

Cisco vEdge 라우터의 양방향 포워딩 탐지 플랩-이유 정의

목차

[소개](#)

[사전 요구 사항](#)

[요구 사항](#)

[사용되는 구성 요소](#)

[토폴로지 개요](#)

[BFD 상태](#)

[시나리오](#)

[시나리오 1. 플랩-이유:bfd-deleted](#)

[시나리오 2. 플랩-이유:시간 초과](#)

[시나리오 3. 플랩-이유:na](#)

[시나리오 4. 플랩-이유:원격 다운](#)

[관련 정보](#)

소개

이 문서에서는 Cisco vEdge 라우터의 다양한 BFD(Bidirectional Forwarding Detection) 플랩 사유에 대해 설명합니다.

사전 요구 사항

요구 사항

Cisco는 Cisco SDWAN 솔루션에 대한 지식을 보유하고 있는 것이 좋습니다.

사용되는 구성 요소

이 문서는 19.2.1을 실행하는 Cisco 클라우드 vEdge 라우터를 기반으로 합니다.

이 문서의 정보는 특정 랩 환경의 디바이스를 토대로 작성되었습니다.이 문서에 사용된 모든 디바이스는 초기화된(기본) 컨피그레이션으로 시작되었습니다.네트워크가 작동 중인 경우 모든 명령의 잠재적인 영향을 이해해야 합니다.

토폴로지 개요

이 문서는 특정 토폴로지로 제한되지 않습니다.

이 문서에서 일부 중요한 구성 요소의 IP 주소 및 색상:

구성 요소	시스템-IP	VPN 0 IP/색상	VPN 0 IP/색상
VEDGE-1	10.13.13.13	192.168.1.4 / mpls	192.168.2.4 / mpls
VEDGE-2	10.15.15.15	192.168.1.8 / 비즈니스 인터넷	192.168.2.8 / 비즈니스 인터넷
vSmart	10.8.8.8	192.168.1.3 / 기본값	해당 없음
vManage	10.7.7.7	192.168.1.1 / 기본값	해당 없음

BFD 상태

Cisco vEdge 라우터에서 가능한 'flap-reason' 값은 다음과 같습니다.

1. **bfd-deleted** - 컨트롤 플레인이 삭제했으므로 BFD가 다운됩니다.

BFD가 삭제되면 두 개의 알림을 발생시킵니다. 하나는 BFD가 다운되고 하나는 BFD가 삭제될 때 발생합니다.

2. 시간 초과 - 원격 끝으로부터 BFD 응답이 없습니다.

3. **원격 다운** - 원격 엔드가 BFD 패킷을 전송했으며, 이 패킷은 down-state.4로 이동했음을 나타냅니다.

4. **na** - 해당 없음이 설정은 BFD 세션이 처음 생성될 때와 BFD 세션이 시작될 때 설정됩니다.

시나리오

시나리오 1. 플랩-이유:bfd-deleted

VEDGE-1 라우터에서 포트 홉을 수행하고 다음 시나리오를 재현합니다.

```
HUB-1# request port-hop color biz-internet
```

```
VEDGE-1# show log tail -f /var/log/tmplog/vdebug
local7.debug: Mar 20 09:29:21 VEDGE-1 VDAEMON[1136]: vdaemon_disable_my_tloc[1308]:
%VDAEMON_DBG_EVENTS-1: Disabling tloc ge0_1.
local7.debug: Mar 20 09:29:21 VEDGE-1 VDAEMON[1136]: vdaemon_send_tloc_info[8282]:
%VDAEMON_DBG_MISC-1: Sending TLOC: ifname:ge0_1 color:biz-internet spi:1499 smarts:1 manages:1
state:DOWN LR encap: 0 LR hold time : 7000 Pairwise-Keys Disabled key-id 0
local7.info: Mar 20 09:29:21 VEDGE-1 VDAEMON[1136]: %Viptela-VEDGE-1-vdaemon-6-INFO-1400002:
Notification: 3/20/2020 9:29:21 control-connection-state-change severity-level:major host-
name:"VEDGE-1" system-ip:10.13.13.13 personality:vEdge peer-type:vsmart peer-system-ip:10.8.8.8
peer-vmanage-system-ip:0.0.0.0 public-ip:192.168.1.3 public-port:12946 src-color:biz-internet
remote-color:default uptime:"0:00:35:57" new-state:down
local7.info: Mar 20 09:29:21 VEDGE-1 VDAEMON[1136]: %Viptela-VEDGE-1-vdaemon-6-INFO-1400002:
Notification: 3/20/2020 9:29:21 control-connection-state-change severity-level:major host-
name:"VEDGE-1" system-ip:10.13.13.13 personality:vEdge peer-type:vmanage peer-system-ip:10.7.7.7
peer-vmanage-system-ip:0.0.0.0 public-ip:192.168.1.1 public-port:12946 src-color:biz-internet
remote-color:mpls uptime:"0:01:56:34" new-state:down
local7.info: Mar 20 09:29:21 VEDGE-1 FTMD[1126]: %Viptela-VEDGE-1-ftmd-6-INFO-1400002:
Notification: 3/20/2020 9:29:21 bfd-state-change severity-level:major host-name:"VEDGE-1"
system-ip:10.13.13.13 src-ip:192.168.2.4 dst-ip:192.168.1.6 proto:ipsec src-port:12406 dst-
port:12347 local-system-ip:10.13.13.13 local-color:"biz-internet" remote-system-ip:10.14.14.14
remote-color:"mpls" new-state:down deleted:false flap-reason:bfd-deleted
```

BFD를 확인하고 비즈니스 인터넷에서 연결 업타임을 제어합니다.

```
VEDGE-1# show control connections | t
LOCAL LOCAL
```

CFG	V											
SYSTEM	PEER	SITE	DOMAIN	PRIVATE	PRIVATE	PUBLIC	PUBLIC					CONTROLLER
SYSTEM	ORG	BEHIND										
INSTANCE	TYPE	ID	ID	IP	PORT	IP	PORT	IP	PORT	IP	PROTOCOL	LOCAL
COLOR	REMOTE	COLOR	IP	PORT	STATE	UPTIME	GROUP	ID	ID	IP	NAME	PROXY
0	vsmart	8	1	192.168.1.4	12366	192.168.1.3	12946	10.8.8.8	dtls			
mpls		default		192.168.1.3	12946	up	0:00:03:47	0			-	-
No												
0	vsmart	8	1	192.168.2.4	12426	192.168.1.3	12946	10.8.8.8	dtls			
biz-internet		default		192.168.1.3	12946	up	0:00:01:52	0			-	-
No												
0	vbond	0	0	192.168.1.4	12366	192.168.1.10	12346	0.0.0.0	dtls			
mpls		mpls		192.168.1.10	12346	up	0:00:03:47	0			-	-
-												
0	vbond	0	0	192.168.2.4	12426	192.168.1.10	12346	0.0.0.0	dtls			
biz-internet		biz-internet		192.168.1.10	12346	up	0:00:00:31	0			-	-
-												
0	vmanage	8	0	192.168.2.4	12426	192.168.1.1	12946	10.7.7.7	dtls			
biz-internet		mpls		192.168.1.1	12946	up	0:00:01:52	0			-	-
No												

```
VEDGE-1# sh bfd sess | t
```

DETECT	TX											
SRC IP	DST IP	PROTO	PORT	PORT	SYSTEM	IP	ID	LOCAL	COLOR	COLOR		STATE
MULTIPLIER	INTERVAL	UPTIME		TRANSITIONS								
192.168.1.4	192.168.1.6	ipsec	12366	12347	10.14.14.14	14	mpls	mpls				
up	7	1000	0:00:03:48	0								
192.168.1.4	192.168.2.6	ipsec	12366	12387	10.14.14.14	14	mpls	biz-internet				
up	7	1000	0:00:03:48	0								
192.168.2.4	192.168.1.6	ipsec	12426	12347	10.14.14.14	14	biz-internet	mpls				
up	7	1000	0:00:01:55	0								
192.168.2.4	192.168.2.6	ipsec	12426	12387	10.14.14.14	14	biz-internet	biz-internet				
up	7	1000	0:00:01:55	0								
192.168.1.4	192.168.1.8	ipsec	12366	12406	10.15.15.15	15	mpls	mpls				
up	7	1000	0:00:03:48	0								
192.168.1.4	192.168.2.8	ipsec	12366	12366	10.15.15.15	15	mpls	biz-internet				
up	7	1000	0:00:03:48	0								
192.168.2.4	192.168.1.8	ipsec	12426	12406	10.15.15.15	15	biz-internet	mpls				
up	7	1000	0:00:01:55	0								
192.168.2.4	192.168.2.8	ipsec	12426	12366	10.15.15.15	15	biz-internet	biz-internet				
up	7	1000	0:00:01:55	0								
192.168.1.4	192.168.1.11	ipsec	12366	12346	10.16.16.16	16	mpls	mpls				
up	7	1000	0:00:03:48	0								
192.168.1.4	192.168.2.11	ipsec	12366	12426	10.16.16.16	16	mpls	biz-internet				
up	7	1000	0:00:03:48	0								
192.168.2.4	192.168.1.11	ipsec	12426	12346	10.16.16.16	16	biz-internet	mpls				
up	7	1000	0:00:01:55	0								
192.168.2.4	192.168.2.11	ipsec	12426	12426	10.16.16.16	16	biz-internet	biz-internet				
up	7	1000	0:00:01:55	0								
192.168.1.4	192.168.1.12	ipsec	12366	12426	10.17.17.17	17	mpls	mpls				
up	7	1000	0:00:03:48	0								
192.168.1.4	192.168.2.12	ipsec	12366	12406	10.17.17.17	17	mpls	biz-internet				
up	7	1000	0:00:03:48	0								
192.168.2.4	192.168.1.12	ipsec	12426	12426	10.17.17.17	17	biz-internet	mpls				

```

up      7      1000      0:00:01:55  0
192.168.2.4 192.168.2.12 ipsec 12426 12406 10.17.17.17 17 biz-internet biz-internet
up      7      1000      0:00:01:55  0
192.168.1.4 192.168.1.14 ipsec 12366 12426 10.18.18.18 18 mpls mpls
up      7      1000      0:00:03:48  0
192.168.1.4 192.168.2.14 ipsec 12366 12426 10.18.18.18 18 mpls biz-internet
up      7      1000      0:00:03:48  0
192.168.2.4 192.168.1.14 ipsec 12426 12426 10.18.18.18 18 biz-internet mpls
up      7      1000      0:00:01:55  0
192.168.2.4 192.168.2.14 ipsec 12426 12426 10.18.18.18 18 biz-internet biz-internet
up      7      1000      0:00:01:55  0
192.168.1.4 192.168.3.40 ipsec 12366 12366 10.19.19.19 19 mpls mpls
up      7      1000      0:00:03:48  0
192.168.1.4 192.168.4.40 ipsec 12366 12366 10.19.19.19 19 mpls biz-internet
up      7      1000      0:00:03:48  0
192.168.2.4 192.168.3.40 ipsec 12426 12366 10.19.19.19 19 biz-internet mpls
up      7      1000      0:00:01:55  0
192.168.2.4 192.168.4.40 ipsec 12426 12366 10.19.19.19 19 biz-internet biz-internet
up      7      1000      0:00:01:55  0

```

VEDGE-1에서 제어 연결을 지워 이 시나리오를 테스트할 수도 있습니다(TLOC도 비활성화).

```

local1.info: Mar 20 09:34:20 VEDGE-1 confd[897]: audit user: admin/60155 CLI 'clear control
connections'
local7.info: Mar 20 09:34:20 VEDGE-1 VDAEMON[1136]: %Viptela-VEDGE-1-vdaemon-6-INFO-1400002:
Notification: 3/20/2020 9:34:20 control-connection-state-change severity-level:major host-
name:"VEDGE-1" system-ip:10.13.13.13 personality:vEdge peer-type:vsmart peer-system-ip:10.8.8.8
peer-vmanage-system-ip:0.0.0.0 public-ip:192.168.1.3 public-port:12946 src-color:biz-internet
remote-color:default uptime:"0:00:00:51" new-state:down
local7.info: Mar 20 09:34:20 VEDGE-1 VDAEMON[1136]: %Viptela-VEDGE-1-vdaemon-6-INFO-1400002:
Notification: 3/20/2020 9:34:20 control-connection-state-change severity-level:major host-
name:"VEDGE-1" system-ip:10.13.13.13 personality:vEdge peer-type:vmanage peer-system-ip:10.7.7.7
peer-vmanage-system-ip:0.0.0.0 public-ip:192.168.1.1 public-port:12946 src-color:biz-internet
remote-color:mpls uptime:"0:00:01:09" new-state:down
local7.info: Mar 20 09:34:20 VEDGE-1 FTMD[1126]: %Viptela-VEDGE-1-ftmd-6-INFO-1400002:
Notification: 3/20/2020 9:34:20 bfd-state-change severity-level:major host-name:"VEDGE-1"
system-ip:10.13.13.13 src-ip:192.168.2.4 dst-ip:192.168.1.6 proto:ipsec src-port:12426 dst-
port:12347 local-system-ip:10.13.13.13 local-color:"biz-internet" remote-system-ip:10.14.14.14
remote-color:"mpls" new-state:down deleted:false flap-reason:bfd-deleted

```

이번에는 mpls 및 biz-internet 색상의 가동 시간을 확인합니다.

```

VEDGE-1# sh bfd sess | t

```

DETECT	TX	SRC	DST	SITE					
SRC IP	DST IP	PROTO	PORT	PORT	SYSTEM IP	ID	LOCAL COLOR	COLOR	STATE
MULTIPLIER	INTERVAL	UPTIME	TRANSITIONS						
192.168.1.4	192.168.1.6	ipsec	12366	12347	10.14.14.14	14	mpls	mpls	
up	7	1000	0:00:01:37	2					
192.168.1.4	192.168.2.6	ipsec	12366	12387	10.14.14.14	14	mpls	biz-internet	
up	7	1000	0:00:01:37	2					
192.168.2.4	192.168.1.6	ipsec	12426	12347	10.14.14.14	14	biz-internet	mpls	
up	7	1000	0:00:01:55	2					
192.168.2.4	192.168.2.6	ipsec	12426	12387	10.14.14.14	14	biz-internet	biz-internet	
up	7	1000	0:00:01:55	2					
192.168.1.4	192.168.1.8	ipsec	12366	12406	10.15.15.15	15	mpls	mpls	
up	7	1000	0:00:01:37	2					
192.168.1.4	192.168.2.8	ipsec	12366	12366	10.15.15.15	15	mpls	biz-internet	
up	7	1000	0:00:01:37	2					
192.168.2.4	192.168.1.8	ipsec	12426	12406	10.15.15.15	15	biz-internet	mpls	

```

up      7      1000      0:00:01:55  2
192.168.2.4 192.168.2.8 ipsec 12426 12366 10.15.15.15 15 biz-internet biz-internet
up      7      1000      0:00:01:55  2
192.168.1.4 192.168.1.11 ipsec 12366 12346 10.16.16.16 16 mpls mpls
up      7      1000      0:00:01:37  2
192.168.1.4 192.168.2.11 ipsec 12366 12426 10.16.16.16 16 mpls biz-internet
up      7      1000      0:00:01:37  2
192.168.2.4 192.168.1.11 ipsec 12426 12346 10.16.16.16 16 biz-internet mpls
up      7      1000      0:00:01:55  2
192.168.2.4 192.168.2.11 ipsec 12426 12426 10.16.16.16 16 biz-internet biz-internet
up      7      1000      0:00:01:55  2
192.168.1.4 192.168.1.12 ipsec 12366 12426 10.17.17.17 17 mpls mpls
up      7      1000      0:00:01:37  2
192.168.1.4 192.168.2.12 ipsec 12366 12406 10.17.17.17 17 mpls biz-internet
up      7      1000      0:00:01:37  2
192.168.2.4 192.168.1.12 ipsec 12426 12426 10.17.17.17 17 biz-internet mpls
up      7      1000      0:00:01:55  2
192.168.2.4 192.168.2.12 ipsec 12426 12406 10.17.17.17 17 biz-internet biz-internet
up      7      1000      0:00:01:55  2
192.168.1.4 192.168.1.14 ipsec 12366 12426 10.18.18.18 18 mpls mpls
up      7      1000      0:00:01:37  2
192.168.1.4 192.168.2.14 ipsec 12366 12426 10.18.18.18 18 mpls biz-internet
up      7      1000      0:00:01:37  2
192.168.2.4 192.168.1.14 ipsec 12426 12426 10.18.18.18 18 biz-internet mpls
up      7      1000      0:00:01:55  2
192.168.2.4 192.168.2.14 ipsec 12426 12426 10.18.18.18 18 biz-internet biz-internet
up      7      1000      0:00:01:55  2
192.168.1.4 192.168.3.40 ipsec 12366 12366 10.19.19.19 19 mpls mpls
up      7      1000      0:00:01:37  2
192.168.1.4 192.168.4.40 ipsec 12366 12366 10.19.19.19 19 mpls biz-internet
up      7      1000      0:00:01:37  2
192.168.2.4 192.168.3.40 ipsec 12426 12366 10.19.19.19 19 biz-internet mpls
up      7      1000      0:00:01:55  2
192.168.2.4 192.168.4.40 ipsec 12426 12366 10.19.19.19 19 biz-internet biz-internet
up      7      1000      0:00:01:54  3

```

```

VEDGE-1# show control connections | t
LOCAL

```

```

LOCAL

```

```

          CFG      V
          PEER     SITE  DOMAIN  PRIVATE  PRIVATE  PUBLIC   PUBLIC
SYSTEM                                PRIVATE  PRIVATE                                CONTROLLER
SYSTEM  ORG      BEHIND
INSTANCE  TYPE      ID      ID      IP      PORT      IP      PORT  IP      PROTOCOL  LOCAL
COLOR    REMOTE  COLOR  IP      PORT    STATE    UPTIME   GROUP  ID     IP      NAME     PROXY
-----
0        vsmart  8      1      192.168.1.4 12366    192.168.1.3 12946 10.8.8.8
dtls     mpls                default  192.168.1.3 12946    up      0:00:01:41 0      -
-        No
0        vsmart  8      1      192.168.2.4 12426    192.168.1.3 12946 10.8.8.8
dtls     biz-internet default  192.168.1.3 12946    up      0:00:01:59 0      -
-        No
0        vbond   0      0      192.168.1.4 12366    192.168.1.10 12346 0.0.0.0
dtls     mpls                mpls    192.168.1.10 12346    up      0:00:01:42 0      -
-        -
0        vbond   0      0      192.168.2.4 12426    192.168.1.10 12346 0.0.0.0
dtls     biz-internet biz-internet 192.168.1.10 12346    up      0:00:00:01 0      -
-        -
0        vmanage 8      0      192.168.2.4 12426    192.168.1.1 12946 10.7.7.7
dtls     biz-internet mpls      192.168.1.1 12946    up      0:00:01:59 0      -
-        No

```

시나리오 2. 플랩-이유:시간 초과

언더레이에서 인터페이스를 종료하여 VEDGE-1에서 TLOC(이 경우 Biz-Internet)를 비활성화하여 이 시나리오를 재현할 수 있습니다.

VEDGE-1 측에서 TLOC를 비활성화하기 전에 VEDGE-2에서 BFD 상태:

```
VEDGE-2# show bfd sessions remote-color mpls system-ip 10.13.13.13 | t
          SRC      DST              SITE
DETECT    TX
SRC IP    DST IP    PROTO PORT    PORT    SYSTEM IP    ID    LOCAL COLOR    COLOR    STATE
MULTIPLIER INTERVAL UPTIME    TRANSITIONS
-----
192.168.1.8 192.168.1.4 ipsec 12406 12366 10.13.13.13 13    mpls          mpls    up
7          1000      0:00:03:15 2
192.168.2.8 192.168.1.4 ipsec 12366 12366 10.13.13.13 13    biz-internet mpls    up
7          1000      0:00:03:15 2
```

문제를 재현한 후 VEDGE-2에 로그인합니다.

```
local7.info: Mar 20 10:00:04 VEDGE-2 FTMD[1119]: %Viptela-VEDGE-2-ftmd-6-INFO-1400002:
Notification: 3/20/2020 10:0:4 bfd-state-change severity-level:major host-name:"VEDGE-2" system-
ip:10.15.15.15 src-ip:192.168.1.8 dst-ip:192.168.2.14 proto:ipsec src-port:12406 dst-port:12426
local-system-ip:10.15.15.15 local-color:"mpls" remote-system-ip:10.18.18.18 remote-color:"biz-
internet" new-state:down deleted:false flap-reason:timeout
local7.info: Mar 20 10:00:05 VEDGE-2 FTMD[1119]: %Viptela-VEDGE-2-ftmd-6-INFO-1400002:
Notification: 3/20/2020 10:0:4 bfd-state-change severity-level:major host-name:"VEDGE-2" system-
ip:10.15.15.15 src-ip:192.168.2.8 dst-ip:192.168.4.40 proto:ipsec src-port:12386 dst-port:12366
local-system-ip:10.15.15.15 local-color:"biz-internet" remote-system-ip:10.19.19.19 remote-
color:"biz-internet" new-state:down deleted:false flap-reason:timeout
VEDGE-2# show bfd sessions remote-color mpls system-ip 10.13.13.13 | t
```

```
          SRC      DST              SITE
DETECT    TX
SRC IP    DST IP    PROTO PORT    PORT    SYSTEM IP    ID    LOCAL COLOR    COLOR    STATE
MULTIPLIER INTERVAL UPTIME    TRANSITIONS
-----
192.168.1.8 192.168.1.4 ipsec 12406 12366 10.13.13.13 13    mpls          mpls    up
7          1000      0:00:21:56 3
192.168.2.8 192.168.1.4 ipsec 12386 12366 10.13.13.13 13    biz-internet mpls    down
7          1000      NA          1
```

시나리오 3. 플랩-이유:na

이전 시나리오에서 언더레이 인터페이스에서 no shut을 수행하여 이 시나리오를 재현할 수 있습니다.

```
local7.info: Mar 20 10:01:20 VEDGE-2 FTMD[1119]: %Viptela-VEDGE-2-ftmd-6-INFO-1400002:
Notification: 3/20/2020 10:1:18 bfd-state-change severity-level:major host-name:"VEDGE-2"
system-ip:10.15.15.15 src-ip:192.168.2.8 dst-ip:192.168.1.11 proto:ipsec src-port:12386 dst-
port:12346 local-system-ip:10.15.15.15 local-color:"biz-internet" remote-system-ip:10.16.16.16
remote-color:"mpls" new-state:up deleted:false flap-reason:na
local7.info: Mar 20 10:01:20 VEDGE-2 FTMD[1119]: %Viptela-VEDGE-2-ftmd-6-INFO-1400002:
Notification: 3/20/2020 10:1:18 bfd-state-change severity-level:major host-name:"VEDGE-2"
system-ip:10.15.15.15 src-ip:192.168.1.8 dst-ip:192.168.2.11 proto:ipsec src-port:12406 dst-
port:12426 local-system-ip:10.15.15.15 local-color:"mpls" remote-system-ip:10.16.16.16 remote-
color:"biz-internet" new-state:up deleted:false flap-reason:na
```

```
VEDGE-2# show bfd sessions remote-color mpls system-ip 10.13.13.13 | t
          SRC      DST              SITE
```

DETECT	TX	SRC IP	DST IP	PROTO	PORT	PORT	SYSTEM IP	ID	LOCAL COLOR	COLOR	STATE
MULTIPLIER	INTERVAL	UPTIME	TRANSITIONS								
7	1000	0:00:22:32	3								
7	1000	0:00:00:04	1								

시나리오 4. 플랩-이유:원격 다운

특정 색상에 대해 VEDGE-1에서 **no control-connections** 명령을 사용하여 이 시나리오를 재현할 수 있습니다(이 경우 mpls).

VEDGE-1의 로그:

```
vpn 0
interface ge0/0
ip address 192.168.1.4/24
tunnel-interface
encapsulation ipsec
color mpls
no control-connections
```

```
VEDGE-1# show control connections | t
LOCAL
```

LOCAL	PEER	SITE	CFG	V	PRIVATE	PRIVATE	PUBLIC	PUBLIC	PRIVATE	PRIVATE	CONTROLLER			
SYSTEM	SYSTEM	ORG	BEHIND	INSTANCE	TYPE	ID	ID	IP	PORT	IP	PORT	IP	PROTOCOL	LOCAL
COLOR	REMOTE	COLOR	IP	IP	PORT	STATE	UPTIME	GROUP	ID	IP	NAME	PROXY		
0	vsmart	8	1	192.168.2.4	12426	192.168.1.3	12946	10.8.8.8	dtls					
biz-internet	default			192.168.1.3	12946	up	0:00:17:54	0	-	-				
No														
0	vbond	0	0	192.168.2.4	12426	192.168.1.10	12346	0.0.0.0	dtls					
biz-internet	biz-internet			192.168.1.10	12346	up	0:00:02:37	0	-	-				
-														
0	vmanage	8	0	192.168.2.4	12426	192.168.1.1	12946	10.7.7.7	dtls					
biz-internet	mpls			192.168.1.1	12946	up	0:00:22:44	0	-	-				
No														

VEDGE-2에 대한 로그:

```
local7.info: Mar 20 11:36:40 VEDGE-2 FTMD[1119]: %Viptela-VEDGE-2-ftmd-6-INFO-1400002:
Notification: 3/20/2020 11:36:40 bfd-state-change severity-level:major host-name:"VEDGE-2"
system-ip:10.15.15.15 src-ip:192.168.1.8 dst-ip:192.168.1.4 proto:ipsec src-port:12406 dst-
port:12406 local-system-ip:10.15.15.15 local-color:"mpls" remote-system-ip:10.13.13.13 remote-
color:"mpls" new-state:down deleted:false flap-reason:remote-down
local7.info: Mar 20 11:36:40 VEDGE-2 FTMD[1119]: %Viptela-VEDGE-2-ftmd-6-INFO-1400002:
Notification: 3/20/2020 11:36:40 bfd-state-change severity-level:major host-name:"VEDGE-2"
system-ip:10.15.15.15 src-ip:192.168.2.8 dst-ip:192.168.1.4 proto:ipsec src-port:12386 dst-
port:12406 local-system-ip:10.15.15.15 local-color:"biz-internet" remote-system-ip:10.13.13.13
remote-color:"mpls" new-state:down deleted:false flap-reason:remote-down
local7.info: Mar 20 11:36:41 VEDGE-2 FTMD[1119]: %Viptela-VEDGE-2-ftmd-6-INFO-1400002:
Notification: 3/20/2020 11:36:41 bfd-state-change severity-level:major host-name:"VEDGE-2"
```

```

system-ip:10.15.15.15 src-ip:192.168.1.8 dst-ip:192.168.1.4 proto:ipsec src-port:12406 dst-
port:12406 local-system-ip:10.15.15.15 local-color:"mpls" remote-system-ip:10.13.13.13 remote-
color:"mpls" new-state:up deleted:false flap-reason:na
local7.info: Mar 20 11:36:41 VEDGE-2 FTMD[1119]: %Viptela-VEDGE-2-ftmd-6-INFO-1400002:
Notification: 3/20/2020 11:36:41 bfd-state-change severity-level:major host-name:"VEDGE-2"
system-ip:10.15.15.15 src-ip:192.168.2.8 dst-ip:192.168.1.4 proto:ipsec src-port:12386 dst-
port:12406 local-system-ip:10.15.15.15 local-color:"biz-internet" remote-system-ip:10.13.13.13
remote-color:"mpls" new-state:up deleted:false flap-reason:na
VEDGE-2# show bfd sessions remote-color mpls system-ip 10.13.13.13 | t

```

DETECT	TX	SRC	DST	SITE					
SRC IP	DST IP	PROTO	PORT	PORT	SYSTEM IP	ID	LOCAL COLOR	COLOR	STATE
MULTIPLIER	INTERVAL	UPTIME	TRANSITIONS						
192.168.1.8	192.168.1.4	ipsec	12406	12406	10.13.13.13	13	mpls	mpls	up
7	1000	0:00:05:27	16						
192.168.2.8	192.168.1.4	ipsec	12386	12406	10.13.13.13	13	biz-internet	mpls	up
7	1000	0:00:05:27	9						

관련 정보

- [양방향 포워딩 탐지 및 데이터 플레인 연결 문제 해결](#)
- [기술 지원 및 문서 - Cisco Systems](#)