

Unicast Support for VRRP

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Motivations for the draft

Multicast Constraints

Some cloud, virtualized, overlay, and constrained L2 deployments cannot rely on multicast delivery for VRRP advertisements.

Preserve VRRP Model

The draft keeps VRRPv3 semantics:

- packet format
- IP protocol 112
- state machine
- Virtual IP behaviour
- Virtual Router MAC.

Operational Simplicity

Operators can explicitly configure unicast peers while multicast mode remains the default for existing deployments.

Interop Issues

1

Mode / Transport

Unicast-only peers can ignore multicast. UDP or private transports will not hear native VRRP protocol 112.

2

Peer / Source

Two-node-only and multi-peer models coexist. Strict source checks can reject the wrong local address.

3

Validation

VRRPv2/v3, checksum interpretation, and TTL/Hop Limit differences can make reachable packets invalid.

4

Semantics

Some uses preserve VIP/VMAC first-hop redundancy; others use VRRP state for route ownership or role election.

Unicast VRRP Overview

1

Advertisement Mode

A Virtual Router operates in multicast mode or unicast mode. Multicast remains the default.

2

Configured Peer List

Unicast mode requires one or more configured peers. The local router's own address is not in the peer list.

3

Transmit / Receive

Advertisements are sent as one copy to each peer. Receivers accept only configured peer sources and enforce TTL/Hop Limit 255.

4

Host-Facing Behaviour

Only advertisement delivery changes. Packet format, state machine, virtual IP semantics, and Virtual Router MAC remain unchanged.

Discussion

Feedback requested from RTGWG.