

# WAAS - EPM AO故障排除

## 章节：排除EPM AO故障

本文介绍如何排除EPM AO故障。

指南

主要

了解

初始

故障

应用

排除

排除

排除

排除

排除

SS

视频

排除

排除

排除

Ap

排除

串行

vW

排除

排除

## 目录

- [1 EPM加速器故障排除](#)
- [2 EPM AO日志记录](#)

## EPM加速器故障排除

终端映射器(EPM)加速器可优化不使用预定义TCP端口的MS-RPC协议。客户端与服务器 ( TCP端口135 ) 上的EPM服务联系，以协商基于应用UUID的动态端口。EPM AO侦听客户端通信并创建动态策略条目以匹配协商的端口。EPM必须应用MAPI特定优化或对任何MS-RPC协议提供记帐。

您可以使用**show accelerator**和**show license**命令验证常规AO配置和状态，如[排除应用加速故障](#)文章中所述。EPM加速器操作需要企业许可证。

接下来，使用**show accelerator epm**命令验证特定于EPM AO的状态，如图1所示。您希望看到EPM AO已启用、正在运行和已注册，并且显示连接限制。如果配置状态为启用，但操作状态为关闭，则表示许可问题。

图1.验证EPM加速器状态

```

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` 命令验证 EPM 流量策略是否已正确配置。要查看配置为使用 EPM AO 的应用程序或 UUID 的适配器 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` 命令验证动态策略引擎匹配条件，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命令检查WAAS设备是否正在建立优化的EPM连接。验证EPM连接的Accel列中是否显示“TE”或“TDLE”，这表示已使用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命令检查已关闭连接的连接统计信息。

要从Central Manager查看类似信息，请选择WAE设备，然后选择Monitor > Optimization > Connections Statistics。

使用show statistics connection optimized epm detail命令，可以查看EPM连接特定统计信息，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 日志记录

以下日志文件可用于排除EPM AO问题：

- 事务日志文件：/local1/logs/tfo/working.log ( 和/local1/logs/tfo/tfo\_log\_\*.txt )
- 调试日志文件：/local1/errorlog/epmao-errorlog.current ( 和epmao-errorlog.\* )

为便于调试，请首先设置ACL，将数据包限制到一台主机。

```

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

```

要启用事务记录，请按如下方式使用transaction-logs配置命令：

```

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

```

您可以使用type-tail命令查看事务日志文件的结尾，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

```

要设置并启用EPM AO的调试日志记录，请使用以下命令。

**NOTE:**调试日志记录占用大量CPU资源，并且可以生成大量输出。在生产环境中谨慎、谨慎地使用它。

您可以按如下方式启用详细的日志记录到磁盘：

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

您可以为ACL中的连接启用调试日志记录，如下所示：

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

EPM AO调试的选项如下：

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

您可以为EPM连接启用调试日志记录，然后显示调试错误日志的结尾，如下所示：

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