

Testing Multicasting

Multicast Address Basics

Multicast Group Address Range:

Valid range: 224.0.0.0 to 239.255.255.255 (Reserved for multicast traffic, not assigned to individual devices.)

Common Multicast Addresses:

- 224.0.0.1: All systems on the local network segment.
- 224.0.0.2: All routers on the local network segment.
- 239.255.255.250: Used by Universal Plug and Play (UPnP) and Simple Service Discovery Protocol (SSDP). This is common for smart devices like Google Home. You can pick any address in this range if you're testing, as long as it's not reserved for a specific purpose.

How It Relates to Your Subnets

Multicast traffic is sent to the multicast group address (e.g., 239.255.255.250) and not directly to the subnet IP range (e.g., 192.168.10.0/24 or 192.168.20.0/24).

Devices that "subscribe" to the multicast group on either subnet will receive traffic sent to the multicast group address if multicast routing is configured properly (like IGMP Proxy in pfSense).

To verify multicast routing between your subnets:

On Subnet 192.168.10.0:

Run a multicast listener for 239.255.255.250 on one device:

```
iperf -s -u -B 239.255.255.250 -i 1
```

On Subnet 192.168.20.0:

Send multicast traffic from another device:

```
iperf -c 239.255.255.250 -u -b 1M -t 10
```

If multicast routing is configured correctly, the listener on 192.168.10.0 should receive the traffic.

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