

# How to configure Traffic Control via NETSNMP in DES-3200 series?

The OIDs are defined in “**PKT-STORM-CTRL-MIB**” (**PktStormCtrl.mib**).

## # swPktStormCtrlTable

Object name	swPktStormCtrlTable
Object ID	1.3.6.1.4.1.171.12.25.3.1
Module	PKT-STORM-CTRL-MIB
Base syntax	Sequence Of swPktStormCtrlEntry
Access	Not_Accessible
Status	Current
Sequence	1:swPktStormCtrlPortIndex - Integer 2:swPktStormCtrlThreshold - Integer 3:swPktStormCtrlBroadcastStatus - Integer 4:swPktStormCtrlMulticastStatus - Integer 5:swPktStormCtrlUnicastStatus - Integer 6:swPktStormCtrlActionStatus - Integer 7:swPktStormCtrlCountDown - Integer 8:swPktStormCtrlTimeInterval - Integer
Parent node	swPktStormMgmt
First child	swPktStormCtrlEntry
Description	A table that contains information about packet storm control. A S/W mechanism is provided to monitor the traffic rate in addition to the H/W storm control mechanism. If the traffic rate is too high, this port will be shut down.

## # swPktStormCtrlEntry

Object name	swPktStormCtrlEntry
Object ID	1.3.6.1.4.1.171.12.25.3.1.1
Module	PKT-STORM-CTRL-MIB
Base syntax	Sequence
Access	Not_Accessible
Status	Current
Index	1 .swPktStormCtrlPortIndex
Parent node	swPktStormCtrlTable
First child	swPktStormCtrlPortIndex
Description	A list of information for each port of the device.

## # swPktStormCtrlPortIndex

Object name	swPktStormCtrlPortIndex
Object ID	1.3.6.1.4.1.171.12.25.3.1.1.1
Module	PKT-STORM-CTRL-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : 0..65535
Parent node	swPktStormCtrlEntry
First child	None
Description	This object indicates the device's port number (1..Max port number in the device). It is used to specify a range of ports to be configured.

## # swPktStormCtrlthreshold

Object name	swPktStormCtrlthreshold
Object ID	1.3.6.1.4.1.171.12.25.3.1.1.2
Module	PKT-STORM-CTRL-MIB
Base syntax	Integer
Composed syntax	Integer32
Access	Read-Write
Status	Current
Parent node	swPktStormCtrlEntry
First child	None
Description	This object is the upper threshold at which the specified storm control will turn on.

## # swPktStormCtrlBroadcastStatus

Object name	swPktStormCtrlBroadcastStatus
Object ID	1.3.6.1.4.1.171.12.25.3.1.1.3
Module	PKT-STORM-CTRL-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : disabled(1) 2 : enabled(2)
Parent node	swPktStormCtrlEntry
First child	None
Description	This object indicates whether the broadcast storm control is enabled or disabled.

## # swPktStormCtrlMulticastStatus

Object name	swPktStormCtrlMulticastStatus
Object ID	1.3.6.1.4.1.171.12.25.3.1.1.4
Module	PKT-STORM-CTRL-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : disabled(1) 2 : enabled(2)
Parent node	swPktStormCtrlEntry
First child	None
Description	This object indicates whether the multicast storm control is enabled or disabled.

## # swPktStormCtrlUnicastStatus

Object name	swPktStormCtrlUnicastStatus
Object ID	1.3.6.1.4.1.171.12.25.3.1.1.5
Module	PKT-STORM-CTRL-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : disabled(1) 2 : enabled(2)
Parent node	swPktStormCtrlEntry
First child	None
Description	This object indicates whether the unicast (Destination Loopback Fail) storm control is enabled or disabled.

## # swPktStormCtrlActionStatus

Object name	swPktStormCtrlActionStatus
Object ID	1.3.6.1.4.1.171.12.25.3.1.1.6
Module	PKT-STORM-CTRL-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : shutdown(1) 2 : drop(2)
Parent node	swPktStormCtrlEntry
First child	None
Description	There are two actions to take for storm control, shutdown and drop. The former is implemented in S/W, and the latter is implemented in H/W. If a user chooses shutdown, they will need to configure both the back_off and the time_interval.

## # swPktStormCtrlCountDown

Object name	swPktStormCtrlCountDown
Object ID	1.3.6.1.4.1.171.12.25.3.1.1.7
Module	PKT-STORM-CTRL-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : 0..30
Parent node	swPktStormCtrlEntry
First child	None
Description	If a packet storm has been encountered continuously on a given port for a long period of time (indicated by the value of this object), the port will be shut down forever until it's recovered manually. The range of the countdown time is 5 to 30 minutes. A user can configure the countdown to 0 to disable the function of shut forever. If this value is set from 1 to 4, a 'bad value' return code will be indicated.

## # swPktStormCtrlTimeinterval

Object name	swPktStormCtrlTimeinterval
Object ID	1.3.6.1.4.1.171.12.25.3.1.1.8
Module	PKT-STORM-CTRL-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : 5..30
Parent node	swPktStormCtrlEntry
First child	None
Description	This object is the sampling interval of received packet counts. The possible value will be

## [Setup Example]

### # CLI command :

config traffic control **1** broadcast enable multicast enable **threshold 1000** **action shutdown** **countdown 5** **time\_interval 5**

### # NETSNMP (two steps)

- Step1

```
snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.25.3.1.1.2.1 i 1000  
1.3.6.1.4.1.171.12.25.3.1.1.3.1 i 2 1.3.6.1.4.1.171.12.25.3.1.1.4.1 i 2
```

- Step2

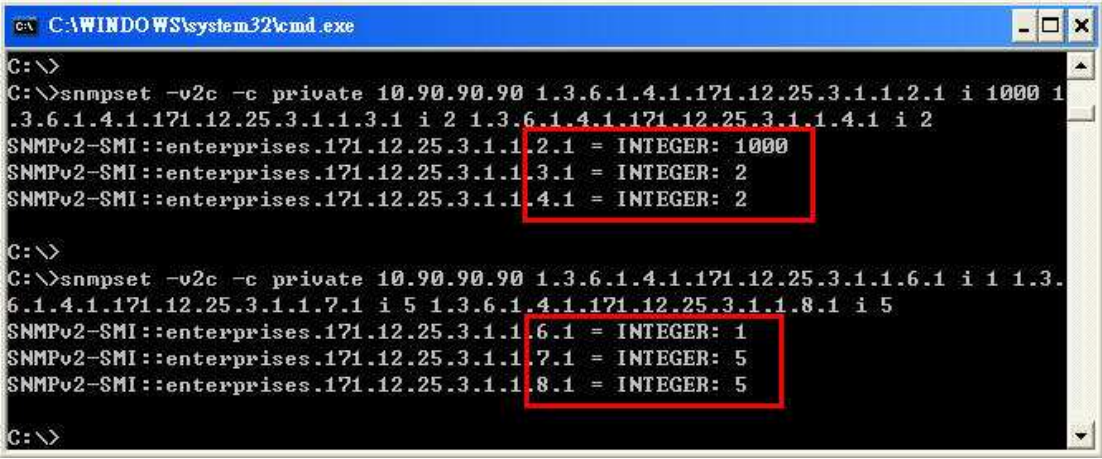
```
snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.25.3.1.1.6.1 i 1  
1.3.6.1.4.1.171.12.25.3.1.1.7.1 i 5 1.3.6.1.4.1.171.12.25.3.1.1.8.1 i 5
```

**Note : Please refer to the explanation in OID “swPktStormCtrlActionStatus”.  
It’s for Step2.**

There are two actions to take for storm control, shutdown and drop.

The former is implemented in S/W, and the latter is implemented in H/W.

If a user chooses shutdown, they will need to configure both the back\_off and the time\_interval.



```
C:\WINDOWS\system32\cmd.exe  
C:\>  
C:\>snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.25.3.1.1.2.1 i 1000 1  
.3.6.1.4.1.171.12.25.3.1.1.3.1 i 2 1.3.6.1.4.1.171.12.25.3.1.1.4.1 i 2  
SNMPv2-SMI::enterprises.171.12.25.3.1.1.2.1 = INTEGER: 1000  
SNMPv2-SMI::enterprises.171.12.25.3.1.1.3.1 = INTEGER: 2  
SNMPv2-SMI::enterprises.171.12.25.3.1.1.4.1 = INTEGER: 2  
C:\>  
C:\>snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.25.3.1.1.6.1 i 1 1.3.  
6.1.4.1.171.12.25.3.1.1.7.1 i 5 1.3.6.1.4.1.171.12.25.3.1.1.8.1 i 5  
SNMPv2-SMI::enterprises.171.12.25.3.1.1.6.1 = INTEGER: 1  
SNMPv2-SMI::enterprises.171.12.25.3.1.1.7.1 = INTEGER: 5  
SNMPv2-SMI::enterprises.171.12.25.3.1.1.8.1 = INTEGER: 5  
C:\>
```



DES-3200-28 Fast Ethernet switch  
Command Line Interface

Firmware: Build 1.50.B006  
Copyright(C) 2010 D-Link Corporation. All rights reserved.

UserName:  
Password:

DES-3200-28:5#reset config  
Command: reset config

Are you sure you want to proceed with system reset?(y/n) y  
Success.

DES-3200-28:5#show traffic control 1  
Command: show traffic control 1

Traffic storm Control Trap :[None]

Port	Thres hold	Broadcast storm	Multicast storm	Unicast storm	Action	Count down	Time Interval
1	64	Disabled	Disabled	Disabled	drop	0	5

Total Entries : 1

DES-3200-28:5#  
DES-3200-28:5#show traffic control 1  
Command: show traffic control 1

Traffic storm Control Trap :[None]

Port	Thres hold	Broadcast storm	Multicast storm	Unicast storm	Action	Count down	Time Interval
1	1000	Enabled	Enabled	Disabled	shutdown	5	5

Total Entries : 1

DES-3200-28:5#

## [Err-Disabled Status Check]

The OID is defined in “**DES3200-28-L2MGMT-MIB**”.

### # swL2PortErrTable

Object name	swL2PortErrTable
Object ID	1.3.6.1.4.1.171.11.113.1.3.2.2.3
Module	DES3200-28-L2MGMT-MIB
Base syntax	Sequence Of swL2PortErrEntry
Access	Not_Accessible
Status	Current
Sequence	1:swL2PortErrPortIndex - Integer 2:swL2PortErrPortState - Integer 3:swL2PortErrPortStatus - Integer 4:swL2PortErrPortReason - Integer 5:swL2PortErrDescription - Octet String
Parent node	swL2PortMgmt
First child	swL2PortErrEntry
Description	A table that contains information about the Err port.

### # swL2PortErrPortStatus

Object name	swL2PortErrPortStatus
Object ID	1.3.6.1.4.1.171.11.113.1.3.2.2.3.1.3
Module	DES3200-28-L2MGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : other(1) 2 : err-disabled(2)
Parent node	swL2PortErrEntry
First child	None
Description	This object decides whether the PortStatus is err-disabled.

## # swL2PortErrPortReason

Object name	swL2PortErrPortReason
Object ID	1.3.6.1.4.1.171.11.113.1.3.2.2.3.1.4
Module	DES3200-28-L2MGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : none(0) 2 : stp-lbd(1) 3 : storm-control(2) 4 : storm-control-lbd(3) 5 : loopdetect(4)
Parent node	swL2PortErrEntry
First child	None
Description	This object decides whether the PortStatus STP is LED or Storm control.

### [Test Topology]

DES-3200-28 (port 1) --- IXIA

### [Test Procedures]

IXIA injects L2 broadcast frames by rate **5000 frames/sec over 5 minutes.**

Check status of port 1 via CLI & NETSNMP.

```
DES-3200-28 Fast Ethernet Switch
Command Line Interface

Firmware: Build 1.50.B006
Copyright(C) 2010 D-Link Corporation. All rights reserved.
UserName:
Password:

DES-3200-28:5#show traffic control 1
Command: show traffic control 1

Traffic storm Control Trap :[None]

Port Thres Broadcast Multicast Unicast Action Count Time
hold Storm Storm Storm down Interval
-----
1 1000 Enabled Enabled disabled shutdown 5 5

Total Entries : 1

DES-3200-28:5#
DES-3200-28:5#show utilization ports
Command: show utilization ports

Port TX/sec RX/sec Util Port TX/sec RX/sec Util
-----
1 0 5001 2 22 0 0 0
2 0 0 0 23 0 1 1
3 0 0 0 24 0 0 0
4 0 0 0 25 0 0 0
5 0 0 0 26 0 0 0
6 0 0 0 27 0 0 0
7 0 0 0 28 0 0 0
8 0 0 0
9 0 0 0
10 0 0 0
11 0 0 0
12 0 0 0
13 0 0 0
14 0 0 0
15 0 0 0
16 0 0 0
17 0 0 0
18 0 0 0
19 0 0 0
20 0 0 0
21 0 0 0
DES-3200-28:5#
```



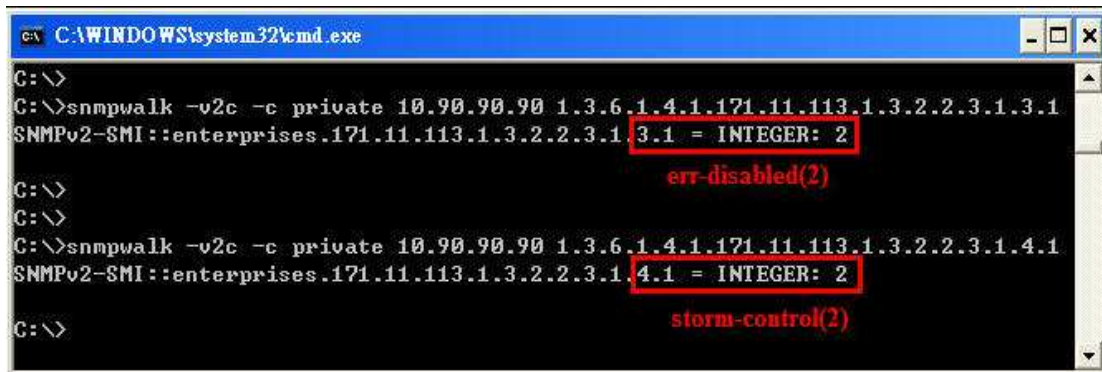
## [Test Results]

# swL2PortErrPortStatus

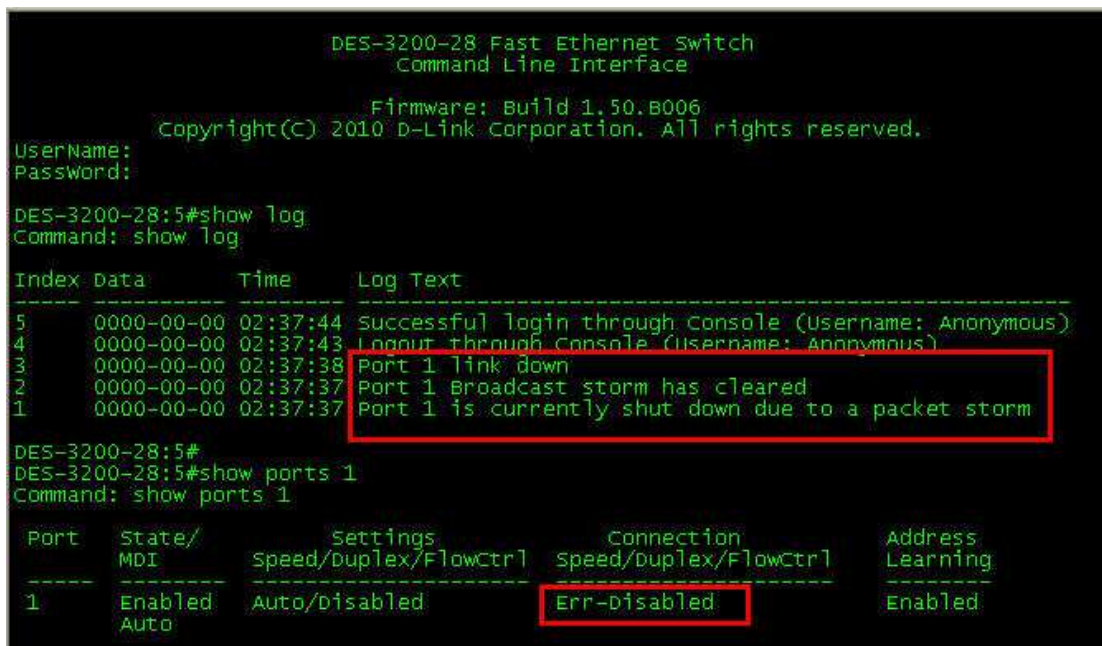
```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.11.113.1.3.2.2.3.1.3.1
```

# swL2PortErrPortReason

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.11.113.1.3.2.2.3.1.4.1
```



```
C:\WINDOWS\system32\cmd.exe
C:\>
C:\>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.11.113.1.3.2.2.3.1.3.1
SNMPv2-SMI::enterprises.171.11.113.1.3.2.2.3.1.3.1 = INTEGER: 2
err-disabled(2)
C:\>
C:\>
C:\>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.11.113.1.3.2.2.3.1.4.1
SNMPv2-SMI::enterprises.171.11.113.1.3.2.2.3.1.4.1 = INTEGER: 2
storm-control(2)
C:\>
```



```
DES-3200-28 Fast Ethernet switch
Command Line Interface

Firmware: Build 1.50.B006
Copyright(C) 2010 D-Link Corporation. All rights reserved.
UserName:
Password:

DES-3200-28:5#show log
Command: show log

Index  Data      Time      Log Text
-----  -
5      0000-00-00 02:37:44  Successful login through Console (Username: Anonymous)
4      0000-00-00 02:37:43  Logout through Console (Username: Anonymous)
3      0000-00-00 02:37:38  Port 1 link down
2      0000-00-00 02:37:37  Port 1 Broadcast storm has cleared
1      0000-00-00 02:37:37  Port 1 is currently shut down due to a packet storm

DES-3200-28:5#
DES-3200-28:5#show ports 1
Command: show ports 1

Port  State/MDI  Settings          Connection          Address Learning
-----  -
1     Enabled/Auto  Auto/Disabled    Err-Disabled       Enabled
```