Dying Gasp Support for Loss of Power Supply Through SNMP, Syslog and Ethernet OAM

Dying Gasp—One of the following unrecoverable condition has occurred:

• Power failure or removal of power supply cable

This type of condition is vendor specific. An Ethernet Operations, Administration, and Maintenance (OAM) notification about the condition may be sent immediately.

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Prerequisites for Dying Gasp Support

You must enable Ethernet OAM before configuring Simple Network Management Protocol (SNMP) for dying gasp feature. For more information, see Enabling Ethernet OAM on an Interface.

Restrictions for Dying Gasp Support

• The dying gasp feature is not supported if you remove the power supply unit (PSU) from the system.
• SNMP trap is sent only on power failure or removal of power supply cable.
• The dying gasp support feature cannot be configured using CLI. To configure hosts using SNMP, refer to the SNMP host configuration examples below.
• In the case of power loss on the Cisco ASR-920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Aggregation Services Routers running Cisco IOS-XE Release 3.14.0S and the Cisco ASR-920-12SZ-IM running the Cisco IOS-XE Release 3.16.0S, dying gasp packets are sent to peer routers. However, the system state is not captured in the system logs (syslogs) or SNMP traps.
The SNMP servers are configured in ascending order. The SNMP server host configured with the lowest IP address has precedence.

The SNMP Dying Gasp trap via FPGA is not supported, when core MPLS interface is routed to the port on the Cisco ASR 920-10SZ-PD, ASR-920-8S4Z-PD, ASR-920-4SZ and ASR-920-12CZ routers in Cisco IOS-XE 16.9.x release.

The SNMP Dying Gasp is supported on the following routers through FPGA:

- Cisco ASR-920-24SZ-IM
- Cisco ASR-920-24SZ-M
- Cisco ASR-920-24TZ-M

The maximum number of supported SNMP servers for SNMP Dying Gasp is two. The maximum number of supported Link-OAM Dying Gasp is six. This is applicable to releases starting from Cisco IOS XE 16.9.x release.

Dying Gasp is not supported on default Mgmt-interface for the following routers:

- Cisco ASR-920-24SZ-IM
- Cisco ASR-920-24SZ-M
- Cisco ASR-920-24TZ-M
- Cisco ASR 920-10SZ-PD and ASR-920-8S4Z-PD
- Cisco ASR-920-4SZ
- Cisco ASR-920-12CZ-A
- Cisco ASR-920-12CZ-D

This is applicable to releases starting from Cisco IOS XE 16.9.x release.

Example: Configuring SNMP Community Strings on a Router

Setting up the community access string to permit access to the SNMP:

```
Router> enable
Router# configure terminal
Router(config)# snmp-server community public RW
Router(config)# exit
```

For more information on command syntax and examples, refer to the Cisco IOS Network Management Command Reference.

Example: Configuring SNMP-Server Host Details on the Router Console

Specifying the recipient of a SNMP notification operation:
Router> enable
Router# configure terminal
Router(config)# snmp-server host X.X.X.XXX vrf mgmt-intf version 2c public udp-port 9800
Router(config)# exit

For more information on command syntax and examples, refer to the Cisco IOS Network Management Command Reference.

Dying Gasp Trap Support for Different SNMP Server Host/Port Configurations

**Note**
You can configure up to five different SNMP server host/port configurations.

Environmental Settings on the Network Management Server

```
setenv SR_TRAP_TEST_PORT=UDP port
setenv SR_UTIL_COMMUNITY=public
setenv SR_UTIL_SNMP_VERSION=v2c
setenv SR_MGR_CONF_DIR=Path to the executable snmpinfo.DAT file
```

The following example shows SNMP trap configuration on three hosts:

**Configuration example for the first host:**

```
Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# snmp-server host 7.0.0.149 vrf Mgmt-intf version 2c public udp-port 6264
```

**Configuration example for the second host:**

```
Router(config)# snmp-server host 7.0.0.152 vrf Mgmt-intf version 2c public udp-port 9988
```

**Configuration example for the third host:**

```
Router(config)# snmp-server host 7.0.0.166 vrf Mgmt-intf version 2c public udp-port 9800
```

After performing a power cycle, the following output is displayed on the router console:

```
Router#
System Bootstrap, Version 15.3(2r)S, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2012 by cisco Systems, Inc.
Compiled Wed 17-Oct-12 15:00
Current image running: Boot ROM1
Last reset cause: PowerOn
UEA platform with 2097152 Kbytes of main memory
```

Dying Gasp Support for Loss of Power Supply Through SNMP, Syslog and Ethernet OAM
Message Displayed on the Peer Router on Receiving Dying Gasp Notification

001689: *May 30 14:16:47.746 IST: %ETHERNET_OAM-6-RFI: The client on interface Gi4/2 has received a remote failure indication from its remote peer(failure reason = remote client power failure action = )

Displaying SNMP Configuration for Receiving Dying Gasp Notification

Use the show running-config command to display the SNMP configuration for receiving dying gasp notification:

Router# show running-config | i snmp
snmp-server community public RW
snmp-server host 7.0.0.149 vrf Mgmt-intf version 2c public udp-port 6264
snmp-server host 7.0.0.152 vrf Mgmt-intf version 2c public udp-port 9988
Displaying SNMP Configuration for Receiving Dying Gasp Notification

snmp-server host 7.0.0.166 vrf Mgmt-intf version 2c public udp-port 9800
Router#
Displaying SNMP Configuration for Receiving Dying Gasp Notification