



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.

- The SNMP Dying GASP for Cisco ASR-920-4SZ-A, Cisco ASR-920-4SZ-D, Cisco ASR-920-12CZ-A, Cisco ASR-920-12CZ-D, and Cisco ASR-920-10SZ-PD routers is not supported for Netflow video template in Cisco IOS-XE 16.9.x release. This is because the routers use different and lower FPGA versions than the supported version (0x00040036 and higher).
- Dying GASP is not supported on the following routers for HW-based SNMP:
 - Cisco ASR-920-12SZ-A
 - Cisco ASR-920-12SZ-D
 - Cisco ASR-920-12SZ-IM

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)#
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)#
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
Router(config)#
Router(config)# ^Z
Router#
```

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
rommon 1 >
=====
Dying Gasp Trap Received for the Power failure event:
-----
    Trap on Host1
    ++++++
snmp-server host = 7.0.0.149 (nms1-lnx) and SR_TRAP_TEST_PORT=6264
/auto/sw/packages/snmp/15.4.1.9/bin> /auto/sw/packages/snmp/15.4.1.9/bin/traprcv
Waiting for traps.
Received SNMPv2c Trap:
Community: public
From: 7.29.25.101
snmpTrapOID.0 = ciscoMgmt.305.1.3.5.0.2
ciscoMgmt.305.1.3.6 = Dying Gasp - Shutdown due to power loss
-----
    Trap on Host2
    ++++++
snmp-server host = 7.0.0.152 (nms2-lnx) and SR_TRAP_TEST_PORT=9988
/auto/sw/packages/snmp/15.4.1.9/bin> /auto/sw/packages/snmp/15.4.1.9/bin/traprcv
Waiting for traps.
Received SNMPv2c Trap:
Community: public
From: 7.29.25.101
snmpTrapOID.0 = ciscoMgmt.305.1.3.5.0.2
ciscoMgmt.305.1.3.6 = Dying Gasp - Shutdown due to power loss
-----
    Trap on Host3
    ++++++
snmp-server host = 7.0.0.166 (erbusnmp-dc-lnx) and SR_TRAP_TEST_PORT=9800
/auto/sw/packages/snmp/15.4.1.9/bin> /auto/sw/packages/snmp/15.4.1.9/bin/traprcv
Waiting for traps.
Received SNMPv2c Trap:
Community: public
From: 7.29.25.101
snmpTrapOID.0 = ciscoMgmt.305.1.3.5.0.2
ciscoMgmt.305.1.3.6 = Dying Gasp - Shutdown due to power loss
```

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

