疑難排解"；OS-SHMWIN-2-ERROR_ENCOUNTERED"；錯誤訊息

目錄

簡介

本文檔介紹如何對Cisco IOS® XR路由器上的「OS-SHMWIN-2-ERROR_ENCOUNTERED」錯誤進行故障排除。

錯誤消息

錯誤訊息的範例如下：

```
"%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
```

此錯誤表示系統的記憶體狀態很嚴重。具體來說，在多個進程之間儲存動態資料的共用記憶體存在問題。

疑難排解

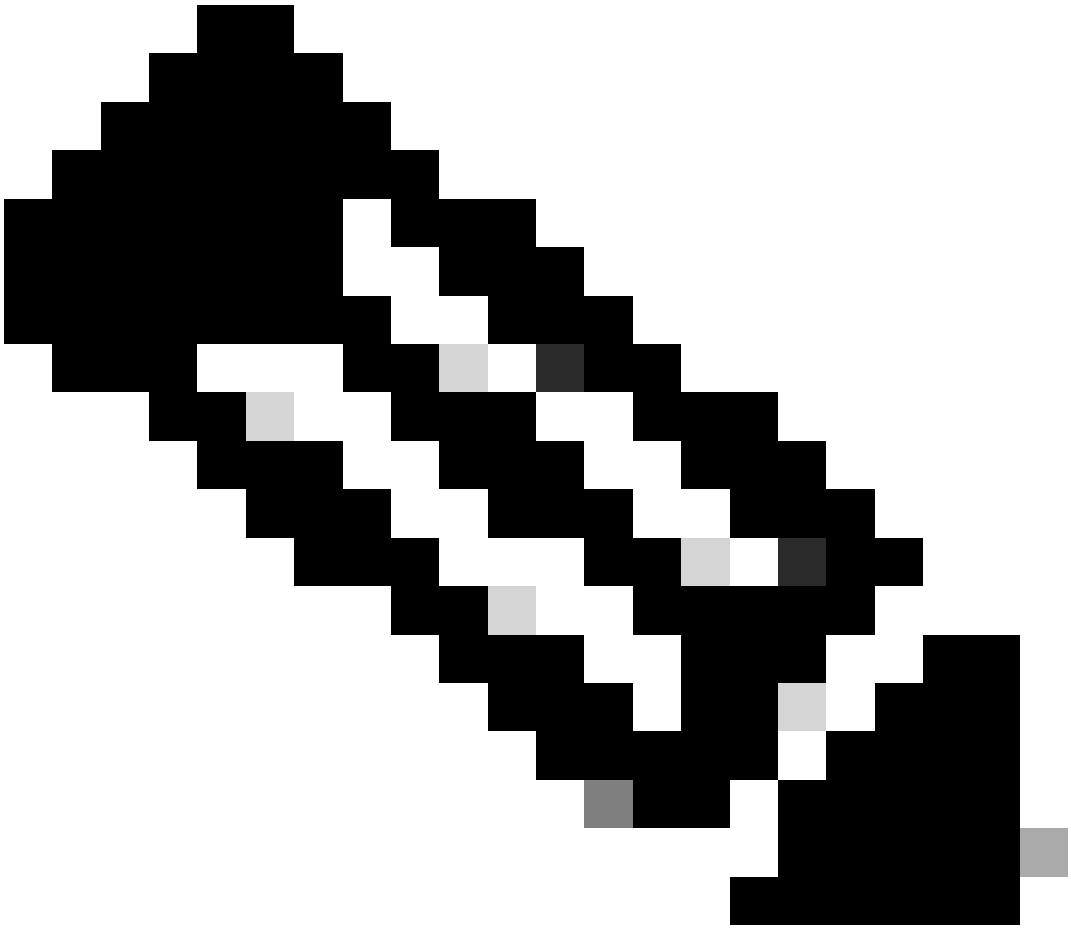
首先確定線卡（或RP/RSP）和頂級記憶體使用者。

錯誤訊息可能會內嵌一個程式或命令。然而，如果記憶體不足，如果沒有足夠的可用記憶體，任何

事情都可能失敗。您需要確定導致可用記憶體不足的原因。

錯誤訊息本身會指示線路卡。 嘗試找出記憶體的頂級使用者。

```
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
```



附註：可能有其他錯誤訊息指出問題處理為何。

舉例來說：

<#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
```

如果進程是BGP或任何其他路由協定，請驗證您沒有在導致此過程的網路中進行任何更改。

使用這些指令可取得已使用記憶體的概觀，並辨識佔用記憶體的常用程式。

0/x/CPUx是錯誤中的特定板卡。

```
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
```

範例：

<#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
```

記憶體洩漏

確定任何進程都沒有記憶體洩漏：

您可以進行「記憶體比較」。此程式會顯示每個程式一段期間內，記憶體的增加或減少（您所指定的）。這是一個示例；請注意「difference」列。

```
<#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

如果ltrace是佔用大量記憶體的進程，並且是記憶體消耗量最大的進程之一，請考慮降低其使用的記憶體量。

這是配置ltrace以減少記憶體佔用的方法：在ASR9K路由處理器和板卡上配置ltrace縮放係數以實現高效的記憶體管理

提供輸出

如果您在本文檔中沒有找到問題的解決方案，請提供以下輸出：

0/x/CPUx是錯誤中的特定板卡。進程的作業ID (JID)可以使用命令show processes找到。

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

關於此翻譯

思科已使用電腦和人工技術翻譯本文件，讓全世界的使用者能夠以自己的語言理解支援內容。請注意，即使是最佳機器翻譯，也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準確度概不負責，並建議一律查看原始英文文件（提供連結）。