

Alert: **network-receive-errors**

Annotations:

Type: Communications Alarm

Summary: Network interface "{{ \$labels.device }}" showing receive errors on hostname {{ \$labels.hostname }}"

Expression:

```
|  
rate(node_network_receive_errs_total{device!~"veth.+"}[2m]) > 0
```

For: 2m

Labels:

Severity: major

تاهي بنت ال ردصم دي دحت

"ك بشل ال يقلت أطخ" هي بنت لي صافات نم ققحت، **CEE22** ةي لمع يلا لوخدلا لي جستب مق
ةو دقة ال دحتل eno6 و BD0 تاهجاو يلع انه ن مالع ال مت يتيلا

```
[lab0200-smf/labceed22] cee# show alerts active summary
```

NAME	UID	SEVERITY	STARTS AT	SOURCE	SUMMARY
------	-----	----------	-----------	--------	---------

network-receive-error	3b6a0a7ce1a8	major	10-26T21:17:01	lab0200-smf-mas	Network interface "bd0" showing receive errors on hostname tpc...
network-receive-error	15abab75c8fc	major	10-26T21:17:01	lab0200-smf-mas	Network interface "eno6" showing receive errors on hostname tp...

لي صافات بحسلة طشن الة لصفم ال تاهي بنت ال يقلت ي ف <UID> أطخ ذي فننتب مق
هه هي بنت ال.

في node lab0200-smf-primary-1 pod node-source-47xmm. وه تاهي بنت ال الك ردصم، لثم ال في

```
[lab0200-smf/labceed22] cee# show alerts active detail network-receive-error 3b6a0a7ce1a8
```

```
alerts active detail network-receive-error 3b6a0a7ce1a8
```

```
severity      major  
type          "Communications Alarm"  
startsAt     2021-10-26T21:17:01.913Z  
source       lab0200-smf-primary-1  
summary      "Network interface \"bd0\" showing receive errors on hostname lab0200-smf-primary-1\"  
labels       [ "alertname: network-receive-errors" "cluster: lab0200-smf_cee-labceed22"  
"component: node-exporter" "controller_revision_hash: 75c4cb979f" "device: bd0" "hostname: lab0200-smf-primary-1" "instance: 10.192.1.42:9100" "job: kubernetes-pods" "monitor: prometheus"  
"namespace: cee-labceed22" "pod: node-exporter-47xmm" "pod_template_generation: 1" "replica: lab0200-smf_cee-labceed22" "severity: major" ]  
annotations [ "summary: Network interface \"bd0\" showing receive errors on hostname lab0200-smf-primary-1\" "type: Communications Alarm" ]
```

```
[lab0200-smf/labceed22] cee# show alerts active detail network-receive-error 15abab75c8fc
```

```
alerts active detail network-receive-error 15abab75c8fc
```

```
severity      major  
type          "Communications Alarm"  
startsAt     2021-10-26T21:17:01.913Z  
source       lab0200-smf-primary-1  
summary      "Network interface \"eno6\" showing receive errors on hostname lab0200-smf-primary-1\"  
labels       [ "alertname: network-receive-errors" "cluster: lab0200-smf_cee-labceed22"
```

```
"component: node-exporter" "controller_revision_hash: 75c4cb979f" "device: eno6" "hostname: lab0200-smf-primary-1" "instance: 10.192.1.42:9100" "job: kubernetes-pods" "monitor: prometheus" "namespace: cee-labceed22" "pod: node-exporter-47xmm" "pod_template_generation: 1" "replica: lab0200-smf_cee-labceed22" "severity: major" ]
  annotations [ "summary: Network interface \"eno6\" showing receive errors on hostname lab0200-smf-primary-1\" \"type: Communications Alarm" ]
```

ذفانم الة لاجو Pod و ةدق الة حص نم ققحت الة

ةيسئ رلة ةمه ملة ةيصخش لل نم دن بل او ةطقن لل ةحص نم ققحت الة

ةدق الة نم ققحت لل Rack2 ف ةيساس الة ةمه ملة ةيصخش لل K8s ل لوخذ لل لاجو pod و رصم الة

راجو زهاج: ةديج الة ف امه نم لك، لاثم الة ف

```
cloud-user@lab0200-smf-primary-1:~$ kubectl get nodes
NAME                                STATUS    ROLES    AGE   VERSION
lab0200-smf-primary-1              Ready    control-plane   105d   v1.21.0
lab0200-smf-primary-2              Ready    control-plane   105d   v1.21.0
lab0200-smf-primary-3              Ready    control-plane   105d   v1.21.0
lab0200-smf-worker-1               Ready    <none>          105d   v1.21.0
lab0200-smf-worker-2               Ready    <none>          105d   v1.21.0
lab0200-smf-worker-3               Ready    <none>          105d   v1.21.0
lab0200-smf-worker-4               Ready    <none>          105d   v1.21.0
lab0200-smf-worker-5               Ready    <none>          105d   v1.21.0
```

```
cloud-user@lab0200-smf-primary-1:~$ kubectl get pods -A -o wide | grep node-exporter--47xmm
cee-labceed22      node-exporter-47xmm                                1/1      Running    0
                  18d      10.192.1.44      lab0200-smf-primary-1    <none>    <none>
```

VIP نم ةيساس الة K8s نم ذفانم الة ةحص نم ققحت الة تاي لمع

Verify BD0 و eno6 تاهاجو ليغشت م تي IP | GREP eno6 و ip addr | GREP bd0.

وه ببس لل جارج الة ف eno6 ضرع م تي، BD0 لة ةيفصت لل لماع ققحت دنع: ةظحال م رشن" ف اهت حص نم ققحت لل نم م، BD0 نم مض ةطبترم تاهاجو ك و eno6 و eno5 نيوك تة و مة و مة SMI".

```
cloud-user@lab0200-smf-primary-1:~$ ip addr | grep eno6
3: eno6: <BROADCAST,MULTICAST,SECONDARY,UP,LOWER_UP> mtu 1500 qdisc mq primary bd0 state UP
group default qlen 1000
```

```
cloud-user@lab0200-smf-primary-1:~$ ip addr | grep bd0
2: eno5: <BROADCAST,MULTICAST,SECONDARY,UP,LOWER_UP> mtu 1500 qdisc mq primary bd0 state UP
group default qlen 1000
3: eno6: <BROADCAST,MULTICAST,SECONDARY,UP,LOWER_UP> mtu 1500 qdisc mq primary bd0 state UP
group default qlen 1000
12: bd0: <BROADCAST,MULTICAST,PRIMARY,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
qlen 1000
13: vlan111@bd0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
qlen 1000
14: vlan112@bd0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
qlen 1000
182: cali7a166bd093d@if4: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1440 qdisc noqueue state UP
```



```
node-defaults initial-boot netplan ethernet enp94s0f1
dhcp4 false
dhcp6 false
exit
```

```
node-defaults initial-boot netplan bonds bd0
```

```
dhcp4 false
dhcp6 false
optional true
interfaces [ eno5 eno6 ]
parameters mode active-backup
parameters mii-monitor-interval 100
parameters fail-over-mac-policy active
exit
```

و bd0 تاهجاولا ىلع طوقسلا تالاح وأ/و عاطخألا نم ققحتة ىسأسألا ةمهمل تايصخشلا يف eno6.

يال قرولا لوحم وأ UCS ةزهجأ نم ققحتلا بجي، طاقسإ تايلمعل تاهجاولا اتلك ضرعتت ام دنع ةزهجالاب ةقلعتم لك اشم.

```
cloud-user@lab0200-smf-primary-1:~$ ifconfig bd0
bd0: flags=5187<UP,BROADCAST,RUNNING,PRIMARY,MULTICAST> mtu 1500
    inet6 fe80::8e94:1fff:fef6:53cd prefixlen 64 scopeid 0x20<link>
    ether 8c:94:1f:f6:53:cd txqueuelen 1000 (Ethernet)
    RX packets 47035763777 bytes 19038286946282 (19.0 TB)
    RX errors 49541 dropped 845484 overruns 0 frame 49541
    TX packets 53797663096 bytes 32320571418654 (32.3 TB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
cloud-user@lab0200-smf-primary-1:~$ ifconfig eno6
eno6: flags=6211<UP,BROADCAST,RUNNING,SECONDARY,MULTICAST> mtu 1500
    ether 8c:94:1f:f6:53:cd txqueuelen 1000 (Ethernet)
    RX packets 47035402290 bytes 19038274391478 (19.0 TB)
    RX errors 49541 dropped 845484 overruns 0 frame 49541
    TX packets 53797735337 bytes 32320609021235 (32.3 TB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

UCS مداخل فيرعت

SMI لةومجملماظن رشن جم انرب نم UCS مداخلة حص نم ققحتلا

في SMI Cluster `show running-config cluster <cluster name> node <node name>` ليغش تب مق UCS مداخل صاخلا CIMC IP ناونع فاشتكال Deployment Er.

```
[lab-deployer-cm-primary] SMI Cluster Deployer# show running-config clusters lab0200-smf nodes primary-1
clusters lab0200-smf
nodes primary-1
maintenance false
host-profile cp-data-r2-sysctl
k8s node-type primary
k8s ssh-ip 10.192.1.42
k8s sshd-bind-to-ssh-ip true
k8s node-ip 10.192.1.42
k8s node-labels smi.cisco.com/node-type oam
exit
```

```
k8s node-labels smi.cisco.com/node-type-1 proto
exit
ucs-server cimc user admin
...
ucs-server cimc ip-address 172.16.1.62
...
exit
```

مداخل مسانم ققحت لاول طشن لال CM لال خ نم 172.16.1.62 CIMC ل IP ناونع في SSH.

LAB0200-Server8-02. وه مداخل مسان، لال ثمل في

```
cloud-user@lab-deployer-cm-primary:~$ ssh admin@172.16.1.62
Warning: Permanently added '172.16.1.62' (RSA) to the list of known hosts.
admin@172.16.1.62's password:
LAB0200-Server8-02#
```

CIQ ناك اذا، (CIQ) ءالمع لال تامول عم ناي بتسا في مداخل مسان حص نم ققحت: **ةظحال م** ارفوتم.

UCS ءك بش تاه جاو و ءي ساس ال VIP ذفانم طي طخت

ls رمال مادخت سا ب eno6 ل ءي دام لال ءه جاو لال ءام سا نم ققحت، ءي ساس ال ءمه م لال ءي صخش لال ل ع - la /sys/class/net. لال ثمل في f. eno6، زاه في رعت ل lscpi مادخت سا دن ع، لال ثمل في 1d:00.1 eno6 ف رعت ل.

```
cloud-user@lab0200-smf-primary-1:~$ ls -la /sys/class/net
total 0
drwxr-xr-x  2 root root    0 Oct 12 06:18 .
drwxr-xr-x 87 root root    0 Oct 12 06:18 ..
lrwxrwxrwx  1 root root    0 Oct 12 06:18 bd0 -> ../../devices/virtual/net/bd0
lrwxrwxrwx  1 root root    0 Oct 12 06:18 bd1 -> ../../devices/virtual/net/bd1
...
lrwxrwxrwx  1 root root    0 Oct 12 06:18 eno5 ->
../../devices/pci0000:17/0000:17:00.0/0000:18:00.0/0000:19:01.0/0000:1b:00.0/0000:1c:00.0/0000:1d:00.0/net/eno5
lrwxrwxrwx  1 root root    0 Oct 12 06:18 eno6 ->
../../devices/pci0000:17/0000:17:00.0/0000:18:00.0/0000:19:01.0/0000:1b:00.0/0000:1c:00.0/0000:1d:00.1/net/eno6
```

MLOM، لال ثم UCS مداخل ل ع ءو و م لال ءه جاو لال عي م لول عم LSPCI ضرعت: **ةظحال م** في تاه جاو لال ءام سا ن ءي رعت ل زاه لال تامول عم مادخت سا نكمي. كلذ لال امو، PCI، SLOM، لال ثمل في ls /la /sys/class/net. رمال جارخا

ءانم MLOM 1d:00.0 وه eno5 لال MLOM eno6 ءه جاو لال 1d:00.1 ذفنم لال يم تني، لال ثمل في

```
cloud-user@lab0200-smf-primary-1:~$ lspci
.....
1d:00.0 Ethernet controller: Cisco Systems Inc VIC Ethernet NIC (rev a2)
1d:00.1 Ethernet controller: Cisco Systems Inc VIC Ethernet NIC (rev a2)
3b:00.0 Ethernet controller: Intel Corporation Ethernet Controller 10G X550T (rev 01)
```

```
3b:00.1 Ethernet controller: Intel Corporation Ethernet Controller 10G X550T (rev 01)
5e:00.0 Ethernet controller: Intel Corporation Ethernet Controller XL710 for 40GbE QSFP+ (rev 02)
5e:00.1 Ethernet controller: Intel Corporation Ethernet Controller XL710 for 40GbE QSFP+ (rev 02)
d8:00.0 Ethernet controller: Intel Corporation Ethernet Controller XL710 for 40GbE QSFP+ (rev 02)
d8:00.1 Ethernet controller: Intel Corporation Ethernet Controller XL710 for 40GbE QSFP+ (rev 02)
```

ةي نبل اللى لوصول اليف مكحت الة دحوب ةصاخ ال (GUI) ةيموسرل مدخت سمل الة حاو يف ةيساس الة مةم الة صخش لل نم **ifconfig** جارخا لىل رهظي يذل ال MAC ناو نع (MLOM) ةيساس الة

```
cloud-user@lab0200-smf-primary-1:~$ ifconfig bd0
bd0: flags=5187<UP,BROADCAST,RUNNING,PRIMARY,MULTICAST> mtu 1500
    inet6 fe80::8e94:1fff:fef6:53cd prefixlen 64 scopeid 0x20<link>
    ether 8c:94:1f:f6:53:cd txqueuelen 1000 (Ethernet)
    RX packets 47035763777 bytes 19038286946282 (19.0 TB)
    RX errors 49541 dropped 845484 overruns 0 frame 49541
    TX packets 53797663096 bytes 32320571418654 (32.3 TB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
cloud-user@lab0200-smf-primary-1:~$ ifconfig eno6
eno6: flags=6211<UP,BROADCAST,RUNNING,SECONDARY,MULTICAST> mtu 1500
    ether 8c:94:1f:f6:53:cd txqueuelen 1000 (Ethernet)
    RX packets 47035402290 bytes 19038274391478 (19.0 TB)
    RX errors 49541 dropped 845484 overruns 0 frame 49541
    TX packets 53797735337 bytes 32320609021235 (32.3 TB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

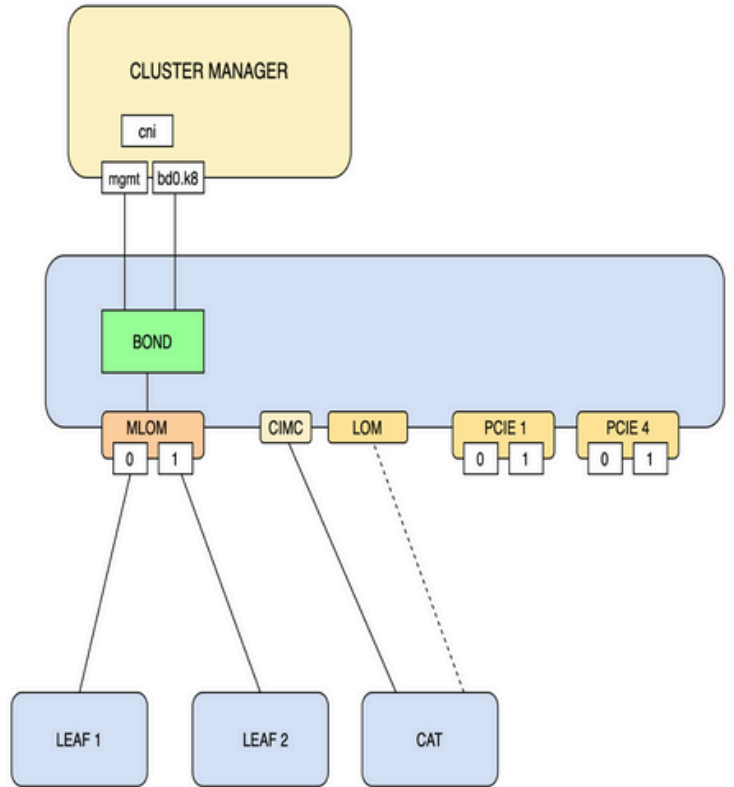
يفرطال لوجم اللى لىل فرعتال

MLOM لىل صوت م تي، ةروصل اليف حضوم وه امك، "ةومجم ال ماظن ري دم" ةكبش يف (eno5/eno6) 1 و 2 تاروشنم ل اب

احاتم CIQ ناك اذ، يف قاروالا تافيفضم ءامسأ نم ققحتل اب مق: ةظالم

CM Networking Design

- Management Port (CIMC)– this port is connected to the Management network.
- External provisioner accesses CIMC and mounts vMedia with initial boot configuration
- Initial boot
 - MLOM port 1 and 2 bonded
 - Management VLAN (with IP)
- Additional networking added post boot
 - Internal VLAN attached to MLOM Bond
 - LAN1 is activated and attached to the CIMC network



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مداخل مسأ Grep و Leaves نم لك ىل ل لوخذلا لىجستب مق

و Leaf1 ىل ع ETH1/49 تاهج اوب MLOM و MLOM LAB0200-Server8-02 تاهج او لصتت ، لاثملا ي ف Leaf2.

```
Leaf1# sh int description | inc LAB0200-Server8-02
Eth1/10      eth      40G      PCIE-01-2-LAB0200-Server8-02
Eth1/30      eth      40G      PCIE-02-2-LAB0200-Server8-02
Eth1/49      eth      40G      LAB0200-Server8-02 MLOM-P2
```

```
Leaf2# sh int description | inc LAB0200-Server8-02
Eth1/10      eth      40G      PCIE-01-1-LAB0200-Server8-02
Eth1/30      eth      40G      PCIE-02-1-LAB0200-Server8-02
Eth1/49      eth      40G      LAB0200-Server8-02 MLOM-P1
```

لحل

بناج ىل ع ااطخأ ىل ع روثعلا مدع ةلاح ي ف. اهب صاخلا اهلىلحت ىل جاتحت ةلأسم لك :ماه
ءاطخأ نع اثحب UCS مداخل تاهج او نم ققحت ، Nexus.

ب لصت مالا int th1/49 Leaf1 ىل ع طابترالا لشفب ةلكشملا قلعتت ، ويرانيسلا ي ف
LAB0200-Server8-02 MLOM eno6.

MLOM تناك و ، ةزهجأل ي ف ةلكشم يأ ىل ع روثعلا متي ملو UCS مداخل ةحص نم ققحتلا مت
ةديج ةلاح ي ف ذفانملاو.

TX: جارخا ااطخأ Leaf1 ترهظأ


```

Leaf1# sh int Eth1/49
Ethernet1/49 is up
admin state is up, Dedicated Interface
Hardware: 10000/40000/100000 Ethernet, address: e8eb.3437.48ca (bia e8eb.3437.48ca)
Description: LAB0200-Server8-02 MLOM-P2
MTU 9216 bytes, BW 40000000 Kbit , DLY 10 usec
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, medium is broadcast
Port mode is trunk
full-duplex, 40 Gb/s, media type is 40G
Beacon is turned off
Auto-Negotiation is turned on FEC mode is Auto
Input flow-control is off, output flow-control is off
Auto-mdix is turned off
Rate mode is dedicated
Switchport monitor is off
EtherType is 0x8100
EEE (efficient-ethernet) : n/a
  admin fec state is auto, oper fec state is off
Last link flapped 5week(s) 6day(s)
Last clearing of "show interface" counters never
12 interface resets
Load-Interval #1: 30 seconds
  30 seconds input rate 162942488 bits/sec, 26648 packets/sec
  30 seconds output rate 35757024 bits/sec, 16477 packets/sec
  input rate 162.94 Mbps, 26.65 Kpps; output rate 35.76 Mbps, 16.48 Kpps
Load-Interval #2: 5 minute (300 seconds)
  300 seconds input rate 120872496 bits/sec, 22926 packets/sec
  300 seconds output rate 54245920 bits/sec, 17880 packets/sec
  input rate 120.87 Mbps, 22.93 Kpps; output rate 54.24 Mbps, 17.88 Kpps
RX
  85973263325 unicast packets  6318912 multicast packets  55152 broadcast packets
  85979637389 input packets  50020924423841 bytes
  230406880 jumbo packets  0 storm suppression bytes
  0 runts  0 giants  0 CRC  0 no buffer
  0 input error  0 short frame  0 overrun  0 underrun  0 ignored
  0 watchdog  0 bad etype drop  0 bad proto drop  0 if down drop
  0 input with dribble  0 input discard
  0 Rx pause
TX
  76542979816 unicast packets  88726302 multicast packets  789768 broadcast packets
  76632574981 output packets  29932747104403 bytes
  3089287610 jumbo packets
  79095 output error  0 collision  0 deferred  0 late collision
  0 lost carrier  0 no carrier  0 babble  0 output discard
  0 Tx pause

```

1. قورول نم 1/49 ؤحفصللا يف لبكلا لادبتسا عم "ةكبشلا لابقتسا أطخ" هيبنت لح مت

لبكلا لادبتسا لبق ةرشابم ةهجالا طابترال لشف رخأ نع غالبإل مت

```

2021 Nov 17 07:36:48 TPLF0201 %BFD-5-SESSION_STATE_DOWN: BFD session 1090519112 to neighbor
10.22.101.1 on interface Vlan2201 has gone down. Reason: Control
Detection Time Expired.

```

```

2021 Nov 17 07:37:30 TPLF0201 %BFD-5-SESSION_STATE_DOWN: BFD session 1090519107 to neighbor
10.22.101.2 on interface Vlan2201 has gone down. Reason: Control
Detection Time Expired.

```

```

2021 Nov 18 05:09:12 TPLF0201 %ETHPORT-5-IF_DOWN_LINK_FAILURE: Interface Ethernet1/48 is down
(Link failure)

```

لبكلا لادبتسا دعب 22 ءارجالا نم eno6/bd0 سلع تاهيبنتلا حسم متي

[lab0200-smf/labceed22] cee# **show alerts active summary**

NAME UID SEVERITY STARTS AT SOURCE SUMMARY

watchdog a62f59201ba8 minor 11-02T05:57:18 System This is an alert meant to ensure that the entire alerting pipeline is functional. This ale...

ةمچرتل هذه ل و ح

ةلأل تاي نقتل ن م ة و مچ م ادخت ساب دن تسم ل ا ذه Cisco ت مچرت
م ل ا ل اء ان ا ع مچ ي ف ن ي م دخت س م ل ل م عد ي و ت ح م م ي دقت ل ة ي ر ش ب ل و
امك ة ق ي ق د ن و ك ت ن ل ة ي ل ا ة مچرت ل ض ف ا ن ا ة ظ ح ال م ي ج ر ي . ة ص ا خ ل ا م ه ت غ ل ب
Cisco ي ل خ ت . ف ر ت ح م مچرت م ا ه م د ق ي ي ت ل ا ة ي ف ا ر ت ح ال ا ة مچرت ل ا ع م ل ا ح ل ا و ه
ي ل ا م اء ا د ع و ج ر ل ا ب ي ص و ت و ت ا مچرت ل ا هذه ة ق د ن ع ا ه ت ي ل و ئ س م Cisco
Systems (ر ف و ت م ط ب ا ر ل ا) ي ل ص ا ل ا ي ز ي ل ج ن ا ل ا دن ت س م ل ا