

# Mediatrace曾经隔离网络损伤

## 目录

[简介](#)

[先决条件](#)

[要求](#)

[规则](#)

[网络拓扑](#)

[配置](#)

[中央印制厂SW](#)

[中央印制厂WAN](#)

[BR-WAN](#)

[BR-SW](#)

[故障排除方法](#)

[步骤 1](#)

[步骤 2](#)

[步骤 3](#)

[步骤 4](#)

[数据分析](#)

[常见问题](#)

[常见问题](#)

Q. [Mediatrace用网络管理或监控系统集成？](#)

Q. [是否需要启用Mediatrace功能的资源预留协议\(RSVP\)？](#)

[相关信息](#)

## 简介

本文描述如何使用[Mediatrace](#)功能迅速隔离网络损伤，例如包丢失和抖动，影响语音和视频质量。

## [先决条件](#)

## [要求](#)

本文档没有任何特定的要求。

## 使用的组件

本文档中的信息基于以下软件和硬件版本：

- 在Cisco集成服务路由器(ISR)和ISR G2平台的Mediatrace功能- Cisco IOS版本15.1(3)T或以上
- 在Cisco的Mediatrace功能3750平台- Cisco IOS版本12.2(58)SE或以上
- 在思科网真EX90的Mediatrace功能- Cisco网真软件版本TE 6.0或以上

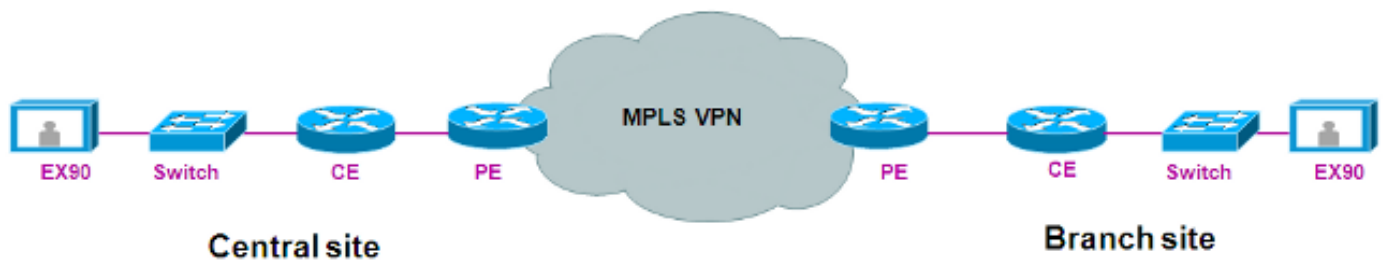
本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

## 规则

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

## 网络拓扑

在本例中，体验的视频呼叫的配置在两个EX90终端之间的包丢失解释。网络拓扑显示此处：



## 配置

配置Mediatrace发起者和响应方的进程非常简单。参考配置的这些示例。

### 中央印制厂SW

```
interface Vlan201
ip address 10.2.3.70 255.255.255.0

ip rsvp snooping

mediatrace responder
mediatrace initiator source-ip 10.2.3.70 max-sessions 100
```

### 中央印制厂WAN

```
interface GigabitEthernet0/0
description "CE router connected to MPLS PE router"
ip address 10.16.1.2 255.255.255.252
ip rsvp source address 10.2.3.65
!
interface GigabitEthernet0/1
description "Connected to Central-SW"
ip address 10.2.3.65 255.255.255.0

mediatrace responder
mediatrace initiator source-ip 10.2.3.65 max-sessions 100
```

## BR-WAN

```
interface GigabitEthernet0/0
description "CE router connected to MPLS PE router"
ip address 10.16.2.2 255.255.255.252 ip rsvp source address 10.2.4.65
!
interface GigabitEthernet0/1
description "Connected to BR3-SW"
ip address 10.2.4.65 255.255.255.0
mediatrace responder
mediatrace initiator source-ip 10.2.4.65 max-sessions 100
```

## BR-SW

```
interface Vlan202
ip address 10.2.4.70 255.255.255.0

ip rsvp snooping

mediatrace responder
mediatrace initiator source-ip 10.2.4.70 max-sessions 100
```

## 故障排除方法

思科建议您启用在所有可适用的节点的Mediatrace在企业网络。普通的交换和路由选择平台支持它例如3750和ISR-G2。

### 步骤 1

确定音频或视频路由表协议(RTP)数据流的源和目的地IP地址/端口编号利益。

#### EX90 xstatus MediaChannels

```
*s MediaChannels Call 9 IncomingAudioChannel 115 Encryption Status: Off
*s MediaChannels Call 9 IncomingAudioChannel 115 Audio Protocol: AACLD
*s MediaChannels Call 9 IncomingAudioChannel 115 Audio Mute: False
*s MediaChannels Call 9 IncomingAudioChannel 115 Audio Channels: 1
*s MediaChannels Call 9 IncomingAudioChannel 115 Transport RTP Local IpAddress:
"10.2.3.41"
*s MediaChannels Call 9 IncomingAudioChannel 115 Transport RTP Local Port: 16454
*s MediaChannels Call 9 IncomingAudioChannel 115 Transport RTP Remote IpAddress:
"10.2.4.5"
*s MediaChannels Call 9 IncomingAudioChannel 115 Transport RTP Remote Port: 16444
*s MediaChannels Call 9 IncomingAudioChannel 115 Transport RTCP Local IpAddress:
"10.2.3.41"
*s MediaChannels Call 9 IncomingAudioChannel 115 Transport RTCP Local Port: 16455
*s MediaChannels Call 9 IncomingAudioChannel 115 Transport RTCP Remote IpAddress:
"10.2.4.5"
*s MediaChannels Call 9 IncomingAudioChannel 115 Transport RTCP Remote Port: 16445
*s MediaChannels Call 9 IncomingVideoChannel 118 Encryption Status: Off
*s MediaChannels Call 9 IncomingVideoChannel 118 ChannelRole: Main
*s MediaChannels Call 9 IncomingVideoChannel 118 Video Protocol: H264
*s MediaChannels Call 9 IncomingVideoChannel 118 Video FrameRate: 30
*s MediaChannels Call 9 IncomingVideoChannel 118 Video ResolutionX: 640
*s MediaChannels Call 9 IncomingVideoChannel 118 Video ResolutionY: 360
*s MediaChannels Call 9 IncomingVideoChannel 118 Transport RTP Local IpAddress:
"10.2.3.41"
```

```

*s MediaChannels Call 9 IncomingVideoChannel 118 Transport RTP Local Port: 16456
*s MediaChannels Call 9 IncomingVideoChannel 118 Transport RTP Remote IPAddress:
"10.2.4.5"
*s MediaChannels Call 9 IncomingVideoChannel 118 Transport RTP Remote Port: 16446
*s MediaChannels Call 9 IncomingVideoChannel 118 Transport RTCP Local IPAddress:
"10.2.3.41"
*s MediaChannels Call 9 IncomingVideoChannel 118 Transport RTCP Local Port: 16457
*s MediaChannels Call 9 IncomingVideoChannel 118 Transport RTCP Remote IPAddress:
"10.2.4.5"
*s MediaChannels Call 9 IncomingVideoChannel 118 Transport RTCP Remote Port: 16447
*s MediaChannels Call 9 IncomingVideoChannel 121 Encryption Status: Off

```

## 步骤 2

识别起源终端连接的交换机。此交换机可以识别与思科设备发现协议(CDP)显示命令。

### EX90 xstatus Network

```

*s Network 1 Ethernet MacAddress: "FF:FF:FF:70:E6:B6"
*s Network 1 Ethernet Speed: 100full
*s Network 1 IPv4 Address: "10.2.3.41"
*s Network 1 IPv4 SubnetMask: "255.255.255.0"
*s Network 1 IPv4 Gateway: "10.2.3.65"
*s Network 1 IPv4 DNS Domain Name: ""
*s Network 1 IPv4 DNS Server 1 Address: ""
*s Network 1 IPv4 DNS Server 2 Address: ""
*s Network 1 IPv4 DNS Server 3 Address: ""
*s Network 1 IPv4 DNS Server 4 Address: ""
*s Network 1 IPv4 DNS Server 5 Address: ""
*s Network 1 IPv6 Address: ""
*s Network 1 IPv6 Gateway: ""
*s Network 1 MTU: 1500
*s Network 1 VLAN Voice VlanId: "201"
*s Network 1 VLAN Native VlanId: "202"
*s Network 1 CDP Platform: "cisco WS-C3750V2-24TS"
*s Network 1 CDP Version: "Cisco IOS Software, C3750 Software
(C3750-IPSERVICESK9-M), Version 12.2(58)SE2, RELEASE SOFTWARE (fc1)
*Technical Support: http://www.cisco.com/techsupport*Copyright (c)
1986-2011 by Cisco Systems, Inc.*Compiled Thu 21-Jul-11 01:53 by
prod_rel_team"
*s Network 1 CDP Capabilities: "0x0028"
*s Network 1 CDP DeviceID: "Central-SW"
*s Network 1 CDP PortID: "FastEthernet1/0/23"
*s Network 1 CDP Duplex: "Full"
*s Network 1 CDP VTPMgmtDomain: ""
*s Network 1 CDP Address: "10.2.3.70"
*s Network 1 CDP PrimaryMgmtAddress: "10.2.3.70"
*s Network 1 CDP SysName: ""
*s Network 1 CDP SysObjectID: ""
*s Network 1 CDP VoIPApplianceVlanID: "201"
** end

```

## 步骤 3

登陆到首跳交换机并且配置流指定成分独特识别RTP数据流。此流指定成分用于mediatrace投票命令。

```

mediatrace flow-specifier RTP
source-ip 10.2.3.41 source-port 16456
dest-ip 10.2.4.5 dest-port 16446

```

## 步骤 4

输入mediatrace投票命令。

- 来源值-起源UC终端的IP地址
- 目的地值- IP地址的位置UC终端
- 流指定成分-包含4个值元组识别RTP数据流流指定成分的名称

```
#mediatrace poll path-specifier source 10.2.3.41 destination 10.2.4.5
```

```
perf-monitor flow-specifier RTP
```

```
Started the data fetch operation.
```

```
Waiting for data from hops.
```

```
This may take several seconds to complete...
```

```
Data received for hop 1
```

```
Data received for hop 2
```

```
Data received for hop 3
```

```
Data received for hop 4
```

```
Data fetch complete.
```

```
Results:
```

```
Data Collection Summary:
```

```
Request Timestamp: 11:00:54.302 EST Sun Mar 10 2013
```

```
Request Status: Completed
```

```
Number of hops responded (includes success/error/no-record): 4
```

```
Number of hops with valid data report: 4
```

```
Number of hops with error report: 0
```

```
Number of hops with no data record: 0
```

```
Detailed Report of collected data&colon;
```

```
Number of Mediatrace hops in the path: 4
```

```
Mediatrace Hop Number: 1 (host=Central-Wan, ttl=254)
```

```
Metrics Collection Status: Success
```

```
Reachability Address: 10.2.3.65
```

```
Ingress Interface: Gi0/1
```

```
Egress Interface: Gi0/0
```

```
Metrics Collected:
```

```
Flow Sampling Start Timestamp: 10:26:48
```

```
Loss of measurement confidence: FALSE
```

```
Media Stop Event Occurred: FALSE
```

```
IP Packet Drop Count (pkts): 0
```

```
IP Byte Count (Bytes): 191965
```

```
IP Packet Count (pkts): 402
```

```
IP Byte Rate (Bps): 15996
```

```
Packet Drop Reason: 64
```

```
IP DSCP: 32
```

```
IP TTL: 63
```

```
IP Protocol: 0
```

```
Media Byte Rate Average (Bps): 15058
```

```
Media Byte Count (Bytes): 180709
```

```
Media Packet Count (pkts): 402
```

```
RTP Interarrival Jitter Average (usec): 155
```

```
RTP Packets Lost (pkts): 0
```

```
RTP Packets Expected (pkts): 397
```

```
RTP Packet Lost Event Count: 0
```

```
RTP Loss Percent (%): 0.00
```

```
Mediatrace Hop Number: 2 (host=BR-Wan, ttl=251)
```

```
Metrics Collection Status: Success
```

```
Reachability Address: 10.16.2.2
```

```
Ingress Interface: Gi0/0
```

```
Egress Interface: Gi0/1
```

```
Metrics Collected:
```

Flow Sampling Start Timestamp: 09:58:40  
Loss of measurement confidence: FALSE  
Media Stop Event Occurred: FALSE  
IP Packet Drop Count (pkts): 0  
IP Byte Count (Bytes): 331523  
IP Packet Count (pkts): 694  
IP Byte Rate (Bps): 16576  
Packet Drop Reason: 64  
IP DSCP: 32  
IP TTL: 60  
IP Protocol: 0  
Media Byte Rate Average (Bps): 15604  
Media Byte Count (Bytes): 312091  
Media Packet Count (pkts): 694  
RTP Interarrival Jitter Average (usec): 1648  
RTP Packets Lost (pkts): 14  
RTP Packets Expected (pkts): 708  
RTP Packet Lost Event Count: 13  
**RTP Loss Percent (%): 1.97**

Mediatrace Hop Number: 3 (**host=BR-SW**, ttl=251)

Metrics Collection Status: Success

Reachability Address: 10.2.4.70

Ingress Interface: Fa1/0/22

Egress Interface: Fa1/0/24

Metrics Collected:

Flow Sampling Start Timestamp: 22:50:37

Loss of measurement confidence: FALSE

Media Stop Event Occurred: FALSE

IP Packet Drop Count (pkts): 0

IP Byte Count (Bytes): 505526

IP Packet Count (pkts): 1059

IP Byte Rate (Bps): 16850

Packet Drop Reason: 0

IP DSCP: 32

IP TTL: 60

IP Protocol: 17

Media Byte Rate Average (Bps): 16144

Media Byte Count (Bytes): 484346

Media Packet Count (pkts): 1059

RTP Interarrival Jitter Average (usec): 1511

RTP Packets Lost (pkts): 22

RTP Packets Expected (pkts): 1075

RTP Packet Lost Event Count: 21

**RTP Loss Percent (%): 2.04**

Mediatrace Hop Number: 4 (**host=BR-EX90**, ttl=251)

Metrics Collection Status: Success

Reachability Address: 10.2.4.5

Ingress Interface: eth0

Egress Interface: None

Metrics Collected:

Flow Sampling Start Timestamp: 11:02:00

Loss of measurement confidence: FALSE

Media Stop Event Occurred: FALSE

IP Packet Drop Count (pkts): 0

IP Byte Count (Bytes): 0

IP Packet Count (pkts): 0

IP Byte Rate (Bps): 0

Packet Drop Reason: 0

IP DSCP: 0

IP TTL: 0

IP Protocol: 17

Media Byte Rate Average (Bps): 16000

Media Byte Count (Bytes): 478219  
Media Packet Count (pkts): 1056  
RTP Interarrival Jitter Average (usec): 4953  
RTP Packets Lost (pkts): 17  
RTP Packets Expected (pkts): 1073  
RTP Packet Lost Event Count: 6  
**RTP Loss Percent (%): 0.04**

Central-SW#

## 数据分析

这些观察可以由mediatrace投票命令输出做：

1. RTP流网络路径包含从中央印制厂SW的4个Mediatrace启用的设备：
  - 中央印制厂WAN
  - BR-WAN
  - BR-SW
  - BR-EX90
2. 包丢失没有被观察在中央印制厂WAN路由器。
3. 包丢失被观察在BR-WAN、BR-SW和BR-EX90。
4. 结论是包丢失介绍在中央印制厂WAN和BR-WAN之间。

## 常见问题

造成包丢失的典型要素是：

1. 不正确差分服务代码点值。
2. 在限制带宽利用率的服务提供商网络内的策略器。
3. Layer2错误，例如双工不匹配和控制器错误。

## 常见问题

**Q. Mediatrace用网络管理或监控系统集成？**

A. 是，思科头等协作使管理员排除故障与使用的视频呼叫在单个单击的Mediatrace并且显示在图形格式的结果。

**Q. 是否需要启用Mediatrace功能的资源预留协议(RSVP)？**

A. 不，Mediatrace使用自动地启用的RSVP-TP，当Mediatrace发起者或响应方配置时。没有需要输入ip rsvp bandwidth命令。

## 相关信息

- [技术支持和文档 - Cisco Systems](#)