Probleemoplossing "OS-SHMWIN-2-ERROR_ENCOUNED" foutmelding

Inhoud

Inleiding

Dit document beschrijft hoe u problemen kunt oplossen bij de "OS-SHMWIN-2-ERROR_ENCOUNED" fout op een Cisco IOS® XR router.

De foutmelding

Voorbeelden van de foutmelding zijn:

```
"%OS-SHMWIN-2-ERROR_ENCOUNTERED"
```

```
LC/0/0/CPU0:Dec 16 09:45:58 : fib_mgr[260]: %OS-SHMWIN-2-ERROR_ENCOUNTERED : SHMWIN: Error encountered:
```

```
LC/0/0/CPU0:Dec 16 09:45:39 : l2fib[328]: %OS-SHMWIN-2-ERROR_ENCOUNTERED : SHMWIN: Error encountered: Sy
```

```
RP/0/RSP0/CPU0:Aug 11 21:15:47.174 IST: show_ip_interface[65961]: %OS-SHMWIN-2-ERROR_ENCOUNTERED : SHMW
```

De fout geeft aan dat de geheugenstatus van het systeem ernstig is. Met name het gedeelde geheugen, dat de dynamische gegevens tussen meerdere processen opslaat, heeft een probleem.

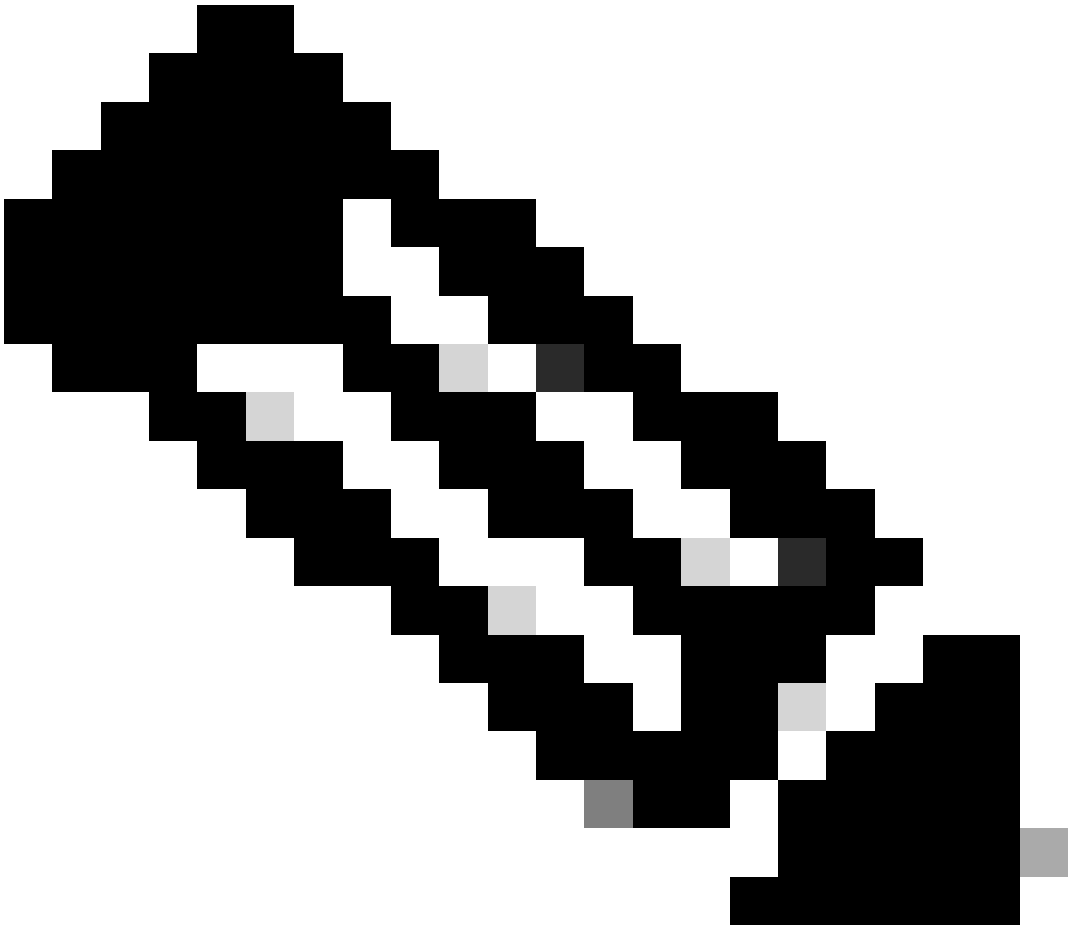
Problemen oplossen

Begin door de lijnkaart (of RP/RSP) en de hoogste geheugenconsumenten te identificeren.

In de foutmelding kan een proces of zelfs een opdracht zijn ingesloten. Als de geheugenconditie echter laag is, kan er iets fout gaan als er niet genoeg geheugen beschikbaar is. U moet identificeren wat veroorzaakt dat het beschikbare geheugen laag gaat.

De lijnkaart wordt in de foutmelding zelf aangegeven. Probeer de beste gebruikers van het geheugen te vinden.

```
show memory location 0/x/CPUx
show memory summary location 0/x/CPUx
show watchdog memory-state location 0/x/CPUx
show processes memory location 0/x/CPUx
```



Opmerking: er zouden ook andere foutmeldingen kunnen zijn die mogelijk aangeven wat de schuldige processen zijn.

Voorbeeld:

<#root>

```
RP/0/RSP0/CPU0:Apr 24 11:34:33.599 EST: wdsysmon[450]: %HA-HA_WD-4-MEMORY_ALARM : Memory threshold cros
RP/0/RSP0/CPU0:Apr 24 13:23:12.947 EST: wdsysmon[450]: %HA-HA_WD-4-MEMORY_ALARM : Memory threshold cros
RP/0/RSP0/CPU0:Apr 24 14:32:10.086 EST: wdsysmon[450]: %HA-HA_WD-4-MEMORY_STATE_CHANGE : New memory sta
RP/0/RSP0/CPU0:Apr 24 14:32:10.086 EST: wdsysmon[450]: %HA-HA_WD-4-TOP_MEMORY_USERS_WARNING :

Top 5 consumers of system memory

 (671084 Kbytes free):
RP/0/RSP0/CPU0:Apr 24 14:32:10.086 EST: wdsysmon[450]: %HA-HA_WD-4-TOP_MEMORY_USER_WARNING : 0: Process
RP/0/RSP0/CPU0:Apr 24 14:32:10.086 EST: wdsysmon[450]: %HA-HA_WD-4-TOP_MEMORY_USER_WARNING : 1: Process
RP/0/RSP0/CPU0:Apr 24 14:32:10.087 EST: wdsysmon[450]: %HA-HA_WD-4-TOP_MEMORY_USER_WARNING : 2: Process
RP/0/RSP0/CPU0:Apr 24 14:32:10.087 EST: wdsysmon[450]: %HA-HA_WD-4-TOP_MEMORY_USER_WARNING : 3: Process
RP/0/RSP0/CPU0:Apr 24 14:32:10.087 EST: wdsysmon[450]: %HA-HA_WD-4-TOP_MEMORY_USER_WARNING : 4: Process
```

Als het proces BGP of een ander routeringsprotocol is, controleer dan of u geen wijzigingen hebt aangebracht in het netwerk dat hieraan heeft bijgedragen.

Gebruik deze opdrachten om een overzicht te krijgen van het gebruikte geheugen en om de hoogste processen te identificeren die het geheugen nemen.

0/x/CPUx is de specifieke lijnkaart in de fout.

```
show memory summary location 0/x/CPUx
show memory summary location 0/x/CPUx
show shared-memory location 0/x/CPUx
show memory-top-consumers location 0/x/CPUx
show shmwin summary location 0/x/CPUx
```

Voorbeelden:

<#root>

```
RP/0/RSP1/CPU0:R1#

show memory summary location 0/RSP0/CPU0


node:      node0_RSP0_CPU0
Physical Memory: 6144M total--------------------------------------
 Application Memory : 5738M (2795M available)
 Image: 117M (bootram: 117M)
 Reserved: 224M, IOMem: 0, flashfsys: 0
 Total shared window: 76M
```

<#root>

RP/0/RSP1/CPU0:R1#

show memory summary location 0/RSP0/CPU0

```
node:      node0_RSP0_CPU0
Physical Memory: 6144M total--------------------------------------
 Application Memory : 5738M (2797M available)
 Image: 117M (bootram: 117M)
 Reserved: 224M, IOMem: 0, flashfsys: 0
 Total shared window: 76M
```

<#root>

RP/0/RSP1/CPU0:R1#

show shared-memory location 0/0/cpu0

```
Total Shared memory: 1527M
 ShmWin: 236M
 Image: 703M
 LTrace: 353M
 AIPC: 33M
 SLD: 3M
 SubDB: 1M
 CERRNO: 144K
 GSP-CBP: 64M
 EEM: 0
 XOS: 4M
 CHKPT: 2M
 CDM: 4M
 XIPC: 594K
 DLL: 64K
 SysLog: 0
 Miscellaneous: 119M

LTrace usage details:
 Used: 353M, Max: 2075M
 Current: default(dynamic)
 Configured: dynamic with scale-factor: 8 (changes take effect after reload)
```

<#root>

RP/0/RP0/CPU0:R1#

show memory-top-consumers location 0/RP0/CPU0

```
Execute 'show memory-snapshots process <> location <>' to check memory usage trend.

######################################################################
 Top memory consumers on 0/RP0/CPU0 (at 2023/Nov/8/15:41:42)
######################################################################
    PID             Process   Total(MB)    Heap(MB)      Shared(MB)
   7366      mibd_interface       233.2      192.64            37.7
```

```
   2552                 spp       228.2        9.71           222.1
  49132                 bgp       225.9       83.62           165.9
   4844               l2rib       211.8       21.12           190.1
   2787                 gsp       137.9       24.64           113.1
   3869            mpls_lsd       122.8       12.85           107.8
   3804             fib_mgr       121.0       13.43           108.7
   2975       parser_server       116.7       66.39            44.6
   6685           l2vpn_mgr       116.5       43.77            82.3
   3310     dpa_port_mapper       114.8        2.96           110.2
```

<#root>

RP/0/RSP1/CPU0:R1#

show shmwin summary location 0/0/cpu0

```
----------------------------------------
Shared memory window summary information
----------------------------------------
Data for Window "subdb_sco_tbl":
------------------------------
Virtual Memory size  : 1536 MBytes
Virtual Memory Range : 0x7c000000 - 0xdc000000
Virtual Memory Group 2 size  : 352 MBytes
Virtual Memory Group 2 Range : 0x66000000 - 0x7c000000

Window Name      ID  GRP #Usrs #Wrtrs Ownr Usage(KB) Peak(KB) Peak Timestamp
---------------- --- --- ----- ------ ---- --------- -------- -------------------
subdb_sco_tbl    70  1   1     1      158  3         0        --/--/---- --:--:--
Data for Window "ptp":
------------------------------
ptp              131 P   1     1      0    35        35       10/18/2023 11:56:31
Data for Window "cfmd-sla":
------------------------------
cfmd-sla         53  1   1     1      0    99        99       10/18/2023 11:56:20
Data for Window "cfmd":
------------------------------
cfmd             36  1   1     1      0    99        99       10/18/2023 11:56:30
Data for Window "vkg_pbr_ea":
------------------------------
vkg_pbr_ea       83  1   1     1      0    147       147      10/18/2023 11:56:27
Data for Window "span_ea_pd":
------------------------------
span_ea_pd       40  1   1     1      362  34        34       10/18/2023 11:56:13
Data for Window "vkg_l2fib_vqi":
------------------------------
vkg_l2fib_vqi    97  1   2     2      0    3         0        --/--/---- --:--:--
Data for Window "statsd_db":
------------------------------
statsd_db        60  1   1     1      0    3         0        --/--/---- --:--:--
Data for Window "statsd_db_l":
------------------------------
statsd_db_l      130 P   1     1      0    1131      1131     10/18/2023 11:56:17
Data for Window "arp":
------------------------------
arp              20  1   1     1      0    227       227      10/18/2023 11:56:37
Data for Window "bm_lacp_tx":
------------------------------
bm_lacp_tx       54  1   1     1      132  1         0        --/--/---- --:--:--
```

```
Data for Window "ether_ea_shm":
------------------------------
ether_ea_shm     26  1   4     4      406  227       227      10/18/2023 11:56:27
Data for Window "vkg_l2fib_evpn":
------------------------------
vkg_l2fib_evpn   100 1   3     3      0    3         0        --/--/---- --:--:--
Data for Window "l2fib":
------------------------------
l2fib            14  1   10    10     262  45265     45265    11/08/2023 15:03:18
Data for Window "ether_ea_tcam":
------------------------------
ether_ea_tcam    58  1   5     5      313  595       595      10/18/2023 11:55:55
Data for Window "vkg_vpls_mac":
------------------------------
vkg_vpls_mac     35  1   3     3      0    6291      6291     10/25/2023 13:15:04
Data for Window "prm_stats_svr":
------------------------------
prm_stats_svr    24  1   21    21     0    12419     12419    10/18/2023 11:56:24
Data for Window "prm_srh_main":
------------------------------
prm_srh_main     66  1   31    31     0    60163     60163    10/18/2023 11:56:31
Data for Window "prm_tcam_mm_svr":
------------------------------
prm_tcam_mm_svr  23  1   1     1      0    22067     22163    10/18/2023 12:04:59
Data for Window "prm_ss_lm_svr":
------------------------------
prm_ss_lm_svr    65  1   1     1      0    3233      3233     10/18/2023 11:56:33
Data for Window "prm_ss_mm_svr":
------------------------------
prm_ss_mm_svr    22  1   5     5      0    3867      3867     10/18/2023 11:55:52
Data for Window "vkg_gre_tcam":
------------------------------
vkg_gre_tcam     63  1   2     2      388  35        35       10/18/2023 11:55:54
Data for Window "tunl_gre":
------------------------------
tunl_gre         62  1   2     2      388  39        39       10/18/2023 11:55:38
Data for Window "pd_fib_cdll":
------------------------------
pd_fib_cdll      28  1   1     1      0    35        35       10/18/2023 11:55:36
Data for Window "SMW_TEST_2":
------------------------------
SMW_TEST_2       86  1   1     1      0    1067      1067     10/18/2023 11:55:35
Data for Window "ifc-mpls":
------------------------------
ifc-mpls         13  1   18    18     188  7161      9057     11/02/2023 18:32:41
Data for Window "ifc-ipv6":
------------------------------
ifc-ipv6         17  1   18    18     188  25249     25665    11/02/2023 18:33:13
Data for Window "ifc-ipv4":
------------------------------
ifc-ipv4         16  1   18    18     188  24205     24893    10/31/2023 18:12:27
Data for Window "ifc-protomax":
------------------------------
ifc-protomax     18  1   18    18     188  6057      6297     10/18/2023 11:56:06
Data for Window "bfd_offload_shm":
------------------------------
bfd_offload_shm  94  1   1     1      0    2         0        --/--/---- --:--:--
Data for Window "netio_fwd":
------------------------------
netio_fwd        34  1   1     1      0    0         0        --/--/---- --:--:--
Data for Window "mfwd_info":
------------------------------
```

```
mfwd_info        1   1   2     2      254  1373      1373     10/18/2023 11:56:24
Data for Window "mfwdv6":
------------------------------
mfwdv6           15  1   1     1      258  737       737      10/18/2023 11:55:57
Data for Window "vkg_bmp_adj":
------------------------------
vkg_bmp_adj      30  1   2     2      129  235       235      10/18/2023 11:55:55
Data for Window "rewrite-db":
------------------------------
rewrite-db       101 1   3     3      0    4115      4115     10/18/2023 11:55:32
Data for Window "inline_svc":
------------------------------
inline_svc       88  1   1     1      0    755       755      10/18/2023 11:55:33
Data for Window "im_rd":
------------------------------
im_rd            33  1   75    75     217  1131      1131     10/18/2023 11:55:32
Data for Window "ipv6_pmtu":
------------------------------
ipv6_pmtu        98  1   1     1      256  3         0        --/--/---- --:--:--
Data for Window "im_db_private":
------------------------------
im_db_private    129 P   1     1      0    1131      1131     10/18/2023 11:55:34
Data for Window "infra_ital":
------------------------------
infra_ital       19  1   3     3      340  387       387      10/18/2023 11:55:41
Data for Window "infra_statsd":
------------------------------
infra_statsd     8   1   5     5      370  3         0        --/--/---- --:--:--
Data for Window "ipv6_nd_pkt":
------------------------------
ipv6_nd_pkt      128 P   1     1      0    107       107      10/18/2023 11:55:30
Data for Window "aib":
------------------------------
aib              2   1   10    10     114  2675      2675     10/18/2023 11:56:42
Data for Window "vkg_pm":
------------------------------
vkg_pm           5   1   34    1      313  307       307      11/03/2023 11:25:06
Data for Window "subdb_fai_tbl":
------------------------------
subdb_fai_tbl    75  2   11    1      0    51        51       10/18/2023 11:55:26
Data for Window "subdb_ifh_tbl":
------------------------------
subdb_ifh_tbl    74  2   2     1      0    35        35       10/18/2023 11:55:26
Data for Window "subdb_ao_tbl":
------------------------------
subdb_ao_tbl     72  2   1     1      0    43        43       10/18/2023 11:55:26
Data for Window "subdb_do_tbl":
------------------------------
subdb_do_tbl     73  2   11    1      0    35        35       10/18/2023 11:55:26
Data for Window "subdb_co_tbl":
------------------------------
subdb_co_tbl     71  2   11    1      0    4107      4107     10/18/2023 11:55:26
Data for Window "rspp_ma":
------------------------------
rspp_ma          3   1   14    14     0    3         0        --/--/---- --:--:--
Data for Window "cluster_dlm":
------------------------------
cluster_dlm      61  1   26    26     0    3         0        --/--/---- --:--:--
Data for Window "pfm_node":
------------------------------
pfm_node         29  1   1     1      0    195       195      10/18/2023 11:56:11
Data for Window "im_rules":
```

```
-----------------------------
im_rules         31  1   85    85     217  453       453      10/18/2023 11:55:32
Data for Window "im_db":
-----------------------------
im_db            32  1   85    1      0    2065      2065     10/18/2023 11:56:26
Data for Window "spp":
-----------------------------
spp              27  1   51    51     88   1403      1403     10/18/2023 11:56:29
Data for Window "qad":
-----------------------------
qad              6   1   1     1      0    134       134      01/01/1970 02:00:08
Data for Window "pcie-server":
-----------------------------
pcie-server      39  1   1     1      0    39        39       01/01/1970 02:00:07
-------------------------------------------
Total SHMWIN memory usage : 235 MBytes
```

Geheugenlekkage

Geef aan dat er geen geheugenlek is voor een proces:

Je kan een 'geheugenvergelijking' kiezen. Dit proces toont u de toename of afname over een periode - die u specificeert - van geheugen per proces. Dit is een voorbeeld; noteer de kolom 'verschil'.

<#root>

```
RP/0/RSP0/CPU0:R1#
```

show memory compare start

```
Successfully stored memory snapshot /harddisk:/malloc_dump/memcmp_start.out
```

```
RP/0/RSP0/CPU0:R1#
```

show memory compare end

```
Successfully stored memory snapshot /harddisk:/malloc_dump/memcmp_end.out
```

```
RP/0/RSP0/CPU0:R1#
```

show memory compare report

```
JID   name                mem before   mem after    difference mallocs restart/exit/new
---   ----                ----------   ---------    ---------- ------- ----------------
376   parser_server       32069512     32070976     1464       1
463   sysdb_svr_local     10064204     10065084     880        20
459   sysdb_shared_nc     4103104      4103560      456        12
66013 exec                209964       210052       88         3
1241  xtc_agent           4796436      4796432      -4         0
1087  bgp                 51646552     51646120     -432       -3
457   sysdb_mc            5094852      5094188      -664       -8
358   netio               19185724     19183804     -1920      -45
334   lpts_pa             76234948     76228484     -6464      -97
```

```
1031  ospf                9107084      9098232      -8852      -1
476   tcp                 5725148      5708444      -16704     -8
254   gsp                 9473460      9424452      -49008     14
1153  mdtd                25206084     24750076     -456008    -25

You are now free to remove snapshot memcmp_start.out and memcmp_end.out under /harddisk:/malloc_dump
```

Ltrace

Als ltrace het proces is dat veel geheugen opneemt en een van de belangrijkste geheugenconsumenten is, denk dan eens aan het verminderen van de hoeveelheid geheugen die het gebruikt.

Zo kunt u tracering configureren om minder geheugen te gebruiken: Instellen van schaalfactoren op ASR9K routeprocessors en lijnkaarten voor efficiënt geheugenbeheer

Uitvoer bieden

Als u in dit document geen oplossing voor het probleem hebt gevonden, specificeert u deze uitvoer:

0/x/CPUx is de specifieke lijnkaart in de fout. De Job ID (JID) van het proces is te vinden bij de opdracht show processes.

show tech-support
show hw-module fpd
show memory location 0/x/CPUx
show memory summary location all
show watchdog memory-state location all
show watchdog trace location all
show processes memory location all
show shmwin all header location 0/x/CPUx
show shmwin all bands location 0/x/CPUx
show shmwin all banks location 0/x/CPUx
show shmwin all list all location 0/x/CPUx
show shmwin all malloc-stats location 0/x/CPUx
show shmwin all mutexlocation 0/x/CPUx
show shmwin all participants all-stats location 0/x/CPUx
show shmwin all pool all-pools location
show shmwin trace all location all
show memory <job id process> location 0/x/CPUx

Over deze vertaling

Cisco heeft dit document vertaald via een combinatie van machine- en menselijke technologie om onze gebruikers wereldwijd ondersteuningscontent te bieden in hun eigen taal. Houd er rekening mee dat zelfs de beste machinevertaling niet net zo nauwkeurig is als die van een professionele vertaler. Cisco Systems, Inc. is niet aansprakelijk voor de nauwkeurigheid van deze vertalingen en raadt aan altijd het oorspronkelijke Engelstalige document (link) te raadplegen.