

This article describes how to troubleshoot the video AO.

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## Video Accelerator Troubleshooting

The Video accelerator optimizes Windows Media live streams that are requested over RTSP. Requests for RTSP-UDP streams are denied by WAAS and the player will automatically request an RTSP-TCP stream. Incoming stream splitting allows multiple clients to watch live video over a single stream on the WAN.

You can verify the general AO configuration and status with the **show accelerator** and **show license** commands, as described in the [Troubleshooting Application Acceleration](#) article. The Video and Enterprise licenses are required for Video accelerator operation.

Next, verify the status that is specific to the video AO by using the **show accelerator video** command, as shown in Figure 1. You want to see that the video AO is Enabled, Running, and Registered, and that the connection limit is displayed. If the Config State is Enabled but the Operational State is Shutdown, it indicates a licensing problem.

Figure 1. Verifying the Video Accelerator Status

```

WAE674# sh accelerator video

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

VIDEO:
  Accelerator Config Item      Mode      Value
  -----
  "Max initial setup delay"    Default   60
  "Unaccelerated traffic action" Default   "pipethru"
  "WM client idle timeout"     Default   60
  "WM transaction-logs"        Default   "disabled"
  "WM log-forwarding"          Default   "enabled"

  Policy Engine Config Item      Value
  -----
  State                          Registered
  Default Action                  Use Policy
  Connection Limit                800
  Effective Limit                 800
  Keepalive timeout               5.0 seconds
    
```

AO admin and operational state

- Registered state indicates AO is healthy  
- Displays connection limit

Use the **show statistics accelerator video** command to see the Video AO statistics. The following output shows that one incoming video stream from the WAN was split to 10 clients, which removed 9 video streams from the WAN.

```
wae# sh stat acc video
```

```
Time elapsed since "clear statistics": 1days 0hr 50min 30sec
```

```
Video Connections
```

```
=====
```

Connections handled	num	%
Total handled	3330	100.00
Windows-media live accelerated	3329	99.97
Un-accelerated pipethru	1	0.03
Un-accelerated dropped due to config	0	0.00
Error dropped connections	0	0.00

Windows-media active sessions	current	max
Outgoing (client) sessions	10	10
Incoming (server) sessions	1	10

```
<-----10 client sessions
<-----1 incoming stream
```

```
Windows-media byte savings
```

```
=====
```

% Bytes saved	Incoming(server) bytes	Outgoing(client) bytes
56.01	2.07 GB	4.71 GB

To examine the reasons why the video AO is not accelerating video connections, use the **show statistics accelerator video detail** command. In the example below, the video is not a live broadcast stream but is a video-on-demand (VoD), which is not accelerated.

```
wae# sh stat acc video detail
```

```
< snip >
```

Unaccelerated Connections	num	%
Total Unaccelerated	1	100.00
Unsupported player	0	0.00
Unsupported transport	0	0.00
Unsupported protocol	0	0.00
Windows-media VoD	1	100.00
Max stream bitrate overload	0	0.00
Max aggregate bitrate overload	0	0.00
Max concurrent sessions overload	0	0.00
Other	0	0.00

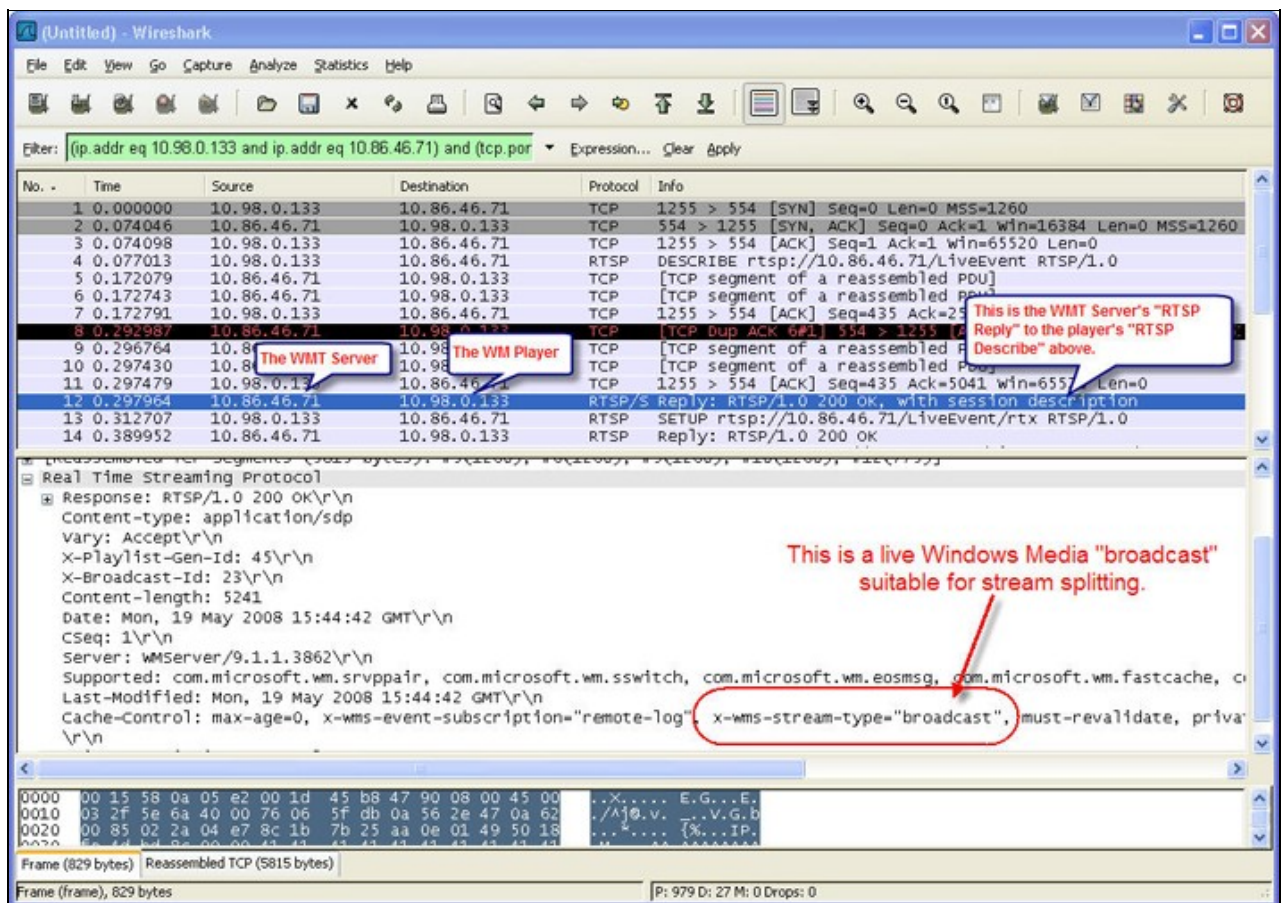
  

Error dropped connections	num	%
Total errors	0	0.00
Client timeouts	0	0.00
Server timeouts	0	0.00
Client stream errors	0	0.00
Server stream errors	0	0.00
Other errors	0	0.00

----- VoD, r

If videos are not being accelerated as expected, it is often because they are not marked with the live broadcast cache-control header, x-wms-stream-type="broadcast". VoD streams lack this header. Figure 2 shows where to find the cache-control header in the Windows Media Server response to the player, using Wireshark.

Figure 2. Windows Media Cache-Control Header



The URLs for video streams are case sensitive to the video AO, so if a video stream is not being optimized or not playing, carefully check the URL case and verify that the video is still played. Also verify that the video can be played directly from the video server, without using WAAS in the network path, to ensure that the video is playable.

Use the **show statistics connection optimized video** command to check that the WAAS device is establishing optimized video connections. Verify that "V" appears in the Accel column for video connections, which indicates that the video AO was used as follows:

WAE# **sh stat conn opt video**

```
Current Active Optimized Flows:          500
  Current Active Optimized TCP Plus Flows: 500
  Current Active Optimized TCP Only Flows: 0
  Current Active Optimized TCP Preposition Flows: 0
Current Active Auto-Discovery Flows:    0
Current Reserved Flows:                 15
Current Active Pass-Through Flows:      0
Historical Flows:                       302
```

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

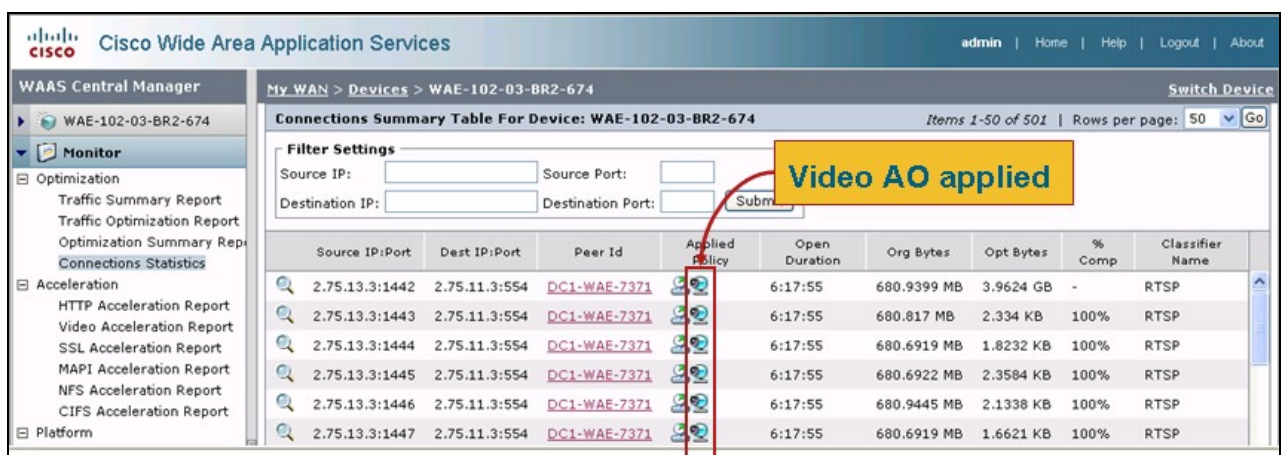
ConnID	Source IP:Port	Dest IP:Port	PeerID	Accel	RR
1603	2.75.13.3:1442	2.75.11.3:554	00:1a:64:64:b1:ec	TV	00.0%
1604	2.75.13.3:1443	2.75.11.3:554	00:1a:64:64:b1:ec	TV	100.0%
1605	2.75.13.3:1444	2.75.11.3:554	00:1a:64:64:b1:ec	TV	100.0%

<-----Look for

You can see in the connections above that DRE and LZ optimizations are not used with video, but the primary server connection is TFO optimized. All subsequent connections for the same video stream show a reduction of 100% because they are completely removed from the WAN and instead are split from the primary stream at the branch WAE.

To view similar information from the Central Manager, choose the WAE device, then choose **Monitor > Optimization > Connections Statistics**.

Figure 3. Connection Statistics Report with Video



The **show statistics connection optimized video windows-media** command is useful to show the status of all inbound video streams, including the requesting URL. The **show statistics connection optimized video detail** command is useful to list all the inbound and outbound video streams being handled by the video AO.

## Video AO Logging

The following log files are available for troubleshooting video AO issues:

- Transaction log files: /local1/logs/tfo/working.log (and /local1/logs/tfo/tfo\_log\_\*.txt)
- Debug log files: /local1/errorlog/videoao-errorlog.current (and videoao-errorlog.\*)
- Debug log files for the WM module: /local1/errorlog/wmt\_errorlog.current (and wmt\_errorlog.\*)

To enable transaction logging, use the **transaction-logs** configuration command as follows:

```
wae(config)# transaction-logs accelerator video windows-media enable
```

You can view the end of a transaction log file by using the **type-tail** command.

**NOTE:** Debug logging is CPU intensive and can generate a large amount of output. Use it judiciously and sparingly in a production environment.

To set up and enable debug logging of the video AO, enable detailed logging to the disk:

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

The options for video AO debugging are as follows:

```
WAE674# debug accelerator video ?  
all          enable all video accelerator debugs.  
gateway      enable gateway debugs  
shell        enable Video shell debugs  
windows-media enable windows-media debugs
```

You can enable debug logging for video connections and then display the end of the debug error log as follows:

```
WAE674# debug accelerator video all  
WAE674# type-tail errorlog/videoao-errorlog.current follow
```