

Contents

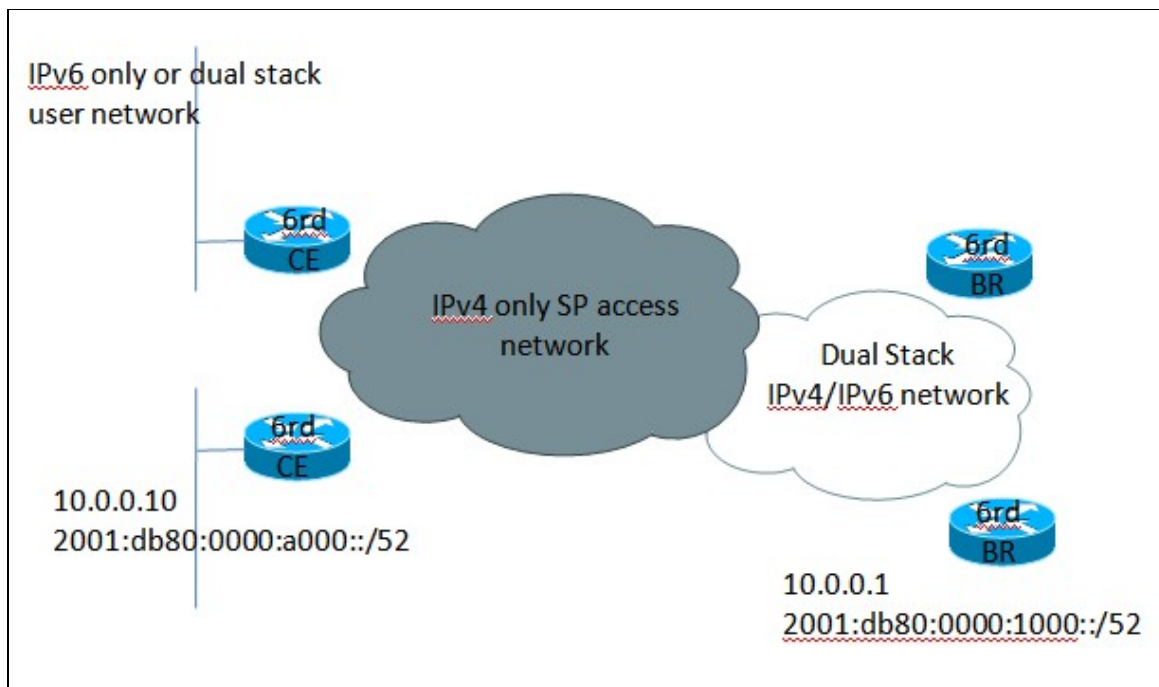
- [1 Introduction](#)
- [2 Design](#)
- [3 Configuration](#)
 - ◆ [3.1 BR](#)
 - ◆ [3.2 CE](#)
- [4 Related show Commands](#)
- [5 Software releases and platforms](#)
- [6 Related Information](#)

Introduction

6rd is a IPv6 transitioning mechanism to allow for stateless tunneling of IPv6 over IPv4. It is intended as a mechanism to tunnel across an ISP's IPv4 only access network.

This example shows the configuration of a 6rd Border Relay (BR) and the configuration of the corresponding 6rd Customer Edge (CE) router. 6rd is specified in [RFC5969](#).

Design



Configuration

BR

```

ipv6 general-prefix DELEGATED_PREFIX 6rd Tunnel0
interface Loopback0
 ip address 10.0.0.1 255.255.255.0
!
interface Tunnel0

```

6rd_Configuration_Example

```
tunnel source Loopback0
tunnel mode ipv6ip 6rd
tunnel 6rd ipv4 prefix-len 8
tunnel 6rd prefix 2001:db80::/28
ipv6 address DELEGATED_PREFIX::/128 anycast
!
ipv6 route 2001:db80::/28 Tunnel0
ipv6 route 2001:db80:0:1000::/52 Null0
```

CE

```
ipv6 general-prefix DELEGATED_PREFIX 6rd Tunnel0
interface Dialer0
 ip address dhcp ! (10.0.0.10)
!
interface Tunnel0
 tunnel source Dialer0
 tunnel mode ipv6ip 6rd
 tunnel 6rd ipv4 prefix-len 8
 tunnel 6rd prefix 2001:db80::/28
 tunnel 6rd br 10.0.0.1
 ipv6 address DELEGATED_PREFIX ::/128 anycast
!
interface Ethernet0
 ipv6 address DELEGATED_PREFIX ::/64 eui-64
!
ipv6 route 2001:db80::/28 Tunnel0
ipv6 route ::/0 Tunnel0 2001:db80:0:1000::
ipv6 route 2001:db80:0:A000::/52 Null0
```

Note there is a caveat in IOS today where it would reject overlapping IPv6 addresses as configured above, ie., a /128 on the tunnel and /64 on the LAN interface, with the **%IPV6_ADDRESS-3-ADDRESS_CFG** error. The workaround is to remove the IPv6 address configuration from the Tunnel interface and use the command **ipv6 enable** to have a link-local ipv6 address assigned to the Tunnel.

Related show Commands

This section provides information you can use to confirm your configuration is working properly.

Certain show commands are supported by the [Output Interpreter Tool \(registered customers only\)](#), which allows you to view an analysis of show command output.

```
show running-config
```

```
show tunnel 6rd
```

Software releases and platforms

IOS 15.1(3)T for 800, 1800, 1900, 2800, 2900, 3800, 3900 Series IOS-XE 3.1S for ASR 1K

Related Information

[Technical Support & Documentation - Cisco Systems](#)