

# WAAS - EPM AO故障排除

## 章節：排除EPM AO故障

本文描述如何對EPM AO進行故障排除。

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## EPM加速器故障排除

終端對映器(EPM)加速器會最佳化不使用預定義TCP埠的MS-RPC協定。客戶端聯絡伺服器上的EPM服務 ( TCP埠135 )，以協商基於應用程式UUID的動態埠。EPM AO偵聽客戶端通訊，並建立與協商埠匹配的動態策略條目。需要EPM才能應用MAPI特定的最佳化或在任何MS-RPC協定上提供記帳。

您可以使用**show accelerator**和**show license**命令驗證常規AO配置和狀態，如[應用程式加速故障排除一文中所述](#)。EPM加速器操作需要企業許可證。

接下來，使用**show accelerator epm**命令驗證特定於EPM AO的狀態，如圖1所示。您希望看到EPM AO處於啟用、運行和註冊狀態，並且顯示連線限制。如果Config State為Enabled，但Operational State為Shutdown，則表示存在許可問題。

**圖1.驗證EPM加速器狀態**

```

WAE674# sh accelerator epm

Accelerator      Licensed      Config State  Operational State
-----
epm              Yes           Enabled       Running

EPM:
Policy Engine Config Item
-----
State
Default Action
Connection Limit
Effective Limit
Keepalive timeout

Value
-----
Registered
Use Policy
6000
6000
5.0 seconds

```

使用show running-config命令驗證EPM流量策略是否配置正確。對於配置為使用EPM AO的應用程式或UUID，您希望檢視介面卡EPM，如下所示：

```

WAE674# sh run | begin EPM
...skipping
map adaptor EPM 1544f5e0-613c-11d1-93df-00c04fd7bd09
  name Email-and-Messaging All action pass-through
  exit
map adaptor EPM ms-sql-rpc
  name SQL All action optimize full
  exit
map adaptor EPM mapi
  name Email-and-Messaging All action optimize full accelerate mapi
  exit
map adaptor EPM ms-ad-replication
  name Replication All action optimize full
  exit
map adaptor EPM ms-frs
  name Replication All action optimize full
  exit
map adaptor EPM f5cc5a18-4264-101a-8c59-08002b2f8426
  name Email-and-Messaging All action pass-through

```

使用show policy-engine application dynamic命令驗證動態策略引擎匹配條件，如下所示：

```

WAE674# sh policy-engine application dynamic
Dynamic Match Freelist Information:
  Allocated: 32768  In Use: 3  Max In Use: 4  Allocations: 380
Dynamic Match Type/Count Information:
  None                0
  Clean-Up            0
  Host->Host          0
  Host->Local         0
  Local->Host         0
  Local->Any          0
  Any->Host           3
  Any->Local          0
  Any->Any            0
Individual Dynamic Match Information:
  Number:      1  Type: Any->Host (6)  User Id: EPM (3)
  Src: ANY:ANY  Dst: 10.10.100.101:1146

```

```

Map Name: uuida4f1db00-ca47-1067-b31f-00dd010662da <-----
Flags: TIME_LMT REPLACE FLOW_CNT <-----
Seconds: 1200 Remaining: - NA - DM Index: 32765 <-----
Hits: 54 Flows: 39 Cookie: 0x00000000 <-----
Number: 2 Type: Any->Host (6) User Id: EPM (3)
Src: ANY:ANY Dst: 10.10.100.101:1040
Map Name: uuid1544f5e0-613c-11d1-93df-00c04fd7bd09
Flags: TIME_LMT REPLACE FLOW_CNT
Seconds: 1200 Remaining: 1163 DM Index: 32766
Hits: 1 Flows: 0 Cookie: 0x00000000

```

使用 **show statistics connection optimized epm** 命令檢查WAAS裝置是否正在建立最佳化的EPM連線。驗證EPM連線的Accel列中是否出現「TE」或「TDLE」，表示已使用EPM AO，如下所示：

```
WAE674# sh stat conn opt epm
```

```

Current Active Optimized Flows: 18
  Current Active Optimized TCP Plus Flows: 17
  Current Active Optimized TCP Only Flows: 0
  Current Active Optimized TCP Preposition Flows: 1
Current Active Auto-Discovery Flows: 0
Current Active Pass-Through Flows: 28
Historical Flows: 100

```

```

D:DRE,L:LZ,T:TCP Optimization,
A:AOIM,C:CIFS,E:EPM,G:GENERIC,H:HTTP,M:MAPI,N:NFS,S:SSL,V:VIDEO

```

ConnID	Source IP:Port	Dest IP:Port	PeerID	Accel
2048	10.10.10.10:3007	10.10.100.101:135	00:14:5e:84:24:5f	TE <-----Look for "E"
2049	10.10.10.10:3009	10.10.100.101:135	00:14:5e:84:24:5f	TE

可以使用 **show statistics connection closed epm** 命令檢查已關閉連線的連線統計資訊。

要檢視Central Manager中的類似資訊，請選擇WAE裝置，然後選擇**Monitor > Optimization > Connections Statistics**。

可以使用 **show statistics connection optimized epm detail** 命令檢視特定於EPM連線的統計資訊，如下所示：

```
WAE674# sh stat connection optimized epm detail
```

```

Connection Id: 1885
  Peer Id: 00:14:5e:84:24:5f
  Connection Type: EXTERNAL CLIENT
  Start Time: Wed Jul 15 09:50:45 2009
  Source IP Address: 10.10.10.10
  Source Port Number: 2465
  Destination IP Address: 10.10.100.101
  Destination Port Number: 135
  Application Name: Other
  Classifier Name: MS-EndPointMapper <-----Should see
MS-EndPointMapper
  Map Name: basic
  Directed Mode: FALSE
  Preposition Flow: FALSE
  Policy Details:
    Configured: TCP_OPTIMIZE

```

```

Derived:      TCP_OPTIMIZE
Peer:        TCP_OPTIMIZE
Negotiated:  TCP_OPTIMIZE
Applied:     TCP_OPTIMIZE
Accelerator Details:
  Configured: EPM <-----Should see
EPM configured
  Derived:    EPM
  Applied:    EPM <-----Should see
EPM applied
  Hist:      None

```

	Original	Optimized
Bytes Read:	5220	5076
Bytes Written:	5076	5220

...

## EPM AO日誌記錄

以下日誌檔案可用於排除EPM AO問題：

- 事務日誌檔案：/local1/logs/tfo/working.log(和/local1/logs/tfo/tfo\_log\_\*.txt)
- 調試日誌檔案：/local1/errorlog/epmao-errorlog.current ( 和epmao-errorlog.\* )

為了更輕鬆地進行調試，首先要設定ACL以限制資料包只能訪問一台主機。

```

WAE674(config)# ip access-list extended 150 permit tcp host 10.10.10.10 any
WAE674(config)# ip access-list extended 150 permit tcp any host 10.10.10.10

```

要啟用事務日誌記錄，請使用transaction-logs configuration命令，如下所示：

```

wae(config)# transaction logs flow enable
wae(config)# transaction-logs flow access-list 150

```

可以使用type-tail命令檢視事務日誌檔案的結尾，如下所示：

```

wae# type-tail tfo_log_10.10.11.230_20090715_130000.txt
Wed Jul 15 16:53:22 2009 :1799 :10.10.10.10 :2369 :10.10.100.101 :1025 :OT :START :EXTERNAL
CLIENT :00.14.5e.84.24.5f
:uuide3514235-4b06-11d1-ab04-00c04fc2dcd2 :Replication :**Map Default** :F :(DRE,LZ,TFO)
(DRE,LZ,TFO) (DRE,LZ,TFO) (DRE,LZ,TFO)
(DRE,LZ,TFO) :<None> :(None) (None) (None) :<None> :<None> :0 :169
Wed Jul 15 16:53:51 2009 :1798 :10.10.10.10 :2368 :10.10.100.101 :135 :OT :END :EXTERNAL
CLIENT :(EPM) :228 :212 :212 :228
Wed Jul 15 16:53:51 2009 :1799 :10.10.10.10 :2369 :10.10.100.101 :1025 :OT :END:EXTERNAL
CLIENT :(None) :596 :220 :347 :429
Wed Jul 15 16:53:51
2009 :1799 :10.10.10.10 :2369 :10.10.100.101 :1025 :SODRE :END :596 :220 :347 :429 :0

```

要設定和啟用EPM AO的調試日誌記錄，請使用以下命令。

**附註：**調試日誌記錄是CPU密集型，可以生成大量輸出。在生產環境中慎重而謹慎地使用它。

您可以按如下方式啟用磁碟的詳細日誌記錄：

```
WAE674(config)# logging disk enable
WAE674(config)# logging disk priority detail
```

您可以在ACL中啟用連線的調試日誌記錄，如下所示：

```
WAE674# debug connection access-list 150
```

EPM AO調試選項如下：

```
WAE674# debug accelerator epm ?
all          enable all EPM accelerator debugs
shell       enable EPM shell debugs
```

您可以為EPM連線啟用調試日誌記錄，然後按如下方式顯示調試錯誤日誌的結束：

```
WAE674# debug accelerator epm connection
WAE674# type-tail errorlog/epmao-errorlog.current follow
```