



CHAPTER 13

Bidirectional Forwarding Detection

This chapter describes the level of support that Cisco ANA provides for Bidirectional Forwarding Detection (BFD), as follows:

- [Technology Description, page 13-1](#)
- [Information Model Objects \(IMOs\), page 13-1](#)
- [Vendor-Specific Inventory and IMOs, page 13-2](#)
- [Network Topology, page 13-2](#)
- [Service Alarms, page 13-3](#)

Technology Description

Please see Part 1: Cisco VNEs in this guide for information about which devices support the various technologies.

BFD

BFD provides rapid failure detection between forwarding engines while maintaining low overhead. It also provides a single, standardized method of link, device, or protocol failure detection at any protocol layer and over any media.

BFD can be used with the following protocols:

- OSPF
- BGP
- MPLS TE
- IPv4 (static)
- IPv6 (static)
- IS-IS

Information Model Objects (IMOs)

This section includes the following IMOs:

- [BFD Service](#)
- [BFD Session](#)

BFD Service

The [BFD Service](#) IMO contains a list of [BFD Session](#) objects.

Table 13-1 *BFD Service (IBfdService)*

Attribute Name	Attribute Description	Scheme	Polling Interval
Sessions	Returns a set of IBfdSession objects	Any	Configuration

BFD Session

The BFD Session IMO describes a single BFD session entry.

Table 13-2 *BFD Session (IBfdSession)*

Attribute Name	Attribute Description	Scheme	Polling Interval
Source IP	Source IP address of the session	Product	Configuration
Destination IP	Destination IP address of the session	Product	Configuration
Interval	The value of the requested interval	Product	Configuration
Multiplier	The value of the multiplier	Product	Configuration
Protocol	The routing protocol, such as OSPF, BGP or Static	Product	Configuration
State	The state of the session (<i>Up, Down, Init, Fail</i>)	Product	Configuration
Interface	OID of the physical interface	Product	Configuration
Process	Process ID of the session	Product	Configuration

Vendor-Specific Inventory and IMOs

There are no vendor-specific inventory or IMOs for this technology.

Network Topology

Cisco ANA discovers BFD topology by comparing the session parameters of potential BFD neighbors. In particular, it compares the source IP address and the destination IP address on both sides.

Service Alarms

The following alarms are supported for this technology:

- [BFD Connectivity Down, page 41-6](#)
- [BFD Neighbor Loss, page 41-6](#)

The BFD Connectivity Down alarm is cleared by the BFD Connectivity Up alarm. The BFD Neighbor Loss alarm is cleared by the BFD Neighbor Found alarm.

