

Compatible Systems Tech Notes: Problems Routing when using /29 Mask on 232 Network

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Introduction

When you use a subnet mask of 255.255.255.248 (four hosts) on a network that starts with network number 232, you cannot reach a host numbered 235 on the network attached to the router when you route through the router.

Prerequisites

Requirements

There are no specific requirements for this document.

Affected Products

1200i, 1220i, 1250i, 1270i, 2600i, 2900i, 2200R, 2220R, 2250R, 2270R, 3500R, 3800R, VSR-2, and VSR-8

Affected Versions

Versions later than 5.0 but earlier than 5.1

More Information

The specific problem is where the router is an Ethernet to WAN router, the WAN is a numbered Frame Relay link and the Ethernet port is numbered at x.x.x.233. Nodes numbered at 234, 236 on the Ethernet can be reached across the Frame Relay link. However, the node numbered at 235 cannot be reached through the router.

The default network broadcast is the problem.

For example, with the networks of:

WAN	198.14.9.64	255.255.255.252
LAN	198.14.9.80	255.255.255.240

The call to netmask() matches the WAN network when trying to set the default network broadcast for the LAN network. The invalid combination of the mask of 255.255.255.252 with the network of 198.41.9.80 has led to a 198.41.9.83 being added to the broadcast table.

Before the fix:

```
2270R>show ip broadcast
=====
IP Broadcast Table Entries
-----
198.41.11.207
198.41.11.255
198.41.11.192
198.41.9.95
198.41.9.80
198.41.9.64
198.41.9.83 <---- The cause of the problem
198.41.9.67
198.41.9.0
198.41.12.0
198.41.9.255
198.41.11.0
198.41.12.255
```

After the fix:

```
2270R>show ip broadcast
=====
IP Broadcast Table Entries
-----
198.41.11.207
198.41.11.255
198.41.11.192
198.41.9.95
198.41.9.80
198.41.9.64
198.41.9.67
198.41.9.0
198.41.12.0
198.41.9.255
198.41.11.0
198.41.12.255
```

Related Information

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

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