

ةلصللا تاذ VRRPv3 ءاطخأ فاشكتسا عم اهحالصإو IPv6

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ةمدقملا

يرهاطلا هجوملا راركت لوكوتورب ءاطخأ فاشكتسال ةمزاللا تاوطخللا دنتسملا اذه فصوي Nexus 9000 في IPv6 مادختساب اهحالصإو (VRRPv3).

ةيساسألا تابلطتملا

تابلطتملا

ةيلاللا عيضاوملاب ةفرعم كي دل نوك ت ناب Cisco NXOS® في صوت:

- VRRP
- رزيلاناثي
- IPv6
- (FHRP) لولألا ةوطخللا راركت لوكوتورب

ةمدختسملا تانوكملا

Nexus 9000 لثم ةنيعم ةزهجأ لعل دنتسملا اذه رصتقي.

ةصاخ ةيلمعم ةئيب في ةدوجوملا ةزهجالا نم دنتسملا اذه في ةدراولا تامولعملا ءاشنإ مت تناك اذإ. (فيضارتفا) حوسمم نيوكتب دنتسملا اذه في ةمدختسملا ةزهجالا عيمج تادب رمأ يال لم تحملا ريثأتلل كمهف نم دكأتف، ليغشتلا ديق كتكباش.

ةيساسأ تامولعم

معددي (VRRP3) VRRP نم 3 رادصلال نكلو، IPv4 نيوانع ةلئاعل طقف 2 رادصلال VRRP معددي و VRRP نم لك نيكمم نكمي ال NX-OS، ءاوس دح ىلع IPv6 و IPv4 نيوانع تالئاع Nexus Switch لومل ىلع لعلاب ةنكمم VRRP ةزيملا تناك اذا. زاهجلا سفن ىلع VRRPv3 بجي، ىللابو. لعلاب VRRPv2 نيكمم ىل ريشي أطخ ضرعي VRRPv3 ةزيملا نيكمم نإف تامدخال ىلع لقا ريثأت هل يذلاو، VRRPv3 ىل VRRP نم ليحرتلا ءارجا

طاخلال

X:X:X:X::70a

X:X:X:X::70c



Virtual Mac Address: 0000.5e00.0201

VRRP3 IPV6 address: X:X:X:X::70b



Virtual Port-Channel (VPC) ةئيب دجوت ال :ةظحالم

ةحصلا نم ققحتلا

نقباطتملا نيبناجالا الك في نيوكتلا نم ققحت 1)

1: لوجملا

```
Switch1# show run interface vlan 209
```

```
interface Vlan209
no shutdown
no ip redirects
ipv6 address X:X:X:X::70a/125
vrrpv3 1 address-family ipv6
priority 200
```

```
address X::X:X:X:297 primary
```

```
Switch1#
```

2) لوجملا

```
Switch2# show run interface v1an 209
```

```
interface V1an209
no shutdown
no ip redirects
ipv6 address X:X:X:X::70c/125
no ipv6 redirects
vrrpv3 1 address-family ipv6
address X::X:X:X:297 primary
```

```
Switch2#
```

2) جحص لكشب MAC نيوانع لودج علم نم ققحت

1) لوجملا

```
Switch1# show mac address-table v1an 209
```

```
Legend:
```

```
* - primary entry, G - Gateway MAC, (R) - Routed MAC, O - Overlay MAC
```

```
age - seconds since last seen,+ - primary entry using vPC Peer-Link,
```

```
(T) - True, (F) - False, C - ControlPlane MAC, ~ - vsan
```

```
VLAN MAC Address Type age Secure NTFY Ports
```

```
-----+-----+-----+-----+-----+-----+-----+-----
```

```
G 209 0000.5e00.0201 static - F F sup-eth1(R)
```

```
G 209 689e.0baa.dea7 static - F F sup-eth1(R)
```

```
Switch1#
```

```
module-1# show hardware internal tah rmac
```

```
Instance : 0
```

```
=====
```

```
Mac-Address Vlan Flag
```

```
-----
```

```
68:9e:0b:aa:de:a7 0 SYSTEM
```

```
00:00:5e:00:02:01 209 VRMAC
```

```
module-1#
```

2) لوجملا

```
Switch2# show mac address-table vlan 209
Legend:
* - primary entry, G - Gateway MAC, (R) - Routed MAC, O - Overlay MAC
age - seconds since last seen,+ - primary entry using vPC Peer-Link,
(T) - True, (F) - False, C - ControlPlane MAC, ~ - vsan
VLAN MAC Address Type age Secure NTFY Ports
-----+-----+-----+-----+-----+-----+-----+-----+
* 209 0000.5e00.0201 dynamic 0 F F Eth1/51
G 209 689e.0baa.de07 static - F F sup-eth1(R)
Switch2#
```

```
Switch2# show hardware mac address-table 1 address 0000.5e00.0201
FE | VLAN | MAC | Dynamic | Port |Location Index|
| | | | | |
-----+-----+-----+-----+-----+-----+
0 209 0000.5e00.0201 dynamic Eth1/51

Switch2#
```

```
module-1# show hardware internal tah rmac
Instance : 0
=====
Mac-Address Vlan Flag
-----
68:9e:0b:aa:de:07 0 SYSTEM

module-1#
```

3) وعومحمل يف ةكراشملا ةزهجالا ةلاح نم ققحتلا

1: لومحمل

```
Switch1# show vrrpv3 vlan 209

Vlan209 - Group 1 - Address-Family IPv6
State is Primary
State duration 15 hours 43 mins 44 secs
Virtual IP address is X::X:X:X:297
Virtual MAC address is 0000.5e00.0201
Advertisement interval is 1000 msec
Preemption enabled
Priority is 200, (Configured 200)
Primary Router is X::X:X:X:dea7 (local), priority is 200
Primary Advertisement interval is 1000 msec (expires in 813 msec)
Primary Down interval is unknown

Switch1#
```

2: لوجملا

```
Switch2# show vrrpv3 vlan 209
```

```
Vlan209 - Group 1 - Address-Family IPv6
State is BACKUP
State duration 3 mins 57.928 secs
Virtual IP address is X::X:X:X:297
Virtual MAC address is 0000.5e00.0201
Advertisement interval is 1000 msec
Preemption enabled
Priority is 100, (Configured 100)
Primary Router is X::X:X:X:dea7, priority is 200
Primary Advertisement interval is 1000 msec (learned)
Primary Down interval is 3609 msec (expires in 3422 msec)
```

```
Switch2#
```

اهحال صإو ءاطخال فاشك تسا

روس كم ويراني س.

مقرر لثم ، ةومجملاب ةقلعتملا ةرصتخملا تامولعمل show vrrpv3 brief رمألا راڤخ ضرعي 1) ةومجملا ناووعو ، يسيئرلا ناووعلا ، ةلجال ، قابتسإلا ، ةيولوألا ، ناووعلا ةلئاع ، ةومجملا نيولوجملا الك دعي ، هالعأ حضوم وه امكو ، لاثملا اذه في . (IP ةيره اظلال ةومجملا وه) جحص ريغ وه نييسيئر .

1: لوجملا

```
Switch1# show vrrpv3 brief
```

```
Interface Grp A-F Pri Time Own Pre State Primary addr/Group addr
Vlan209 1 IPv6 200 0 N Y Primary X::X:X:X:dea7(local) X::X:X:X:297
Switch1#
```

2: لوجملا

```
Switch2# show vrrpv3 brief
```

```
Interface Grp A-F Pri Time Own Pre State Primary addr/Group addr
Vlan209 1 IPv6 100 0 N Y Primary X::X:X:X:de07(local) X::X:X:X:297
Switch2#
```

2) مةملتسملاو ةلسررملانانالعال لثم ،ةيفاضا تامولعم show vrrpv3 detail رمالا ضرعي 2) يرهالال MAC ناونعو (VRRP) يضارتفالاددعتمالهيجوتلالوكوتورب نم ثلالرادصلال يلال VRRP3 نانالعال ،لالاملاللبس يلع .لالقننالالاحو اعاطخالاب ةقللعم ىرخأ تاعاصحاو ديزتالاهيقللتم

1: لولحمال

```
Switch1# show vrrpv3 detail vlan 209
```

```
Vlan209 - Group 1 - Address-Family IPv6
State is Primary
State duration 12 hours 47 mins 40 secs
Virtual IP address is X::X:X:X:297
Virtual MAC address is 0000.5e00.0201
Advertisement interval is 1000 msec
Preemption enabled
Priority is 200, (Configured 200)
Primary Router is X::X:X:X:dea7 (local), priority is 200
Primary Advertisement interval is 1000 msec (expires in 284 msec)
Primary Down interval is unknown
VRRPv3 Advertisements: sent 57138 (errors 2) - rcvd 177      <-----
VRRPv2 Advertisements: sent 0 (errors 0) - rcvd 0
Group Discarded Packets: 0
VRRPv2 incompatibility: 0
IP Address Owner conflicts: 0
Invalid address count: 0
IP address configuration mismatch : 0
Invalid Advert Interval: 0
Adverts received in Init state: 0
Invalid group other reason: 0
Group State transition:
Init to Primary: 0
Init to backup: 4 (Last change Thu Apr 11 01:01:46.418 UTC)
Backup to Primary: 4 (Last change Thu Apr 11 01:01:49.637 UTC)
Primary to backup: 0
Primary to init: 3 (Last change Thu Apr 11 00:57:37.107 UTC)
Backup to init: 0
```

```
Switch1#
```

```
Switch1# show vrrpv3 detail vlan 209
```

```
Vlan209 - Group 1 - Address-Family IPv6
State is Primary
State duration 12 hours 51 mins 29 secs
Virtual IP address is fX::X:X:X:297
Virtual MAC address is 0000.5e00.0201
Advertisement interval is 1000 msec
Preemption enabled
Priority is 200, (Configured 200)
Primary Router is X::X:X:X:dea7 (local), priority is 200
Primary Advertisement interval is 1000 msec (expires in 667 msec)
Primary Down interval is unknown
VRRPv3 Advertisements: sent 57393 (errors 2) - rcvd 177      <-----
VRRPv2 Advertisements: sent 0 (errors 0) - rcvd 0
```

```
Group Discarded Packets: 0
VRRPv2 incompatibility: 0
IP Address Owner conflicts: 0
Invalid address count: 0
IP address configuration mismatch : 0
Invalid Advert Interval: 0
Adverts received in Init state: 0
Invalid group other reason: 0
Group State transition:
Init to Primary: 0
Init to backup: 4 (Last change Thu Apr 11 01:01:46.418 UTC)
Backup to Primary: 4 (Last change Thu Apr 11 01:01:49.637 UTC)
Primary to backup: 0
Primary to init: 3 (Last change Thu Apr 11 00:57:37.107 UTC)
Backup to init: 0
```

Switch1#

لوحه 2:

```
Switch2# show vrrpv3 detail v1an 209
```

```
Vlan209 - Group 1 - Address-Family IPv6
State is Primary
State duration 12 hours 51 mins 49 secs
Virtual IP address is X::X:X:X:297
Virtual MAC address is 0000.5e00.0201
Advertisement interval is 1000 msec
Preemption enabled
Priority is 100, (Configured 100)
Primary Router is X::X:X:X:de07 (local), priority is 100
Primary Advertisement interval is 1000 msec (expires in 412 msec)
Primary Down interval is unknown
VRRPv3 Advertisements: sent 51764 (errors 0) - rcvd 6032 <-----
VRRPv2 Advertisements: sent 0 (errors 0) - rcvd 0
Group Discarded Packets: 0
VRRPv2 incompatibility: 0
IP Address Owner conflicts: 0
Invalid address count: 0
IP address configuration mismatch : 0
Invalid Advert Interval: 0
Adverts received in Init state: 0
Invalid group other reason: 0
Group State transition:
Init to Primary: 0
Init to backup: 1 (Last change Wed Apr 10 23:21:09.604 UTC)
Backup to Primary: 4 (Last change Thu Apr 11 00:57:40.229 UTC)
Primary to backup: 3 (Last change Thu Apr 11 00:54:11.758 UTC)
Primary to init: 0
Backup to init: 0
```

Switch2#

```
Switch2# show vrrpv3 detail v1an 209
```



```
Vlan209 - Group 1 - Address-Family IPv6
State is Primary
State duration 12 hours 55 mins 38 secs
Virtual IP address is fx::X:X:X:297
Virtual MAC address is 0000.5e00.0201
Advertisement interval is 1000 msec
Preemption enabled
Priority is 100, (Configured 100)
Primary Router is X:X:X:X:de07 (local), priority is 100
Primary Advertisement interval is 1000 msec (expires in 479 msec)
Primary Down interval is unknown
VRRPv3 Advertisements: sent 52019 (errors 0) - rcvd 6032 <-----
VRRPv2 Advertisements: sent 0 (errors 0) - rcvd 0
Group Discarded Packets: 0
VRRPv2 incompatibility: 0
IP Address Owner conflicts: 0
Invalid address count: 0
IP address configuration mismatch : 0
Invalid Advert Interval: 0
Adverts received in Init state: 0
Invalid group other reason: 0
Group State transition:
Init to Primary: 0
Init to backup: 1 (Last change Wed Apr 10 23:21:09.604 UTC)
Backup to Primary: 4 (Last change Thu Apr 11 00:57:40.229 UTC)
Primary to backup: 3 (Last change Thu Apr 11 00:54:11.758 UTC)
Primary to init: 0
Backup to init: 0
```

Switch2#

3) فلتختم لوجارم لوج تام ولعم ثادحألأءاطخأحيحصتل يلخاد show vrrpV3 رمألأ ضرعي

لوجم ل1:

```
Switch1# show vrrpv3 internal event-history debugs
```

```
2024 Apr 11 01:01:49.642985: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Current MAC Sta
2024 Apr 11 01:01:49.642974: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Current MAC Sta
2024 Apr 11 01:01:49.642963: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Pathway MAC Eve
2024 Apr 11 01:01:49.642952: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Notifying Pathw
2024 Apr 11 01:01:49.642941: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: L2fm Alloc Resp
2024 Apr 11 01:01:49.642898: E_DEBUG vrrpv3 [23795]: VRRP-MTS: L2fm Alloc Response: RRToken=0x2f9a22, N
2024 Apr 11 01:01:49.637478: E_DEBUG vrrpv3 [23795]: VRRS Vlan209: [vrrpVlan209v61 tag] Installing ICMP
2024 Apr 11 01:01:49.637453: E_DEBUG vrrpv3 [23795]: VRRS Vlan209: [vrrpVlan209v61 tag] Activating VIP6
2024 Apr 11 01:01:49.637367: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Current MAC Sta
2024 Apr 11 01:01:49.637306: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Current MAC Sta
```

```
2024 Apr 11 01:01:49.637295: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Pathway MAC Event
2024 Apr 11 01:01:47.421619: E_DEBUG vrrpv3 [23795]: VRRP-MTS: Handling IPv6 Change 7: Ifindex=0x90100d
2024 Apr 11 01:01:46.421957: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Current MAC Sta
2024 Apr 11 01:01:46.421950: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Current MAC Sta
2024 Apr 11 01:01:46.421944: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Pathway MAC Event
2024 Apr 11 01:01:46.421938: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Notifying Pathw
2024 Apr 11 01:01:46.421932: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: L2fm Alloc Resp
2024 Apr 11 01:01:46.421911: E_DEBUG vrrpv3 [23795]: VRRP-MTS: L2fm Alloc Response: RRToken=0x2f99cd, N
2024 Apr 11 01:01:46.419597: E_DEBUG vrrpv3 [23795]: VRRS Vlan209: [vrrpVlan209v61 tag] Installing ICMP
2024 Apr 11 01:01:46.419574: E_DEBUG vrrpv3 [23795]: VRRS Vlan209: [vrrpVlan209v61 tag] Deactivating VI
2024 Apr 11 01:01:46.419515: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Current MAC Sta
2024 Apr 11 01:01:46.419463: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Current MAC Sta
2024 Apr 11 01:01:46.419454: E_DEBUG vrrpv3 [23795]: VRRS Vlan209 [vrrpVlan209v61 tag]: Pathway MAC Event
Switch1#
```

لوحه 2:

```
Switch2# show vrrpv3 internal event-history debugs
2024 Apr 11 00:57:40.234767: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Current MAC 0000.5e00.0201 state
2024 Apr 11 00:57:40.234752: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Current MAC 0000.5e00.0201 State
2024 Apr 11 00:57:40.234744: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] pw id val is(983043)
2024 Apr 11 00:57:40.234736: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Notifying pathway mac of async e
2024 Apr 11 00:57:40.234728: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] fx_macdb_handle_l2fm_alloc :: A
2024 Apr 11 00:57:40.234694: E_DEBUG VRRP-MTS: L2FM alloc resp: rrtoken 0x3ba768, msgs 1, overall statu
2024 Apr 11 00:57:40.229355: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] installing icmpv6 entry for vip
2024 Apr 11 00:57:40.229329: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] activating vip6 X::X:X:X:297, th
2024 Apr 11 00:57:40.229251: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Current MAC 0000.5e00.0201 state
2024 Apr 11 00:57:40.229195: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Current MAC 0000.5e00.0201 State
2024 Apr 11 00:57:40.229184: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] pw id val is(983043)
2024 Apr 11 00:57:36.813093: E_DEBUG VRRP-MTS: Received IM_PHY_LINK_STATE_CHANGE(down) for 0x1a006400
```

```
2024 Apr 11 00:54:11.763596: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Current MAC 0000.5e00.0201 state
2024 Apr 11 00:54:11.763587: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Current MAC 0000.5e00.0201 State
2024 Apr 11 00:54:11.763580: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] pw id val is(983043)

2024 Apr 11 00:54:11.763572: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Notifying pathway mac of async
2024 Apr 11 00:54:11.763564: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] fx_macdb_handle_l2fm_alloc :: A
2024 Apr 11 00:54:11.763533: E_DEBUG VRRP-MTS: L2FM alloc resp: rrtoken 0x3b791e, msgs 1, overall statu
2024 Apr 11 00:54:11.758782: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] installing icmpv6 entry for vip
2024 Apr 11 00:54:11.758757: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] de-activating vip6 X::X:X:X:297,
2024 Apr 11 00:54:11.758685: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Current MAC 0000.5e00.0201 state
2024 Apr 11 00:54:11.758637: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Current MAC 0000.5e00.0201 State
2024 Apr 11 00:54:11.758626: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] pw id val is(983043)

2024 Apr 11 00:54:06.643584: E_DEBUG VRRP-MTS: L2_PROTO_CHANGE: intf 0x1a006400 entering L2
2024 Apr 11 00:54:06.616851: E_DEBUG VRRP-MTS: Received IM_PHY_LINK_STATE_CHANGE(up) for 0x1a006400

2024 Apr 11 00:52:11.216190: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Current MAC 0000.5e00.0201 state
2024 Apr 11 00:52:11.216182: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Current MAC 0000.5e00.0201 State
2024 Apr 11 00:52:11.216174: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] pw id val is(983043)

2024 Apr 11 00:52:11.216167: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Notifying pathway mac of async e
2024 Apr 11 00:52:11.216159: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] fx_macdb_handle_l2fm_alloc :: A
2024 Apr 11 00:52:11.216125: E_DEBUG VRRP-MTS: L2FM alloc resp: rrtoken 0x3b3bc5, msgs 1, overall statu
2024 Apr 11 00:52:11.210932: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] installing icmpv6 entry for vip
2024 Apr 11 00:52:11.210906: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] activating vip6 X::X:X:X:297, th
2024 Apr 11 00:52:11.210828: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Current MAC 0000.5e00.0201 state
2024 Apr 11 00:52:11.210773: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] Current MAC 0000.5e00.0201 State
2024 Apr 11 00:52:11.210762: E_DEBUG VRRS Vlan209 [vrrpVlan209v61 tag] pw id val is(983043)

2024 Apr 11 00:52:08.025681: E_DEBUG VRRP-MTS: Received IM_PHY_LINK_STATE_CHANGE(down) for 0x1a006400
```

Switch2#

4) سيسئزل لوجملا ةطساوب VRRP تانالعل ذيفنت متي. VRRP تانالعل ضرعي رزيلاناثي |
ff02::12. ل ددعتملا ثبلاناونع. طقف

لوحملا 1:

```
Switch1# ethanalyzer local interface inband display-filter "vrrp.adver_int" limit-captured-frames 0
Capturing on inband
2024-04-11 14:07:50.050745 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:07:50.967333 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:07:51.861690 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:07:52.809845 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:07:53.700778 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:07:54.693008 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)

6 packets captured
Switch1#
```

لوحملا 2:

```
Switch2# ethanalyzer local interface inband display-filter "vrrp.adver_int" limit-captured-frames 0
Capturing on inband
2024-04-11 14:07:49.946663 X::X:X:X:de07 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:07:50.829985 X::X:X:X:de07 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:07:51.728800 X::X:X:X:de07 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:07:52.720034 X::X:X:X:de07 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:07:53.571038 X::X:X:X:de07 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:07:54.386109 X::X:X:X:de07 -> ff02::12 VRRP Announcement (v3)

6 packets captured
Switch2#
```

مدع ىل ريشي اذهو. (DEA7 و DE07) ةصاخلا هتاناالع| ني لوحملا الك لسري، هالعأ جتانلا نمو اهسفن VRRPv3 ةومجم يف نيكراشملا ني لوحملا ني ب لاصتا دوجو.

MAC، ناوع لوح لىصافت VRRPv3 ةطساوب اهؤاشن| مت يتلا مزحلا ىل اقمع رثكأ ةرظن عم، اهيلع روثعل مت يتلا IP و، رادصلالو، ةيولولوالو.

لوحملا 1:

```
Ethernet II, Src: ICANNIAN_00:02:01 (00:00:5e:00:02:01), Dst: IPv6mcast_12 (33:33:00:00:00:12)

Frame 206: 82 bytes on wire (656 bits), 82 bytes captured (656 bits)
Ethernet II, Src: ICANNIAN_00:02:01 (00:00:5e:00:02:01), Dst: IPv6mcast_12 (33:33:00:00:00:12)
Internet Protocol Version 6, Src: X::X:X:X:dea7, Dst: ff02::12
Virtual Router Redundancy Protocol
Version 3, Packet type 1 (Advertisement)
Virtual Rtr ID: 1
Priority: 200 (Default priority for a backup VRRP router)
Addr Count: 1
```

```
0000 .... = Reserved: 0
.... 0000 0110 0100 = Adver Int: 100
Checksum: 0xb912 [correct]
[Checksum Status: Good]
IPv6 Address: X::X:X:X:297
```

2: لوجملا

Frame 82: 78 bytes on wire (624 bits), 78 bytes captured (624 bits)

Ethernet II, Src: ICANNIAN_00:02:01 (00:00:5e:00:02:01), Dst: IPv6mcast_12 (33:33:00:00:00:12)

```
Frame 82: 78 bytes on wire (624 bits), 78 bytes captured (624 bits)
Ethernet II, Src: ICANNIAN_00:02:01 (00:00:5e:00:02:01), Dst: IPv6mcast_12 (33:33:00:00:00:12)
Internet Protocol Version 6, Src: X::X:X:X:de07, Dst: ff02::12
Virtual Router Redundancy Protocol
Version 3, Packet type 1 (Advertisement)
Virtual Rtr ID: 1
Priority: 100 (Default priority for a backup VRRP router)
Addr Count: 1
0000 .... = Reserved: 0
.... 0000 0110 0100 = Adver Int: 100
Checksum: 0xb912 [correct]
[Checksum Status: Good]
IPv6 Address: X::X:X:X:297
```

ةلا ح يف تناك 2 ةقبطلا ةهجاو نأ تناك ةلا ح هذه يف يتلا لاصتالا ةلكشم لح درجمب 5) ةلا ح لاضرع نألا لوجملا لىل ع بچي، up ةلا ح يف ناك SVI نأ نم مغرلا لىل ع لمع فاقيا ةطساوب طقف تانالعال لاسرا متيو (يلاوتلا لىل ع يطايتحال خسنلاو ياساسالا) ةححصلا ياساسالا لوجملا.

1: لوجملا

```
Switch1# show vrrpv3
```

```
Vlan209 - Group 1 - Address-Family IPv6
State is Primary
State duration 13 hours 42 mins 46 secs
Virtual IP address is X::X:X:X:297
Virtual MAC address is 0000.5e00.0201
Advertisement interval is 1000 msec
Preemption enabled
Priority is 200, (Configured 200)
Primary Router is X::X:X:X:dea7 (local), priority is 200
Primary Advertisement interval is 1000 msec (expires in 118 msec)
```

Primary Down interval is unknown

Switch1#
Switch1#

Switch1# ethanalyzer local interface inband display-filter "vrrp" limit-captured-frames 0
Capturing on inband

```
2024-04-11 14:48:48.125754 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:48:48.125794 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:48:49.002998 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:48:49.003035 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:48:49.983749 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:48:49.983782 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
```

6 packets captured
Switch1#

على إقراش إال دنع ىنمى ال MAC نى وانع رهظى ىذلا ىساس أال ل وحم ل ىف ELAM لى غشت م تى
ل ل VRRPv3 ل ددعتم ل ثب ل ناونع

```
Switch1(TAH-elam-insel6)# set outer ipv6 src_ip fe80::6a9e:bff:feaa:dea7 dst_ip ff02::12
Switch1(TAH-elam-insel6)# start
Switch1(TAH-elam-insel6)# report
HOMEWOOD ELAM REPORT SUMMARY
slot - 1, asic - 0, slice - 0
=====
```

```
Incoming Interface: sup-eth
Src Idx : 0x0, Src BD : 209
Outgoing Interface Info: met_ptr 0
```

Packet Type: IPv6

```
Dst MAC address: 33:33:00:00:00:12
Src MAC address: 00:00:5E:00:02:01
```

```
Dst IPv6 address: FF02:0000:0000:0000:0000:0000:0000:0012
Src IPv6 address: FE80:0000:0000:0000:6A9E:0BFF:FEAA:DEA7
Ver = 6, Pkt len = 40, Payload_length = 4
```

L4 Protocol : 112

Drop Info:

```
LUA:
LUB:
LUC:
LUD:
Final Drops:
```

```
vntag:
vntag_valid : 0
vntag_vir : 0
vntag_svif : 0
```

Switch1(TAH-elam-insel6)#

2: ملوح

```
Switch2# show vrrpv3
```

```
Vlan209 - Group 1 - Address-Family IPv6
State is BACKUP
State duration 1.538 secs
Virtual IP address is X::X:X:X:297
Virtual MAC address is 0000.5e00.0201
Advertisement interval is 1000 msec
Preemption enabled
Priority is 100, (Configured 100)
Primary Router is X::X:X:X:dea7, priority is 200
Primary Advertisement interval is 1000 msec (learned)
Primary Down interval is 3609 msec (expires in 2886 msec)
```

```
Switch2#
```

```
Switch2# ethanalyzer local interface inband display-filter "vrrp" limit-captured-frames 0
Capturing on inband
2024-04-11 14:48:48.082516 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:48:48.959735 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
2024-04-11 14:48:49.940504 X::X:X:X:dea7 -> ff02::12 VRRP Announcement (v3)
```

```
3 packets captured
Switch2#
```

ملوح نم نالعالا يأتاي ELAM. لي غشت دنع يطايت حال خسننلا زاهج يلع نالعالا ةيؤر نكمي و Ethernet 1/51 هو ةححصلا ةدراولا ةهجاولا يه قلت متي و (X::X:X:X:DEA7) يسيئرلا

```
Switch2# show hardware internal tah interface e1/51
```

```
#####
IfIndex: 0x1a006400
DstIndex: 5944
IfType: 26
Asic: 0
Asic: 0
AsicPort: 60
SrcId: 120
Slice: 0
PortOnSlice: 60
Table entries for interface Ethernet1/51
```

```
Switch2(TAH-elam)# trigger init asic 0 slice 0 in-select 6 out-select 0 use-src-id 120
Switch2(TAH-elam-insel6)# set outer ipv6 src_ip X::X:X:X:dea7
Switch2(TAH-elam-insel6)# start
Switch2(TAH-elam-insel6)# report
HOMEWOOD ELAM REPORT SUMMARY
```


