

WAAS — 排除CIFS AO故障

章节：排除CIFS AO故障

本文介绍如何排除CIFS AO故障。

指南

[主](#)

[了解](#)

[初始](#)

[故障](#)

[应用](#)

[排障](#)

[排障](#)

[排障](#)

[排障](#)

[排障](#)

[SS](#)

[视](#)

[排障](#)

[排障](#)

[排障](#)

[Ap](#)

[排障](#)

[串](#)

[vW](#)

[排障](#)

[排障](#)

目录

- [1 CIFS AO故障排除](#)
 - [1.1 CIFS AO日志记录](#)
 - [1.2 Windows打印加速器故障排除](#)

CIFS AO故障排除

CIFS加速器透明地优化端口139和445上的CIFS流量。

如图1所示，可以使用**show accelerator**和**show license**命令验证常规AO配置和状态。CIFS加速器操作需要企业许可证。

图1.检验加速器状态

Transparent and legacy services are mutually exclusive

```
WAE#sh accelerator
```

Accelerator	Licensed	Config State	Operational State
cifs	Yes	Enabled	Running
epm	Yes	Enabled	Running
http	Yes	Enabled	Running
mapi	Yes	Enabled	Running
nfs	Yes	Enabled	Running
ssl	Yes	Enabled	Running
video	No	Enabled	Shutdown
wafs-core	Yes	Disabled	Shutdown
wafs-edge	Yes	Disabled	Shutdown

```
WAE#sh license
```

License Name	Status	Activation Date	Activated By
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接下来，使用图2所示的 `show accelerator cifs` 命令验证特定于CIFS AO的状态。您希望看到CIFS AO已启用、运行和注册，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2. 检验CIFS加速器状态

使用 `show running-config` 命令验证CIFS流量策略是否已正确配置。您希望看到WAFS应用程序操作的加速cifs，并且希望看到为CIFS分类器列出的适当匹配条件，如下所示：

```
WAE674# sh run | include CIFS

classifier CIFS
name WAFS classifier CIFS action optimize full accelerate cifs
WAE674# sh run | begin CIFS

...skipping
classifier CIFS
match dst port eq 139
match dst port eq 445
exit
```

使用 `show statistics connection optimized cifs` 命令检查WAAS设备是否正在建立优化的CIFS连接。验证连接的Accel列中是否显示“TCDL”。“C”表示已使用CIFS AO。

```

WAE674# sh stat conn opt cifs
Current Active Optimized Flows: 3
  Current Active Optimized TCP Plus Flows: 3
  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: 0
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
1074 10.10.10.10:2704 10.10.100.100:445 00:14:5e:84:24:5f TCDL <-----Look
for "C"

```

如果在Accel列中看到“TDL”，则连接仅通过传输优化而优化，而未由CIFS AO检查。如果禁用CIFS AO、未配置企业许可证或达到最大连接限制，则可能会发生这种情况。

如果在Accel列中看到“G”而不是“C”，则连接会从CIFS AO向下推送到通用AO，并仅通过传输优化进行优化。如果连接需要SMB2或数字签名，并且记录了错误消息，则可能会发生这种情况。

在版本4.1.3中，系统日志对于数字签名的连接具有以下错误消息：

```

2009 Apr 25 13:42:08 wae java: %WAAS-CIFSAO-4-131230: (146708) Connection to test1.example.com
will be handled by
generic optimization only, since test1.example.com requires digital signing.

```

在版本4.1.5及更高版本中，检查CIFS内部错误日志，查看连接被下推到通用AO的原因。在cifs_err.log中，查找SMB2连接的以下消息：

```

2009-06-29 10:15:04,996 WARN (actona.cifs.netbios.IPacketerHandlerOrigCifs:139) Thread-2 -
Received SMBv2 packet
from host 10.56.64.205. Pushing down the connection.

```

在cifs_err.log中，查找以下消息以查找数字签名的连接：

```

2009-10-29 05:37:54,541 WARN (actona.rxFow.cifs.requests.NegotiateRequest:359)
lightRxFowPool-4 - Request ID: 148/266
Connection to 10.56.78.167 will be handled by generic optimization only, since 10.56.78.167
requires digital signing.

```

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

图3.连接统计报告

您可以使用show statistics connection optimized cifs detail命令查看CIFS连接统计信息，如下所示：

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

```
Connection Id:          1801
Peer Id:                00:14:5e:84:24:5f
Connection Type:        EXTERNAL CLIENT
Start Time:             Thu Jun 25 06:15:58 2009
Source IP Address:      10.10.10.10
Source Port Number:     3707
Destination IP Address: 10.10.100.100
Destination Port Number: 139
Application Name:       WAFS <-----Should see WAFS
Classifier Name:        CIFS <-----Should see CIFS
Map Name:               basic
Directed Mode:          FALSE
Preposition Flow:       FALSE
Policy Details:
  Configured:           TCP_OPTIMIZE + DRE + LZ
  Derived:              TCP_OPTIMIZE + DRE + LZ
  Peer:                 TCP_OPTIMIZE + DRE + LZ
  Negotiated:           TCP_OPTIMIZE + DRE + LZ
  Applied:              TCP_OPTIMIZE + DRE + LZ
Accelerator Details:
  Configured:           CIFS <-----Should see CIFS
configured
  Derived:              CIFS
  Applied:              CIFS <-----Should see CIFS
applied
  Hist:                 None
```

	Original	Optimized
Bytes Read:	189314	10352510
Bytes Written:	91649704	28512

. . .

Connection details:

```
Chunks: encoded 3, decoded 49922, anchor(forced) 0(1)
Total number of processed messges: 1820
  num_used_block per msg: 0.140659
Ack: msg 1609, size 7066 B
Encode bypass due to:
  last partial chunk: chunks: 1, size: 142 B
  skipped frame header: messages: 138, size: 27202 B
```

```

Nacks: total 0
R-tx: total 0
Encode LZ latency:      0.060 ms per msg
Decode LZ latency:     0.071 ms per msg
Aggregation encode:    Retransmissions: 0
<-----Packets lost
between peers
  level 0: chunks:      3 hits:      0 miss:      3
  level 1: chunks:      0 hits:      0 miss:      0
  level 2: chunks:      0 hits:      0 miss:      0
  level 3: chunks:      0 hits:      0 miss:      0
Aggregation decode: Collisions: 0
  level 0: chunks:    174093 hits:    128716 miss:      0
  level 1: chunks:      0 hits:      0 miss:      0
  level 2: chunks:      0 hits:      0 miss:      0
  level 3: chunks:      0 hits:      0 miss:      0
Aggregation stack memory usage: Sender: 452 B Receiver: 9119 B
Noise filter: Chunks: 0, Bytes: 0 B
. . .

```

如果Retransmissions计数器增加，则意味着两个对等WAE之间的数据包在中间丢失。这种情况将导致吞吐量降低。您应该调查两个对等WAE之间网络中丢包的可能原因。

您可以使用show statistics cifs requests命令查看CIFS请求统计信息，如下所示：

图4.检查CIFS请求统计信息

```

WAE-612# show statistics cifs requests
Statistics gathering period: minutes: 33 seconds: 9 ms: 3
Total: 453
Remote: 214
ALL_COMMANDS total:453 remote:214 async:21 avg local:2.164ms avg remote:123.877ms
CLOSE_FILE total:31 remote:3 async:14 avg local:1.443ms avg remote:90.772ms
CONNECT total:15 remote:3 async:0 avg local:11.055ms avg remote:209.193ms
Cancel total:3 remote:3 async:0 avg local:0.0ms avg remote:95.094ms
DCERPC total:93 remote:93 async:0 avg local:0.0ms avg remote:95.671ms
DCERPC_SRVSVC total:25 remote:20 async:0 avg local:0.743ms avg remote:89.509ms
DCERPC_WKSSRV total:15 remote:11 async:0 avg local:1.134ms avg remote:90.786ms
ECHO total:2 remote:0 async:0 avg local:1.448ms avg remote:0.0ms
FIND_CLOSE2 total:1 remote:0 async:0 avg local:0.595ms avg remote:0.0ms
IOCTL total:3 remote:3 async:0 avg local:0.0ms avg remote:94.818ms
LOGOFF_ANDX total:3 remote:0 async:3 avg local:1.396ms avg remote:0.0ms
NB_SESSION_REQ total:6 remote:0 async:0 avg local:1.455ms avg remote:0.0ms
NEGOTIATE total:3 remote:3 async:0 avg local:0.0ms avg remote:99.003ms
NT_CREATE_ANDX total:137 remote:29 async:0 avg local:0.549ms avg remote:130.642ms
< .. >
WAE-612#

```

Local versus remote requests

Response time for all cmds

Breakdown per CIFS cmd

CIFS AO日志记录

以下日志文件可用于排除CIFS AO问题：

- 事务日志文件：/local1/logs/tfo/working.log (和/local1/logs/tfo/tfo_log_*.txt)
- CIFS内部日志文件：/local1/errorlog/cifs/cifs_err.log
- 调试日志文件：/local1/errorlog/cifsao-errorlog.current (和cifsao-errorlog.*)

为便于调试，您应首先设置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
:EXTERNAL CLIENT :00.14.5e.84.24.5f :basic :WAFS :CIFS :F :(DRE,LZ,TFO) (DRE,LZ,TFO)
(DRE,LZ,TFO) (DRE,LZ,TFO)
(DRE,LZ,TFO) :<None> :(CIFS) (CIFS) (CIFS) :<None> :<None> :0 :180
Wed Jul 15 15:48:45 2009 :1725 :10.10.10.10 :2289 :10.10.100.100 :139 :OT :START :EXTERNAL
CLIENT :00.14.5e.84.24.5f :basic :WAFS
:CIFS :F :(DRE,LZ,TFO) (DRE,LZ,TFO) (DRE,LZ,TFO) (DRE,LZ,TFO) (DRE,LZ,TFO) :<None> :(CIFS)
(CIFS) (CIFS) :<None> :<None> :0 :177
Wed Jul 15 15:48:55 2009 :1725 :10.10.10.10 :2289 :10.10.100.100 :139 :OT :END : EXTERNAL
CLIENT :(CIFS) :0 :0 :159 :221
```

要设置并启用CIFS 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
```

您可以在ACL中为连接启用调试日志记录：

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

CIFS AO调试的选项如下：

```
WAE674# debug accelerator cifs ?
  all          enable all CIFS accelerator debugs
  shell       enable CIFS shell debugs
```

您可以为CIFS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 cifs all
WAE674# type-tail errorlog/cifsao-errorlog.current follow
```

Windows打印加速器故障排除

Windows打印加速器可优化客户端和Windows打印服务器之间的打印流量。

排除Windows打印加速器故障与排除CIFS AO故障类似。如图1所示，您可以使用**show accelerator**和**show license**命令验证常规AO配置和状态。必须启用CIFS加速器，并且需要企业许可证。接下来

, 使用show accelerator cifs命令验证特定于CIFS AO的状态。

使用show statistics windows-print requests命令并验证“假脱机文档”和“假脱机页面”计数器的计数是否在递增，如下所示：

```
WAE# sh stat windows-print requests
Statistics gathering period:  hours: 6 minutes: 4 seconds: 2 ms: 484
Documents spooled: 29                                     <-----Should be
incrementing
Pages spooled: 3168                                     <-----Should be
incrementing
Total commands: 61050
Remote commands: 849
ALL_COMMANDS total: 61050 remote: 849 async: 58719 avg local: 1.813ms avg remote: 177.466ms
. . .
```