

# PVTD Error and System Messages

Version 1.0

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## Text Conventions

Command descriptions use these text conventions:

- Commands and commands keywords are in a **boldface**.
- Arguments for which values supplied by the user are in *italic*.
- Square brackets ([ ]) means optional elements, which are not mandatory.
- Braces ({}), group required, non-optional choices, and vertical bars (|) separate the alternative elements.
- Braces and vertical bars within square brackets ({ | }) mean a required choice within an optional element.

Interactive examples use these conventions:

- Terminal sessions and system displays are in `screen font`.
- Information you enter is in **boldface screen font**.
- Nonprinting characters, such as hidden passwords or tab presses, are in angle brackets (< >).

## Log suppression.

Log suppression ensures that the log won't be flooded with the same successive error messages.

Log flooding can cause important log messages to be lost in a sea of redundant log messages and can cause high CPU and disk IO utilization.

PVTD employs two levels of log suppression.

## System Log Suppression

When a log message is exactly the same as the previous log message, the log will be suppressed.

After 30 seconds or after a different log entry was generated, a message will indicate how many times the log was suppressed. The same will happen after 120 and 600 seconds.

After 600 seconds the suppression status will be reset.

## Macro Log Suppression

For several log messages, PVTD will allow 100 messages in 4 seconds per message code, no matter what is the message details.

### List of Macro suppressed log messages

```
ARP001-UNCONF_VLAN-W
ARP002-GW_MAC_CHG-W
ARP003-PVTD_DUPLICATE-W
ARP004-GWIP_ON_SVLAN-W
ARP005-SIP_N_PVLAN_NET-W
ARP006-TIP_N_PVLAN_NET-W
CMD041-UNKNOWN_COMMAND
CMD042-CMD_FORMAT_ERROR-E
CONF001-INVALID_MAC-E
CONF002-INVALID_VTYPE-E
CONF003-BAD_PVTD_IPV4-E
CONF004-BAD_MASKV4-E
CONF005-BAD_GWV4-E
CONF006-GWV4_NOT_IN_SUB-E
PVTD004-HOST_CHG_VLAN-W
PVTD005-HOST_CHG_MAC-W
PVTD006-SPA_NOT_VALID-W
PVTD007-TPA_NOT_VALID-W
SQL001-SQL_ERROR-E
SQL002-CANT_ADD_HOSTV4-E
SQL003-DB_LOCKED-W
SQL004-DB_CURRUPT-E
```

# ARP

## ARP Frame

Internet Protocol (IPv4) over Ethernet ARP packet		
bit offset	0 – 7	8 – 15
0	Hardware type (HTYPE)	
16	Protocol type (PTYPE)	
32	Hardware address length (HLEN)	Protocol address length (PLEN)
48	Operation (OPER)	
64	Sender hardware address (SHA) (first 16 bits)	
80	(next 16 bits)	
96	(last 16 bits)	
112	Sender protocol address (SPA) (first 16 bits)	
128	(last 16 bits)	
144	Target hardware address (THA) (first 16 bits)	
160	(next 16 bits)	
176	(last 16 bits)	
192	Target protocol address (TPA) (first 16 bits)	
208	(last 16 bits)	

HTYPE: 1 (Ethernet)

PTYPE: 0x0800 (IPv4)

HLEN: 6 (MAC address is 6 bytes long)

PLEN: 4 (IPv4 address is 4 bytes long)

OPER: 1 (ARP request) / 2 (ARP Reply)

SHA: MAC address of the sender

SPA: IPv4 address of the sender of the ARP frame

THA: MAC address of the target. Usually 0000.0000.0000 for ARP request.

TPA: IPv4 address of the target. For ARP request its the IP address, which we are looking for its MAC address.

## ARP Operation

ARP operation is very simple: When a host receives an ARP frame, it always updates its local ARP cache with the data in the SPA and the SHA.

If the TPA happens to be the same as its own IP address it will reply to it, placing its own IP address in the SPA field and its own MAC address in the SHA field.

## ARP Errors and Messages

### ARP001-UNCONF\_VLAN-W

#### Error Message

ARP001-UNCONF\_VLAN-W: ARP received from unconfigured VLAN:<VLAN> <ARP\_details>

#### Explanation

An ARP was received from a VLAN which is unconfigured or unassociated

#### Recommended Action

There are two possible actions:

1. If a host was placed in unconfigured VLAN, then reassign the host to a configured VLAN.
2. If PVTD is not configured with that , then add the VLAN to PVTD and assign it to a Primary VLAN

### ARP002-GW\_MAC\_CHG-W

#### Error Message

ARP002-GW\_MAC\_CHG-W: GW Mac changed on VLAN <primary\_VLAN>

#### Explanation

The gateway's MAC address was changed, which usually indicates a firewall fail over has occurred or PVTD was recently started and it discovers the gateways.

#### Recommended Action

There are several possible actions:

1. If it was a firewall fail over, then do nothing.
2. If it was not a fire wall fail over, then there might be another host on the Primary VLAN with the same IP address as the gateway/firewall. It is strongly recommended to locate that host and check what it is.

### ARP003-PVTD\_DUPLICATE-W

#### Error Message

ARP003-PVTD\_DUPLICATE-W: Received ARP with SIP same as PVT IPv4 address. <ARP\_details>

#### Explanation

PVTD has its own IP address on each Primary VLAN. This error message is generated when PVTD sees its own IP address as a SIP in an ARP frame.

#### Recommended Action

Locate the MAC address of the sender and change its IP address.

## ARP004-GWIP\_ON\_SVLAN-W

### Error Message

```
ARP004-GWIP_ON_SVLAN-W: ARP004-GWIP_ON_SVLAN-W: GW IP seen on a secondary VLAN:<VLAN>.  
<ARP_details>
```

### Explanation

PVTD sees the gateway's/firewall's IP address as SIP in an ARP frame coming from Secondary VLAN.

The gateway's/firewall's IP address should be seen in SIP field only on the Primary VLAN.

This indicates a misconfigured host, or a host trying to masquerade as the gateway/firewall.

### Recommended Action

Locate the MAC address of the sender and change it's IP address.

## ARP005-SIP\_N\_PVLAN\_NET-W

### Error Message

```
ARP005-SIP_N_PVLAN_NET-W: Received ARP with SIP not belong to the PVLAN network.  
<ARP_details>
```

### Explanation

PVTD sees ARP packet with SIP which do not belong to the Primary VLAN's network.

For example: PVTD's IP address was configured as 10.10.255.220/16 on Primary VLAN 10 and PVTD sees ARP on a VLAN belonging to Primary VLAN 10 with SIP of 10.11.255.2/16. The SIP is not on the same network as PVTD's IP address on the same Primary VLAN. PVTD will generate the above message.

This usually happens when a host's IP address is misconfigured.

### Recommended Action

Locate the MAC address of the sender and fix it's IP address.

## ARP006-TIP\_N\_PVLAN\_NET-W

### Error Message

```
ARP006-TIP_N_PVLAN_NET-W: Received ARP with TIP not belong to the PVLAN network.  
<ARP_details>
```

### Explanation

PVTD sees ARP packet with TIP which do not belong to the Primary VLAN's network.

For example: PVTD's IP address was configured as 10.10.255.220/16 on Primary VLAN 10 and PVTD sees ARP on a VLAN belonging to Primary VLAN 10 with TIP of 10.11.255.2/16. The SIP is not on the same network as PVTD's IP address on the same Primary VLAN. PVTD will generate the above message.

This usually happens when the host's IP address is misconfigured or the host's network mask is misconfigured.

### Recommended Action

Locate the MAC address of the sender and fix it's IP address or it's network mask.

## PVTD Errors and Messages

### PVTD001-SUPPRESSED-W

#### Error Message

PVTD001-SUPPRESSED-W: Message <Message\_Code> was suppressed <suppress\_count> times in the last <seconds> seconds.

#### Explanation

Macro Log suppression generates this message if the same message code was logged more than 100 times in the last 4 seconds.

Such messages are expected in a boot storm, misconfigured hosts or DoS attacks.

#### Recommended Action

Investigate what generates the excessive logs.

### PVTD002-NEW\_HOST-I

#### Error Message

PVTD002-NEW\_HOST-I: New host found. SVLAN <secondary\_vlan>, MAC <mac\_address>, IPv4 <ip\_address>

#### Explanation

This message indicates that PVTD has learned about a new host.

Notice: This message will be generated only if tracking is enabled.

#### Recommended Action

None.

### PVTD003-DEL\_HOST-I

#### Error Message

PVTD003-DEL\_HOST-I: Host deleted due to timeout. SVLAN <secondary\_vlan>, MAC <mac\_address>, IPv4 <ip\_address>

#### Explanation

This message indicates that PVTD has removed a host from its tables due to inactivity for the configured ARP timeout.

Notice: This message will be generated only if tracking is enabled.

#### Recommended Action

None.



## PVTD004-HOST\_CHG\_VLAN-W

### Error Message

```
PVTD004-HOST_CHG_VLAN-W: Host Ipv4 <ip_address> was seen on new VLAN <secondary vlan>. Old  
VLAN was <secondary_valn>
```

### Explanation

PVTD received an ARP with SIP in a different secondary VLAN than it recorded in its host table.

Notice: This message will be generated only if tracking is enabled.

### Recommended Action

Make sure its not a misconfiguration, such as a host was accidentally moved to a different secondary VLAN.

## PVTD005-HOST\_CHG\_MAC-W

### Error Message

```
PVTD005-HOST_CHG_MAC-W: Host IPv4 %s has changed its MAC address. Old MAC <mac_address>  
New MAC <mac_address>
```

### Explanation

PVTD received an ARP with SHA with a different MAC address than it is recorded in its host table.

Notice: This message will be generated only if tracking is enabled.

### Recommended Action

None.

## PVTD006-SPA\_NOT\_VALID-W

### Error Message

```
PVTD006-SPA_NOT_VALID-W: SPA is not a valid unicast IPv4 address. ARP: <ARP_details>.
```

### Explanation

PVTD received an ARP with SPA which is not a unicast address, such as 239.1.1.1.

### Recommended Action

Investigate what is the source of these ARP frames.

## PVTD007-TPA\_NOT\_VALID-W

### Error Message

```
PVTD007-TPA_NOT_VALID-W: TPA is not a valid unicast IPv4 address. ARP: <ARP_details>.
```

### Explanation

PVTD received an ARP with TPA which is not a unicast address, such as 239.1.1.1.

### Recommended Action

Investigate what is the source of these ARP frames.

## **PVTD008-PVTD\_TERMINATED-I**

### **Error Message**

PVTD008-PVTD\_TERMINATED-I: PVTD was terminated by SIGTERM

### **Explanation**

PVTD was gracefully shutdown.

Typical before rebooting the device or restarting PVTD process.

### **Recommended Action**

Make sure the time stamp makes sense, if not investigate why PVTD was restarted.

## **PVTD009-PVTD\_STARTED-I**

### **Error Message**

PVTD009-PVTD\_STARTED-I: PVTD was started

### **Explanation**

PVTD was started.

Typical after rebooting the device or restarting PVTD process.

### **Recommended Action**

Make sure the time stamp makes sense, if not investigate why PVTD was restarted.

## **PVTD010-SYS\_INTERFACE\_UP-I**

### **Error Message**

PVTD010-SYS\_INTERFACE\_UP-I: System interface is up

### **Explanation**

System interface changes status from down to up.

### **Recommended Action**

Make sure the time stamp makes sense, if not investigate why the interface changed its status.

## **PVTD011-SYS\_INTERFACE\_DOWN-E**

### **Error Message**

PVTD011-SYS\_INTERFACE\_DOWN-E: System interface is down

### **Explanation**

System interface changes status from up to down.

### **Recommended Action**

Make sure the time stamp makes sense, if not investigate why the interface changed its status.

## PVTD012-PVLAN\_INTERFACE\_UP-I

### Error Message

PVTD012-PVLAN\_INTERFACE\_UP-I: Private VLAN interface is up

### Explanation

Private VLAN interface changes status from down to up.

### Recommended Action

Make sure the time stamp makes sense, if not investigate why the interface changed its status.

## PVTD013-PVLAN\_INTERFACE\_DOWN-E

### Error Message

PVTD013-PVLAN\_INTERFACE\_DOWN-E: Private VLAN interface is down

### Explanation

Private VLAN interface changes status from up to down.

### Recommended Action

Make sure the time stamp makes sense, if not investigate why the interface changed its status.

## PVTSH Errors and Messages

### PVTSH001-CMD\_LOG-I

#### Error Message

PVTSH001-CMD\_LOG-I: <user\_name>-<command entered>

#### Explanation

PVTD logs all CLI commands.

#### Recommended Action

None.

### PVTSH002-AUTHORIZATION\_FAIL-E

#### Error Message

PVTSH002-AUTHORIZATION\_FAIL-E: <user\_name>-<command entered>

#### Explanation

PVTD logs all CLI commands. This message indicates a failed command due to lack of permission.

#### Recommended Action

Investigate why a user entered that command or allow permission by changing the user's group to OPER or ADMIN.

## **PVTSH003-USER\_LOGIN-I**

### **Error Message**

PVTSH003-USER\_LOGIN-I: <user\_name> logged in

### **Explanation**

User successfully logged in to the CLI.

### **Recommended Action**

None.

## **PVTSH003-USER\_LOGIN-I**

### **Error Message**

PVTSH003-USER\_LOGIN-I: <user\_name> logged in

### **Explanation**

User successfully logged in to the CLI.

### **Recommended Action**

None.

## **PVTSH004-AUTHENICATION-FAILED-E**

### **Error Message**

PVTSH004-AUTHENICATION-FAILED-E: <user\_name> authentication failed

### **Explanation**

User failed to log in to the CLI.

### **Recommended Action**

If this happens more than once, check RADIUS server or check if there is not brute force attack.

## **PVTSH005-USER\_LOGOUT-I**

### **Error Message**

PVTSH005-USER\_LOGOUT-I: <user\_name> logged out

### **Explanation**

User logged out from the CLI.

### **Recommended Action**

None.

## PVTSH006-RECOVERY\_ERASE-E

### Error Message

PVTSH006-RECOVERY\_ERASE-E: Config erased by recovery

### Explanation

The PVTD device was reset to factory default

### Recommended Action

None.

## PVTSH007-SHELL\_AUTH\_FAIL-E

### Error Message

PVTSH007-SHELL\_AUTH\_FAIL-E: <user\_name> Shell authorization code fail

### Explanation

Escape to shell was attempted, but failed authorization

### Recommended Action

None.

## PVTSH008-SHELL-I

### Error Message

PVTSH008-SHELL-I: <user\_name> Shell entered

### Explanation

Escape to shell was successful.

### Recommended Action

None.