-68	00:00:01.15
HT20-2	-64	00:00:01.30
HT20-1	-65	00:00:01.41
HT20-0	-65	00:00:01.46
HT20-3	-64	00:00:01.46

OK

Remove

Reset

Copy to Access List

Copy to Connect List

Ping

MAC Ping

Telnet

MAC Telnet

Torch

Equipos MikroTik mas usados

RB2011-UIAS-RM



RB3011-UIAS-RM



RB4011iGS+RM



ALGUNOS CLIENTES





Te Conectamos con el Éxito

Av. Ricardo Palma 341 – Of. 402
Edificio Empresarial Platino – Miraflores
Central: (01) 748 0606

www.flx.pe

