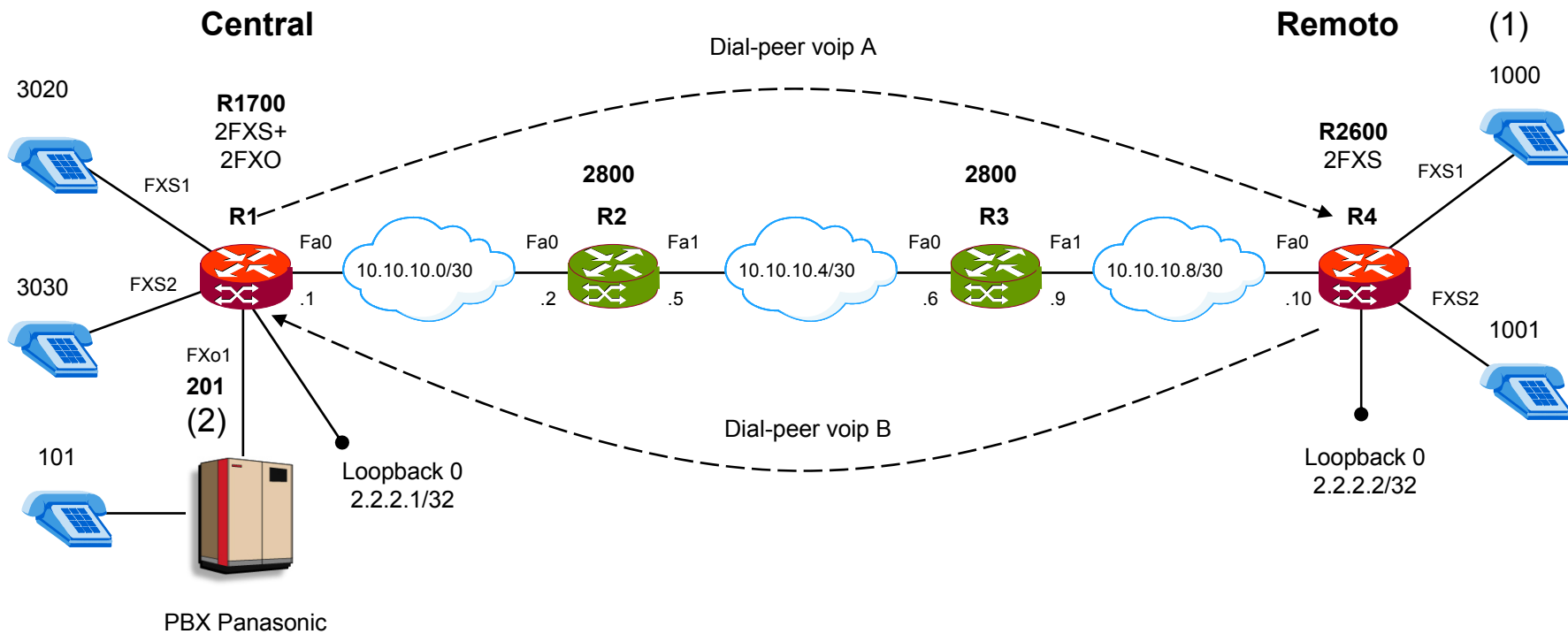


# Escenarios de VoIP con Routers Cisco

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# Escenario 1



Un usuario en el sitio “Remoto” levanta el teléfono 1000 (1) y su puerto FXS1 disca los dígitos 201 automáticamente para enrutar la llamada hacia la PBX (2) ubicada en la sede “Central”.

# Configuración – Parte 1/2

## Configurando el router R1 (1700)

```
Router>enable
Router#configure terminal
*** Configurando las interfaces
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 10.10.10.1 mask 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
Router(config)#interface loopback 0
Router(config-if)#ip address 2.2.2.1 255.255.255.255
Router(config-if)#no shutdown
Router(config-if)# exit
*** Configurando los dial-peer POTS para cada puerto FXS
Router(config)#dial-peer voice 1 pots
Router(config-dial-peer)#destination pattern 3020
Router(config-dial-peer)#port 0/0/0
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
Router(config)#dial-peer voice 2 pots
Router(config-dial-peer)#destination pattern 3030
Router(config-dial-peer)#port 0/0/1
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
*** Configurando el dial-peer POTS del puerto FXO
Router(config)#dial-peer voice 3 pots
Router(config-dial-peer)#destination pattern 201
Router(config-dial-peer)#port 1/0
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
```

```
*** Configurando el voice port FXO
Router(config)#voice port 1/0
Router(config-dial-port)#signal loop-start
Router(config-dial-port)#cptone PE
Router(config-dial-port)#no shutdown
Router(config-dial-port)#exit
*** Configurando el dial-peer voip "A"
Router(config)#dial-peer voice 1000 voip
Router(config-dial-peer)#destination-pattern 1...
Router(config-dial-peer)#session target ipv4:2.2.2.2
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
*** Configurando el enrutamiento estático
Router(config)#ip route 2.2.2.2 255.255.255.255 10.10.10.2
Router(config)#ip route 10.10.10.4 255.255.255.252 10.10.10.2
Router(config)#ip route 10.10.10.8 255.255.255.252 10.10.10.2
Configurando el router R2
Router>enable
*** Configurando las interfaces
Router#configure terminal
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 10.10.10.2 mask 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
Router(config)#interface fastEthernet 0/1
Router(config-if)#ip address 10.10.10.5 mask 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
*** Configurando el enrutamiento estático
Router(config)#ip route 2.2.2.1 255.255.255.255 10.10.10.1
Router(config)#ip route 2.2.2.2 255.255.255.255 10.10.10.6
Router(config)#ip route 10.10.10.8 255.255.255.255 10.10.10.6
```

# Configuración – Parte 2/2

## Configurando el router R3

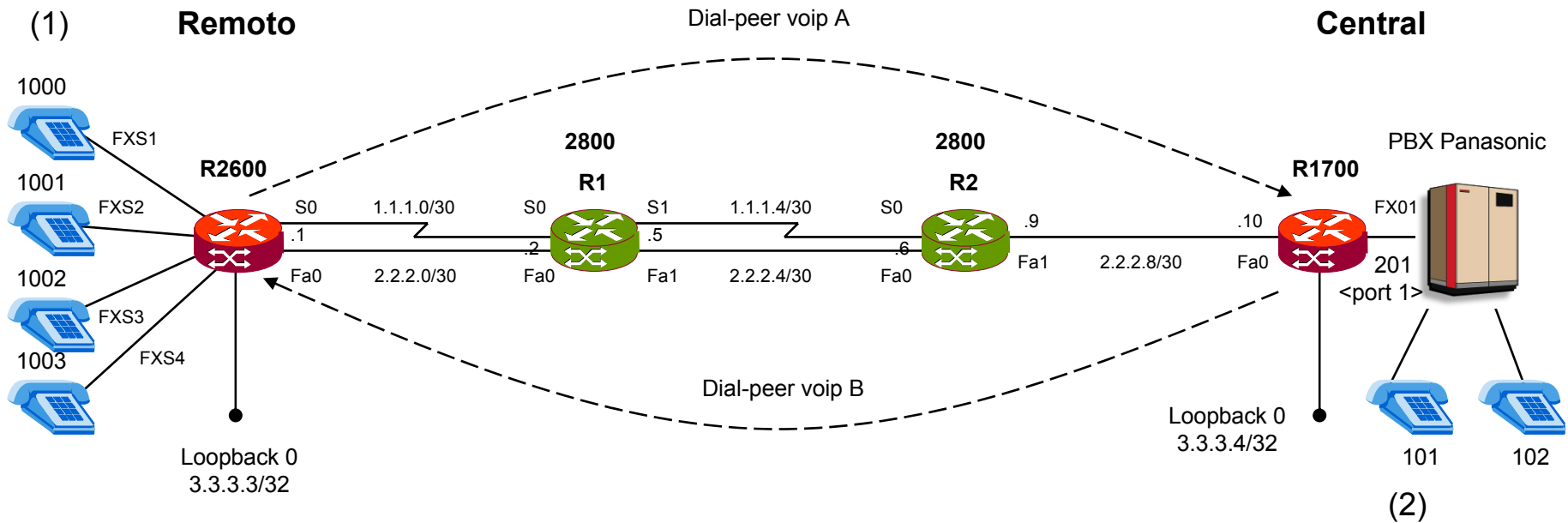
```
Router>enable
*** Configurando las interfaces
Router#configure terminal
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 10.10.10.6 mask 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
Router(config)#interface fastEthernet 0/1
Router(config-if)#ip address 10.10.10.9 mask 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
*** Configurando el enrutamiento estático
Router(config)#ip route 2.2.2.1 255.255.255.255 10.10.10.5
Router(config)#ip route 2.2.2.2 255.255.255.255 10.10.10.10
Router(config)#ip route 10.10.10.0 255.255.255.255 10.10.10.5
```

## Configurando el router R4 (2600)

```
Router>enable
Router#configure terminal
*** Configurando las interfaces
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 10.10.10.10 mask 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
Router(config)#interface loopback 0
Router(config-if)#ip address 2.2.2.2 255.255.255.255
Router(config-if)#no shutdown
Router(config-if)# exit
*** Configurando los dial-peer POTS para cada puerto FXS
```

```
Router(config)#dial-peer voice 1 pots
Router(config-dial-peer)#destination pattern 1000
Router(config-dial-peer)#port 0/0/0
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
*** Configurando el voice port FXS1
Router(config)#voice port 0/0/0
Router(config-dial-port)#cptone PE
Router(config-dial-port)#connection plar 1000
Router(config-dial-port)#no shutdown
Router(config-dial-port)#exit
Router(config)#dial-peer voice 2 pots
Router(config-dial-peer)#destination pattern 1001
Router(config-dial-peer)#port 0/0/1
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
*** Configurando el dial-peer voip "B"
Router(config)#dial-peer voice 1000 voip
Router(config-dial-peer)#destination-pattern 30..
Router(config-dial-peer)#session target ipv4:2.2.2
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
Router(config)#dial-peer voice 1001 voip
Router(config-dial-peer)#destination-pattern 2..
Router(config-dial-peer)#session target ipv4:2.2.2
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
```

# Escenario 2



Un usuario de la sede “Central” levanta la extensión 101 (2) con la intención de llamar a la extensión 1000 (1) en la sede “Remoto”.

# Configuración – Parte 1/3

## Configurando el router 2600

```
*** Averiguando los puertos FXS del router
Router>enable
Router#show running-config
Building configuration...
...
!
voice-port 1/0/0
!
voice-port 1/0/1
!
voice-port 1/1/0
!
voice-port 1/1/1
!
...
!
end
Router#configure terminal
*** Configurando las interfaces
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 2.2.2.1 mask 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
Router(config)#interface serial 0/0/0
Router(config-if)#ip address 1.1.1.1 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
Router(config)#interface loopback 0
Router(config-if)#ip address 3.3.3.3 255.255.255.255
Router(config-if)#no shutdown
Router(config-if)# exit
```

\*\*\* Configurando los dial-peer POTS para cada puerto FXS

```
Router(config)#dial-peer voice 10 pots
Router(config-dial-peer)#destination pattern 1000
Router(config-dial-peer)#port 1/0/0
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
Router(config)#dial-peer voice 11 pots
Router(config-dial-peer)#destination pattern 1001
Router(config-dial-peer)#port 1/0/1
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
Router(config)#dial-peer voice 12 pots
Router(config-dial-peer)#destination pattern 1002
Router(config-dial-peer)#port 1/1/0
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
Router(config)#dial-peer voice 13 pots
Router(config-dial-peer)#destination pattern 1003
Router(config-dial-peer)#port 1/1/1
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
Router(config)#exit
*** Salvando configuración
Router#rw
Router#configure terminal
*** Configurando el dial-peer voip "A"
Router(config)#dial-peer voice 1000 voip
Router(config-dial-peer)#destination-pattern 2..
Router(config-dial-peer)#session target ipv4:3.3.3.4
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
```

# Configuración – Parte 2/3

\*\*\* Configurando el enrutamiento estático

```
Router(config)#ip route 3.3.3.4 255.255.255.255 2.2.2.2
Router(config)#ip route 3.3.3.4 255.255.255.255 1.1.1.2 20
Router(config)#ip route 2.2.2.4 255.255.255.252 2.2.2.2
Router(config)#ip route 2.2.2.4 255.255.255.252 1.1.1.2 20
Router(config)#ip route 1.1.1.4 255.255.255.252 2.2.2.2
Router(config)#ip route 1.1.1.4 255.255.255.252 1.1.1.2 20
Router(config)#ip route 2.2.2.8 255.255.255.252 2.2.2.2
Router(config)#ip route 2.2.2.8 255.255.255.252 1.1.1.2 20
Router(config)#exit
```

## Configurando el router R1

```
Router>enable
```

\*\*\* Configurando las interfaces

```
Router#configure terminal
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 2.2.2.2 mask 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
Router(config)#interface fastEthernet 0/1
Router(config-if)#ip address 2.2.2.5 mask 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
Router(config)#interface serial 0/0/0
Router(config-if)#ip address 1.1.1.2 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
Router(config)#interface serial 0/0/1
Router(config-if)#ip address 1.1.1.5 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
*** Configurando el enrutamiento estático
Router(config)#ip route 3.3.3.3 255.255.255.255 2.2.2.1
```

```
Router(config)#ip route 3.3.3.3 255.255.255.255 1.1.1.1 20
Router(config)#ip route 3.3.3.4 255.255.255.255 2.2.2.6
Router(config)#ip route 3.3.3.4 255.255.255.255 1.1.1.6 20
Router(config)#ip route 2.2.2.8 255.255.255.252 2.2.2.6
Router(config)#ip route 2.2.2.8 255.255.255.252 1.1.1.6 20
Router(config)#exit
```

## Configurando el router R2

```
Router>enable
```

\*\*\* Configurando las interfaces

```
Router#configure terminal
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 2.2.2.6 mask 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
Router(config)#interface fastEthernet 0/1
Router(config-if)#ip address 2.2.2.9 mask 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
Router(config)#interface serial 0/0/0
Router(config-if)#ip address 1.1.1.6 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
*** Configurando el enrutamiento estático
Router(config)#ip route 3.3.3.3 255.255.255.255 2.2.2.5
Router(config)#ip route 3.3.3.3 255.255.255.255 1.1.1.5 20
Router(config)#ip route 3.3.3.4 255.255.255.255 2.2.2.10
Router(config)#ip route 2.2.2.0 255.255.255.252 2.2.2.5
Router(config)#ip route 2.2.2.0 255.255.255.252 1.1.1.5 20
Router(config)#ip route 1.1.1.0 255.255.255.252 2.2.2.5
Router(config)#ip route 1.1.1.0 255.255.255.252 1.1.1.5 20
Router(config-if)# exit
```

# Configuración – Parte 3/3

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## Configurando router 1700

```
Router>enable
Router#configure terminal
*** Configurando las interfaces
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 2.2.2.10 mask 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)# exit
Router(config)#interface loopback 0
Router(config-if)#ip address 3.3.3.4 255.255.255.255
Router(config-if)#no shutdown
Router(config-if)# exit
*** Configurando el dial-peer POTS del puerto FXO
Router(config)#dial-peer voice 1 pots
Router(config-dial-peer)#destination pattern 201
Router(config-dial-peer)#port 1/0
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
*** Configurando el voice port FXO
Router(config)#voice port 1/0
Router(config-dial-port)#signal loop-start
Router(config-dial-port)#cptone PE
Router(config-dial-port)#connection plar 1000
Router(config-dial-port)# no shutdown
Router(config-dial-port)#exit
*** Configurando el dial-peer voip "B"
Router(config)#dial-peer voice 1000 voip
Router(config-dial-peer)#destination-pattern 1...
Router(config-dial-peer)#session target ipv4:3.3.3.3
Router(config-dial-peer)#no shutdown
Router(config-dial-peer)#exit
```

## \*\*\* Configurando el enrutamiento estático

```
Router(config)#ip route 3.3.3.3 255.255.255.255 2.2.2.9
Router(config)#ip route 2.2.2.4 255.255.255.252 2.2.2.9
Router(config)#ip route 1.1.1.4 255.255.255.252 2.2.2.9
Router(config)#ip route 2.2.2.0 255.255.255.252 2.2.2.9
Router(config)#ip route 1.1.1.0 255.255.255.252 2.2.2.9
Router(config)#exit
```