

# Unaffiliated BFD Echo Function

draft-ietf-bfd-unaffiliated-echo-01

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# Intention of this draft

- Proposes a use of BFD Echo function
  - It's a new use that's not yet been documented in the current RFCs
  - BBF TR-146 (published in 2013) does document the similar use of BFD Echo function proposed in this draft, but in that TR the procedural text is a bit unclear
  - Adopted by BFD WG in Aug 2020. Due to the fact that this draft updates RFC 5880 in many aspects, the intended status is changed from Informational to Standards Track

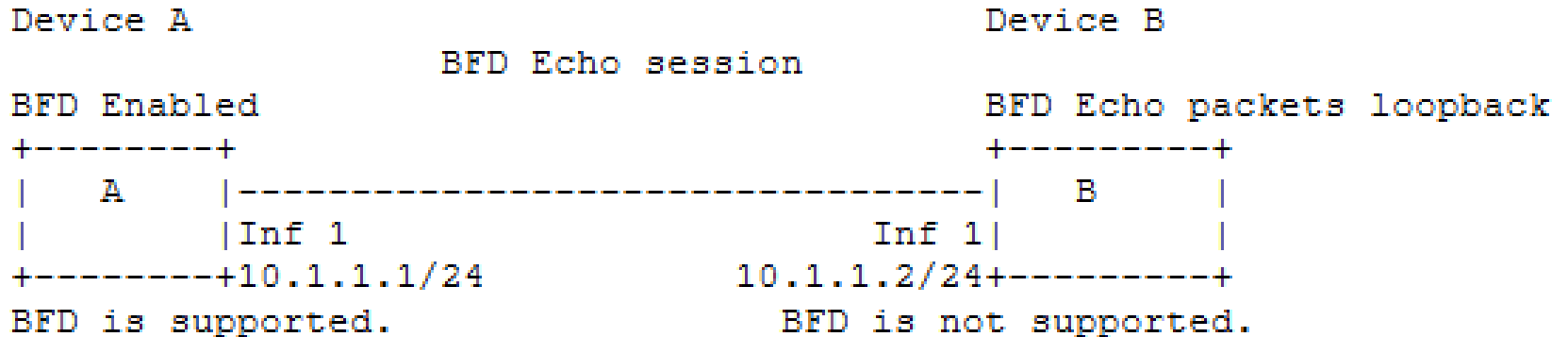
# Main changes from -00 to -01

- Added new section 2 to list all updates to RFC 5880
- Added more details on procedures into section 3
- Improved section 4 on the applicability of Unaffiliated BFD Echo function
- Added new section 8 to list contributors, and moved one co-author to contributor due to the limitation on number of co-authors

# Updates to RFC 5880

- In RFC 5880, the BFD Echo function is an adjunct to BFD Asynchronous mode or BFD Demand mode, however Unaffiliated BFD Echo removes the restriction
- In RFC 5880, before the BFD Echo function can work, the nonzero Required Min Echo RX MUST be signaled by the remote system, however Unaffiliated BFD Echo removes this signaling procedure
- In RFC 5880, BFD Echo packets MUST NOT be transmitted when `bfd.SessionState` is not Up, however Unaffiliated BFD Echo removes the restriction

# Unaffiliated BFD Echo Procedures



- Device A creates BFD Echo session with BFD states Down, Init, Up. Transmit Interval and Detect Mult are provisioned at Device A.
- Device A sends BFD Echo packets reusing the BFD Control packet format to one-hop-away Device B, with the IP address destined for itself, TTL/HL set to 255, destination UDP port set to 3785
- Device B loops back the received BFD Echo packets by normal IP forwarding, without any special packet processing
- Device A demultiplexes the echoed BFD Echo packets to the proper session, by Your Discriminator or other field (such as IP source address, UDP source port), leading to BFD state change Down->Init->Up

# Open Issues

- In the current draft, in order to reuse both the BFD state machine and the demultiplexing key (Your Discriminator) which simplifies the implementation, the Unaffiliated BFD Echo Packet reuses the BFD Control Packet format, any other proposal?
- The BFD Yang Model may need to be updated, it's not included in the current draft, do we need to include Yang Model in this draft or wait for a BFD Yang Model Bis?

# Next steps

- Ask for more reviews and comments
- Revise this draft to resolve comments
- Ask for WG LC