



# Transaction Log Format

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## Transaction Log Format

You can use the transaction logging feature to log individual TCP transactions for a Cisco WAAS device. For information on configuring transaction logging, see the [Configuring Transaction Logging](#) in the chapter "Troubleshooting Your Cisco WAAS Network."

TFO transaction logs are kept on the local disk in the local/local1/logs/working.log directory.

There are several kinds of transaction log messages, which have different templates:

### Optimized Flow Start message

```
Time_Stamp :Conn_ID :Src_IP :Src_Port :Dst_IP :Dst_Port :OT :Log_type :Conn_type :Peer_ID
:App_map_name :App_name :App_classifier_name :TFO_cfgd_policy :TFO_drvd_policy :TFO_peer_policy
:TFO_neg_policy :TFO_applied_policy :TFO_reject_reason :AO_cfgd_policy :AO_drvd_policy
:AO_neg_policy :AO_reject_reason :SSL_reject_reason :DSCP :Link_rtt
```

### Optimized Flow End message

```
Time_Stamp :Conn_ID :Src_IP :Src_Port :Dst_IP :Dst_Port :OT :Log_type :Conn_type :AO_neg_policy
:Original_bytes_read :Original_bytes_written :Optimized_bytes_read :Optimized_bytes_written
```

### Pass Through Flow message

```
Time_Stamp :Src_IP :Src_Port :Dst_IP :Dst_Port :BP :Bypass_Reason :TFO_cfgd_policy :TFO_drvd_policy
:TFO_peer_policy :TFO_reject_reason :AO_cfgd_policy :AO_drvd_policy :AO_reject_reason
```

### Optimized Flow TFO End message

```
Time_Stamp :Conn_ID :Src_IP :Src_Port :Dst_IP :Dst_Port :SODRE :END :Original_bytes_read
:Original_bytes_written :Optimized_bytes_read :Optimized_bytes_written :Conn_close_state
```

### System Restart message

```
Time_Stamp :0 :0 :0 :0 :0 :RESTART
```

The following table describes the fields found in the transaction log messages.

**Table 1: Transaction Log Field Descriptions**

<b>Field</b>	<b>Description</b>
Time_Stamp	Time stamp indicating when the log message was generated.
Conn_ID	A unique identifier for the connection.
Src_IP, Src_Port	Source IP address and port number for the connection.
Dst_IP, Dst_Port	Destination IP address and port number for connection.
OT	Indicates an optimized connection.
BP	Indicates a pass-through connection.
SODRE	Indicates a log message generated by TFO.
Log_type	START or END indicates the start or end of the flow.
Conn_type	Type of connection: INTERNAL CLIENT–locally initiated connection from the WAE, EXTERNAL CLIENT–WAE acting as branch device for the connection,INTERNAL SERVER–locally terminated connection at the WAE, EXTERNAL SERVER–WAE acting as data center device for the connection.
Peer_ID	Device ID of the peer WAE.
App_map_name	Map name.
App_classifier_name	Classifier name.
App_name	Application name.
TFO_cfgd_policy	The TFO configured policy on the local device.
TFO_drvd_policy	The TFO derived policy on the local device based on the configured and dynamic conditions. This policy is used to negotiate with the peer WAE.
TFO_peer_policy	The TFO derived policy on the peer that is sent to the local device.
TFO_neg_policy	The TFO negotiated policy, which is the lowest common policy between the derived and peer policies.
TFO_applied_policy	The final policy applied to the connection. After the connection has been established, policy changes may be made to the connection based on the data on the connection, thus the applied policy can differ from the negotiated policy.
TFO_reject_reason	Indicates the reason for a rejected connection. “None” indicates the reject reason is not set.
AO_cfgd_policy	The application accelerator configured on the local device. This is derived from the accelerator configured in the corresponding policy.
AO_drvd_policy	The application accelerator derived policy on the local device.

Field	Description
AO_neg_policy	The application accelerator negotiated policy, which is the lowest common policy between the derived and peer policies.
AO_reject_reason	Indicates the reason an application accelerator rejected the connection. “None” indicates the reject reason is not set.
SSL_reject_reason	Indicates the reason the SSL accelerator rejected the connection. “None” indicates the reject reason is not set.
DSCP	Differentiated Services Code Point value set on the outgoing connection.
Link_rtt	Link round trip time in milliseconds.
Original_bytes_read	Bytes read on the original side of the connection.
Original_bytes_written	Bytes written on the original side of the connection.
Optimized_bytes_read	Bytes read on the optimized side of the connection.
Optimized_bytes_written	Bytes written on the optimized side of the connection.
RESTART	Indicates that the WAE was reloaded and the transaction log process was started.

Here are some examples of transaction log messages:

#### Fully Optimized on both sides (with SSL rejection)

```
Fri Jan 31 03:15:41 2020 :43 :2.57.223.130 :4808 :2.57.223.2 :443 :OT :START :EXTERNAL CLIENT
:00.14.5e.95.4c.85 :basic :SSL :HTTPS :F :(TFO) (TFO) (TFO) (TFO) (TFO) :<None> :(None) (None) (None)
:<None> :<Keepalive Timeout> :0 :0 Fri Jan 31 03:15:41 2020 :43 :2.57.223.130 :4808 :2.57.223.2 :443
:SODRE :END :0 :0 :0 :0 Fri Jan 31 03:15:41 2020 :43 :2.57.223.130 :4808 :2.57.223.2 :443 :OT :END
:EXTERNAL CLIENT :(None) :284 :806 :806 :28
```

#### Fully Optimized on both sides

```
Mon Feb 3 14:31:21 2020 :16 :2.75.52.131 :4374 :2.75.52.3 :80 :OT :START :EXTERNAL CLIENT
:00.14.5e.83.8c.cf :basic :Web :HTTP :F :(DRE,LZ,TFO) (DRE,LZ,TFO) (DRE,LZ,TFO) (DRE,LZ,TFO)
(DRE,LZ,TFO) :<None> :(HTTP) (HTTP) (HTTP) :<None> :<None> :0 :0 Mon Feb 3 14:31:26 2020 :16
:2.75.52.131 :4374 :2.75.52.3 :80 :SODRE :END :370 :173 :299 :429 :0 Mon Feb 3 14:31:26 2020 :16
:2.75.52.131 :4374 :2.75.52.3 :80 :OT :END :EXTERNAL CLIENT :(HTTP) :0 :0 :299 :429
```

#### Optimized with only DRE enabled

```
Mon Feb 3 14:48:31 2020 :27 :2.75.52.131 :4389 :2.75.52.2 :80 :OT :START :EXTERNAL CLIENT
:00.14.5e.83.8c.cf :basic :Web :HTTP :F :(DRE,TFO) (DRE,TFO) (DRE,LZ,TFO) (DRE,TFO) (DRE,TFO)
:<None> :(HTTP) (HTTP) (HTTP) :<None> :<None> :0 :0 Mon Feb 3 14:48:36 2020 :27 :2.75.52.131 :4389
:2.75.52.2 :80 :SODRE :END :246 :468 :636 :405 :0 Mon Feb 3 14:48:36 2020 :27 :2.75.52.131 :4389
:2.75.52.2 :80 :OT :END :EXTERNAL CLIENT :(HTTP) :0 :0 :636 :405
```

#### Optimized with only LZ enabled

```
Mon Feb 3 14:39:12 2020 :20 :2.75.52.131 :4379 :2.75.52.3 :80 :OT :START :EXTERNAL CLIENT
:00.14.5e.83.8c.cf :basic :Web :HTTP :F :(LZ,TFO) (LZ,TFO) (DRE,LZ,TFO) (LZ,TFO) (LZ,TFO) :<None>
:(HTTP) (HTTP) (HTTP) :<None> :<None> :0 :0 Mon Feb 3 14:39:17 2020 :20 :2.75.52.131 :4379 :2.75.52.3
```

:80 :SODRE :END :370 :173 :219 :295 :0 Mon Feb 3 14:39:17 2020 :20 :2.75.52.131 :4379 :2.75.52.3 :80  
:OT :END :EXTERNAL CLIENT :(HTTP) :0 :0 :219 :295

**Optimized with both DRE and LZ disabled**

Mon Feb 3 14:49:36 2020 :28 :2.75.52.131 :4390 :2.75.52.2 :80 :OT :START :EXTERNAL CLIENT  
:00.14.5e.83.8c.cf :basic :Web :HTTP :F :(TFO) (TFO) (DRE,LZ,TFO) (TFO) (TFO) :<None> :(HTTP)  
(HTTP) (HTTP) :<None> :<None> :0 :0 Mon Feb 3 14:49:41 2020 :28 :2.75.52.131 :4390 :2.75.52.2 :80 :OT  
:END :EXTERNAL CLIENT :(HTTP) :0 :0 :468 :246

**Pass-Through Connection**

Thu Jul 25 03:09:34 2019 :2.75.52.130 :40027 :2.75.52.2 :80 :BP :GLB\_CFG :(DRE,LZ,TFO) (None) (None)  
:<Global Config> :(HTTP) (None) :<Global Config>

**System Restart**

Sun Oct 20 17:46:32 2019 :0 :0 :0 :0 :RESTART