VLAN DATOS

SUBRED D → 6000H
Id: 137.8.0.0/19
Máscara: 255.255.224.0
Rango asignable = 137.8.0.1 – 137.8.31.254
Gateway: 137.8.31.254
Broadcast: 137.8.3125S

DATOS_D — 10
Fa0/2-20
~~DATOS_D~~

SUBRED D → SH   c/subred Fa 0/21-24
Ext: 1000
VOZ_SUBRED-D   DHCP_VOZ_D
Id: 192.168.0.0/29   11
Máscara: 255.255.255.248
192.168.0.1 – 192.168.0.6   VOZ_D

SUBRED F → 5000 H
Id: 137.8.32.0/19
Máscara: 255.255.224.0
Rango asignable: 137.8.32.1 – 137.8.63.254
Gateway: 137.8.63.254
Broadcast: 137.8.63.255

DATOS_F 20
Fa0/2-20

SUBRED F → SH   Fa 0/21-24
Ext: 2000   21
Id: 192.168.0.8/29
192.168.0.9 – 192.168.0.14   VOZ_F
gateway: 192.168.0.14
broadcast: 192.168.0.15
DHCP_VOZ_F

SUBRED B → 2000 H
Id: 137.8.64.0/21
Máscara: 255.255.248.0
Rango asignable: 137.8.64.1 – 137.8.71.254
Gateway: 137.8.71.254
Broadcast: 137.8.71.255

DATOS_B 30
Fa0/2-20

SUBRED B → SH   31
Ext: 3000   VOZ_B
Id: 192.168.0.16/29
192.168.0.17 – 192.168.0.22
gateway: 192.168.0.22
broadcast: 192.168.0.23   DHCP_VOZ_B

SUBRED A → 1000H
Id: 137.8.72.0/22
Máscara: 255.255.252.0
Rango asignable: 137.8.72.1 – 137.8.75.254
Gateway: 137.8.75.254
Broadcast: 137.8.75.255

DATOS_A 40
Fa0/2-20

SUBRED A → SH   41
Ext: 4000   VOZ_A
Id: 192.168.0.24/29
192.168.0.25 – 192.168.0.30
gateway: 192.168.0.30
broadcast: 192.168.0.31   DHCP_VOZ_A

SUBRED C → 700H
Id: 137.8.76.0/22
Máscara: 255.255.252.0
Rango asignable: 137.8.76.1 – 137.8.79.254
Gateway: 137.8.79.254
Broadcast: 137.8.79.255

DATOS_C 50
Fa0/2-20

SUBRED C → SH   51
Ext: 5000   VOZ_C
Id: 192.168.0.32/29
192.168.0.33 – 192.168.0.38
gateway: 192.168.0.38
broadcast: 192.168.0.39   DHCP_VOZ_C

SUBRED G → 2H
Id: 137.8.80.0/30
Máscara: 255.255.255.252
Rango asignable: 137.8.80.1 – 137.8.80.2
Gateway: 137.8.80.2
Broadcast: 137.8.80.3

DATOS_G 60
Fa0/2

SUBRED G → SH   61
Ext: 6000   VOZ_G
Id: 192.168.0.40/29
gateway: ~~192.168.0.4~~ 192.168.0.46
broadcast: 192.168.0.47   DHCP_VOZ_G

SUBRED H → 2H
Id: 137.8.80.4/30
Máscara: 255.255.255.252
Rango: 137.8.80.5 – 137.8.80.6
Gateway: 137.8.80.6
Broadcast: 137.8.80.7

DATOS_H 70
Fa 0/2

SUBRED H → SH   71
Ext: 7000   VOZ_H
Id: 192.168.0.48/29
gateway: 192.168.0.54
broadcast: 192.168.0.55   DHCP_VOZ_H

SUBRED I → 2H
Id: 137.8.80.8/30
Máscara: 255.255.255.252
Rango: 137.8.80.9 – 137.8.80.10
Gateway: 137.8.80.10
Broadcast: 137.8.80.11

DATOS_I 80
Fa 0/2

SUBRED I → SH   81
Ext: 8000   VOZ_I
Id: 192.168.0.56/29
gateway: 192.168.0.62
broadcast: 192.168.0.63   DHCP_VOZ_I

SUBRED J → 2H
Id: 137.8.80.12/30
Máscara: 255.255.255.252
Rango: 137.8.80.13 – 137.8.80.14
Gateway: 137.8.80.14
Broadcast: 137.8.80.15

DATOS_J 90
Fa 0/2

SUBRED J → SH
Ext: 9000   91
Id: 192.168.0.64/29
gateway: 192.168.0.70   VOZ_J
broadcast: 192.168.0.71
DHCP_VOZ_J

WAN1
Id: 137.8.80.16/30
255.255.255.252
Rango: 80.17 — 80.18
Broadcast: 137.8.80.19

WAN2
137.8.80.20/30
255.255.255.252
Rango: 137.8.80.21 – 137.8.80.22
Broadcast: 137.8.80.23

WAN3
137.8.80.24/30
255.255.255.252
Rango: 137.8.80.25 – 137.8.80.26
Broadcast: 137.8.80.27

WAN4
137.8.80.28/30
255.255.255.252
Rango: 137.8.80.29 – 137.8.80.30
Broadcast: 137.8.80.31

WAN5
137.8.80.32/30
255.255.255.252
Rango: 137.8.80.33 – 137.8.80.34
Broadcast: 137.8.80.35

WAN6
137.8.80.36/30
255.255.255.252
Rango: 137.8.80.37 – 137.8.80.38
Broadcast: 137.8.80.39

WAN7
137.8.80.40/30
255.255.255.252
Rango: 137.8.80.41 – 137.8.80.42
Broadcast: 137.8.80.43

WAN8
137.8.80.44/30
255.255.255.252
Rango: 137.8.80.45 – 137.8.80.46
Broadcast: 137.8.80.47
Id: 137.8.80.

==**SWITCH**==

1o — Configurar VLAN_DATOS ──────→ >en
2o — Configurar VLAN_VOZ   >config t
3o — Configurar interface   >vlan vlan-id
4o — Enlace troncal   >name vlan-name
                                     >exit

                          >en
                          >config t
                          >vlan vlan-id
                          >name vlan-name
                          >exit

DATOS   **VOZ**
>en   >en
>config t   >config t
>interface range   >interface range
  Fa O/inicio-fin   Fa O/inicio-fin
>switch port mode acceso   >switchport mode acceso
> ~~access vlan-id~~   >~~//~~ voice vlan vlan-id
>exit   (Mal)   >exit
>switch port access vlan
>exit   id-vlan

sale puerto del switch al router

>en
>config t
>interface (interface-id)
>switchport mode trunk
>exit

==**ROUTER**==

1o — Configurar DHCP_DATOS ──────→ >en
                                    >config t
                                    >ip dhcp excluded-address gateway
2o — Configurar DHCP-VOZ   >ip dhcp pool nombre-servidor-dhcp
                                    >default-router gateway
3o Protocolo DOT1Q   >network segmento-red mascara
                                    >exit

                         >fa0/0.10   >en
                                     >config t
>en   >ip dhcp excluded-address gateway
>config t   >ip dhcp pool nombre-servidor-dhcp
>interface fa (interface-id.vlan-id) >network segmento-red mascara
>encapsulation dot1q vlan-id   >default-router gateway
>ip address gateway mascara   >option 150 ip gateway
>description nombre-servidor-dhcp   >exit
>exit

4o Dirección IP serial al router ─→ >en
                                    >config t
                                    >interface serial x/x/x
                                    >~~ip address IP mascara~~ >ip address DIR-IP mascara
                                    >clock rate 128000
                                    >no shutdown
                                    >exit

5o — Levantar interface Fa y serial del Router   1
>en   1000   2
>config t   2000   3
>interface fa x/x   8000 y 9000 → 3000   4
>no shutdown   4000   5
>exit   5000   6
>interface sex/x/x   6000   7
>no shutdown   7000   ..
>exit

6o Configurar DHCP en C/PC

7o- Protocolo OSPF

```
>en
>config
>router ospf X
>network red wilcard area Y
>end passive fa id interface
>passive -interface (id_interface)    ← switch

>exit
>copy run start
>show ipv
```

255.255.255.255 — mascara red directa router.

Show ip route

8o- Configura servicio VoIP

```
>en
>config t
>telephony -service
>max-dn S
>max -ephones S    } máximo tkfonos
>auto assign 1 to S
>ip source-address gateway port 2000
                              └ red
```

```
1000 ─    2000    2 ✓
          3000    3 ✓
          4000    4 ✓
          5000    5 ✓
          6000    6 ✓
          7000    7 ✓
          8000    8 ✓
          9000
```

9o- Asignar extensión

```
>en
>config t
>telephony -service
>ephone -dn 1
>number numero - extension    → c/ telefono
>exit
```

```
7000 ─    1000    1 ✓
          2000    2 ✓
          3000    3 ✓
          4000    4 ✓
          5000    5 ✓
          6000    6 ✓
          7000    7 ✓
          8000    8 ✓
          9000
```

```
4000      1000    1 ✓
          2000    2 ✓
          3000    3 ✓
          4000    4 ✓
          5000    5 ✓
          6000    6 ✓
          7000    7 ✓
          8000    8 ✓
          9000
```

10o- Enrutamiento por VoIP

```
>en
>config t
>dial -peer voice Id voip    ← identificador
>destination -pattern (x x x x)    ← extensión a la que me quiero comunicar
>session target ipv 4 = (dir-ip)    ← dirección del router hacia la red del telefono que me quiero comunicar
```

1 2 3 4 5 6 7 8

dir-ip

RO   R1

SW0   SW1

PC   PC

Tel VLANVOZ 1   Tel VLANVOZ2

port 2000