

# DoS-Attack Prevention Configuration Commands

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# Chapter 1 DoS Attack Prevention Configuration Commands

## 1.1 DoS-Attack Prevention Configuration Commands

DoS attack prevention configuration commands are shown below:

- dos enable
- show dos

### 1.1.1 dos enable

Syntax

**dos enable {all | icmp *icmp-value* | ip | l4port | mac | tcpflags | tcpfrag *tcpfrag-value* | tcpsmurf | icmpsmurf | ipsmurf }**

**no dos enable { all | icmp *icmp-value* | ip | l4port | mac | tcpflags | tcpfrag *tcpfrag-value* | tcpsmurf | icmpsmurf | ipsmurf }**

Parameter

Parameter	Description
<b>all</b>	Enables to prevent all kinds of DoS attacks.
<b>icmp</b> <i>icmp-value</i>	Enables to check ICMP messages. The maximum length of ICMP message is <i>icmp-value</i> . ICMP and ICMPv6 messages with length greater than <i>icmp-value</i> will be discarded
<b>ip</b>	Enables to prevent the dos attack messages whose source IP address is same as its destination IP address.
<b>l4port</b>	Enables to check the layer-4 messages whose source port is same as its destination port.
<b>mac</b>	Enables to prevent the messages whose source MAC address is same as its destination MAC address.
<b>tcpflags</b>	Starts to check the TCP packets with illegal flags.
<b>tcpfrag</b> <i>tcpfrag-value</i>	Enables to check dos attack messages of tcp subcontract, the minimum tcp header is <i>tcpfrag-value</i> , the default value is 20.
<b>tcpsmurf</b>	Enables to prevent TCP messages whose destination address is broadcast address.
<b>icmpsmurf</b>	Enables to prevent ICMP messages whose destination address is broadcast address.
<b>ipsmurf</b>	Enables to prevent IP messages whose destination address is broadcast address.

Default

DoS attack prevention is disabled by default.

## Usage Guidelines

DoS attack prevention is configured in global mode.

The ip sub-function can defend against LAND attack, preventing IP messages whose source address is the same as destination address.

The icmp sub-function can drop packets: 1. ICMP, ICMPv6 ping request message that is large than *icmp-value*; 2. Subcontract ICMP, ICMPv6 message. It can defend against PING attack.

The l4port sub-function can drop TCP/UDP packets whose source port number is the same as destination port number.

The mac sub-function can check MAC address, preventing messages whose source MAC address is the same as destination MAC address.

The tcpflags sub-function can drop the following 4 kinds of TCP packets: 1.TCP SYN flag = 1 & source port<1024; 2.TCP control flags = 0 & sequence = 0; 3.TCP FIN URG PSH =1 & sequence = 0; 4.TCP FIN SYN =1.

The tcpfrag sub-function can drop the following 2 kinds of TCP packets: 1. TCP subcontract whose header is smaller than *tcpfrag-value*; 2. TCP subcontract whose offset is 1. It can defend against TearDrop attack.

The tcpsmurf sub-function can defend against tcpsmurf attack, preventing TCP messages whose destination address is the broadcast address.

The icmpsmurf sub-function can defend against icmpsmurf attack, preventing ICMP messages whose destination address is the broadcast address.

The ipsmurf sub-function can defend against ipsmurf attack, preventing IP messages whose destination address is the broadcast address.

## Example

The following example shows how to set DoS attack prevention subfunctions in global mode to prevent IP messages whose source IP address is same as destination IP address.

```
Switch_config#dos enable ip
```

The following example shows how to set **dos enable tcpflags** to check illegal TCPflag messages in global mode.

```
Switch_config#dos enable tcpflags
```

### 1.1.2 show dos

#### Syntax

##### **show dos**

It is used to show all DoS attack prevention functions that users have set.

#### Parameter

None

#### Default value

None

## Remarks

EXEC mode

## Example

The following example shows how to display all DoS attack prevention functions.

```
Switch_config#dos enable all
```

```
Switch_config#show dos
```

```
dos enable icmp
```

```
dos enable ip
```

```
dos enable l4port
```

```
dos enable mac
```

```
dos enable tcpflags
```

```
dos enable tcpfrag
```

```
dos enable tcpsmurf
```

```
dos enable icmpsmurf
```

```
dos enable ipsmurf
```

```
Switch_config#
```

The following example shows how to set **dos enable ip** to display the sub-function that users have set.

```
Switch_config#dos enable ip
```

```
Switch_config#show dos
```

```
dos enable ip
```