

在SG550XG和SG350XG上使用Ping和Traceroute

目标

SG550XG和SG350XG包括内置ping和traceroute工具，可用于测试交换机的网络通信。Ping使用ICMP（Internet控制消息协议）回应数据包来测试网络中主机的可达性，并返回往返时间和数据包状态等信息。Traceroute显示数据包在传输到网络主机时所花费的路由和时间。

本文档的目标是向您展示如何在SG550XG和SG350XG上使用ping和traceroute。

适用设备

- SG550XG

- SG350XG

软件版本

- v2.0.0.73

使用Ping和Traceroute工具

ping

步骤1. 登录Web配置实用程序并选择Administration > Ping。将打开“Ping”页。

Ping

Host Definition: By IP address By name

Destination IP Address/Name:

Status:

Activate Ping

Cancel

Ping Counters and Status

Number of Sent Packets: 0

Number of Received Packets: 0

Packet Lost: 0 %

Minimum Round Trip Time: 0 ms

Maximum Round Trip Time: 0 ms

Average Round Trip Time: 0 ms

Status: N/A

步骤2.在“主机定义”字段中，选择单选按钮以指定如何识别远程主机。选择**按IP地址**以按其IP地址指定主机。选择**按名称**，按主机名指定主机。如果您处于基本显示模式，请跳至[步骤7](#)(显示模式可通过Web配置实用程序右上角的下拉列表进行更改)。

Ping

Host Definition: By IP address By name

Destination IP Address/Name:

Status:

Ping Counters and Status

Number of Sent Packets:	0
Number of Received Packets:	0
Packet Lost:	0 %
Minimum Round Trip Time:	0 ms
Maximum Round Trip Time:	0 ms
Average Round Trip Time:	0 ms
Status:	N/A

步骤3.如果您在高级显示模式下查看“Ping”页，则还有几个字段可用。在*IP Version*字段中，选择一个单选按钮以选择交换机在ping时使用的IP版本。选择版本4使用IPv4,版本6使用IPv6。

Ping

Host Definition: By IP address By name

IP Version: Version 6 Version 4

Source IP:

Destination IPv6 Address Type: Link Local Global

Link Local Interface:

Destination IP Address/Name:

Ping Interval: Use Default User Defined ms (Range: 0 - 65535, Default: 2000)

Number of Pings: Use Default User Defined (Range: 1 - 65535, Default: 4)

Status:

步骤4.在Source IP 下拉列表中，选择交换机将发送ping的IP地址。默认值为**Auto**，它告知交换机根据目标地址计算源地址。如果在IP Version字段中选择了Version 6，请继续执行步骤5;否则，请跳[至步骤7](#)。

Ping

Host Definition: By IP address By name

IP Version: Version 6 Version 4

Source IP: Auto

Destination IPv6 Address Type: Auto
192.168.1.105(OOB)

Link Local Interface: VLAN 1

Destination IP Address/Name:

Ping Interval: Use Default
 User Defined ms (Range: 0 - 65535, Default: 2000)

Number of Pings: Use Default
 User Defined (Range: 1 - 65535, Default: 4)

Status:

Activate Ping Cancel

步骤5.在“目标IPv6地址类型”字段中，选择一个单选按钮以指示目标的IPv6地址的类型。

Ping

Host Definition: By IP address By name

IP Version: Version 6 Version 4

Source IP: Auto

Destination IPv6 Address Type: Link Local Global

Link Local Interface: VLAN 1

Destination IP Address/Name:

Ping Interval: Use Default
 User Defined ms (Range: 0 - 65535, Default: 2000)

Number of Pings: Use Default
 User Defined (Range: 1 - 65535, Default: 4)

Status:

Activate Ping Cancel

选项有：

- 本地链路 — IP地址唯一标识单个网络链路上的主机。链路本地地址的前缀为FE80，不可路由，只能用于本地网络上的通信。如果接口上存在本地链路地址，则此条目将替换配置中的地址。
- 全局 — 该地址是可从其他网络查看和访问的全局单播IPv6地址。如果选择此选项，请跳至[步骤7](#)。

步骤6.如果从“目标IPv6地址类型”字段中选择了“本地链路”，请从“本地链路接口”下拉列表中选择本地链路接口。

Ping

Host Definition: By IP address By name

IP Version: Version 6 Version 4

Source IP:

Destination IPv6 Address Type: Link Local Global

Link Local Interface:

Destination IP Address/Name:

Ping Interval: Use Default User Defined ms (Range: 0 - 65535, Default: 2000)

Number of Pings: Use Default User Defined (Range: 1 - 65535, Default: 4)

Status:

步骤7.在“目标IP地址/名称”字段中，根据您在“主机定义”字段中的选择，输入远程主机的IP地址或主机名。如果您处于基本显示模式，请跳至[步骤10](#)。

Ping

Host Definition: By IP address By name

Destination IP Address/Name:

Status:

Ping Counters and Status

Number of Sent Packets:	0
Number of Received Packets:	0
Packet Lost:	0 %
Minimum Round Trip Time:	0 ms
Maximum Round Trip Time:	0 ms
Average Round Trip Time:	0 ms
Status:	N/A

步骤8.在Ping间隔字段中，选择单选按钮以指定交换机在发送数据包之间等待的时间长度。选择**使用默认值**（2000毫秒），或选择**用户定义**以输入自定义时间长度(范围为0-65535)。

Ping

Host Definition: By IP address By name

IP Version: Version 6 Version 4

Source IP:

Destination IPv6 Address Type: Link Local Global

Link Local Interface:

Destination IP Address/Name:

Ping Interval: Use Default User Defined ms (Range: 0 - 65535, Default: 2000)

Number of Pings: Use Default User Defined (Range: 1 - 65535, Default: 4)

Status:

步骤9. 在Number of Ping 字段中，选择一个单选按钮以指定交换机将发送到目的地的ping数。选择使用默认设置（4个ping），或选择用户定义输入自定义编号(范围为0-65535)。

Ping

Host Definition: By IP address By name

IP Version: Version 6 Version 4

Source IP:

Destination IPv6 Address Type: Link Local Global

Link Local Interface:

Destination IP Address/Name:

Ping Interval: Use Default User Defined ms (Range: 0 - 65535, Default: 2000)

Number of Pings: Use Default User Defined (Range: 1 - 65535, Default: 4)

Status:

步骤10. 单击“激活Ping”启动ping，或单击“取消”清除设置。

Ping

Host Definition: By IP address By name

Destination IP Address/Name: 192.168.1.1

Status:

Activate Ping Cancel

Ping Counters and Status

Number of Sent Packets:	0
Number of Received Packets:	0
Packet Lost:	0 %
Minimum Round Trip Time:	0 ms
Maximum Round Trip Time:	0 ms
Average Round Trip Time:	0 ms
Status:	N/A

步骤11.在ping操作过程中，将出现一个加载条。单击此栏下面的停止Ping按钮以取消ping。

Ping

Host Definition: By IP address By name

Destination IP Address/Name: 192.168.1.1

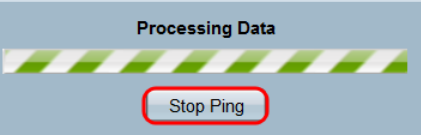
Status:

Activate Ping Cancel

Ping Counters and Status

Number of Sent Packets:	1
Number of Received Packets:	1
Packet Lost:	0 %
Minimum Round Trip Time:	0 ms
Maximum Round Trip Time:	0 ms
Average Round Trip Time:	0 ms
Status:	Ping in progress

Processing Data



Stop Ping

步骤12.当ping完成时，页面上的几个字段将更新为信息。

Ping

Host Definition: By IP address By name

Destination IP Address/Name:

Status: Ping Succeeded

Ping Counters and Status

Number of Sent Packets:	4
Number of Received Packets:	4
Packet Lost:	0 %
Minimum Round Trip Time:	10 ms
Maximum Round Trip Time:	10 ms
Average Round Trip Time:	5 ms
Status:	Success

字段为：

- Number of Sent Packets — 显示发送到远程主机的ICMP回应请求数据包的总数。
- Number of Received Packets — 显示从远程主机接收的ICMP应答数据包的总数。
- 丢包 — 显示从未收到相应应答数据包的应答请求数据包的百分比。
- 最小往返时间 — 显示发送的所有数据包中最快的数据包往返时间。
- 最大往返时间 — 显示所有发送的数据包中最慢的数据包往返时间。
- 平均往返时间 — 显示所有发送数据包的平均往返时间。
- 状态 — 显示ping的返回状态。

Traceroute

步骤1. 登录Web配置实用程序，然后选择Administration > Traceroute。将打开Traceroute页面。

The image shows a 'Traceroute' configuration dialog box. At the top, the title 'Traceroute' is displayed. Below it, the 'Host Definition:' section has two radio buttons: 'By IP address' (which is selected) and 'By name'. Below this is a text input field labeled 'Host IP Address/Name:'. At the bottom of the dialog, there are two buttons: 'Activate Traceroute' and 'Cancel'.

步骤2.在“主机定义”字段中，选择单选按钮以指定如何识别远程主机。选择**By IP address**(按IP地址)以按主机的IPv4地址指定主机。选择**按名称**，按主机名指定主机。如果您处于基本显示模式，请跳至[步骤5](#)。如果您在此字段中选择了**By name**，并且处于高级显示模式，请跳至[步骤4](#)。

This image is identical to the previous one, but a red rounded rectangle highlights the 'By IP address' radio button in the 'Host Definition:' section.

步骤3.如果在高级显示模式下查看 *Traceroute* 页，则还有几个可用字段(显示模式可通过Web配置实用程序右上角的下拉列表进行更改)。在 *IP Version* 字段中，选择一个单选按钮，以选择交换机在运行traceroute时将使用的IP版本。选择**版本4**使用IPv4, **版本6**使用IPv6。

The image shows an advanced 'Traceroute' configuration dialog box. It includes the 'Host Definition:' section with 'By IP address' selected. Below it is the 'IP Version:' section with two radio buttons: 'Version 6' and 'Version 4' (which is selected). Below this is a 'Source IP:' dropdown menu currently set to 'Auto'. Further down are 'Host IP Address/Name:', 'TTL:', and 'Timeout:' sections, each with radio buttons for 'Use Default' and 'User Defined' (with input fields). At the bottom are 'Activate Traceroute' and 'Cancel' buttons. A red rounded rectangle highlights the 'Version 4' radio button.

[步骤4](#).在 *Source IP* 下拉列表中，选择交换机将从中发送traceroute的IP地址。默认值为 **Auto**，它告知交换机根据目标地址计算源地址。

Traceroute

Host Definition: By IP address By name

IP Version: Version 6 Version 4

Source IP:

Host IP Address/Name:

TTL: Use Default User Defined (Range: 1 - 255, Default: 30)

Timeout: Use Default User Defined sec (Range: 1 - 60, Default: 3)

步骤5.在“主机IP地址/名称”字段中，根据您在“主机定义”字段中的选择，输入远程主机的IP地址或主机名。如果您处于基本显示模式，请跳至**步骤8**。

Traceroute

Host Definition: By IP address By name

Host IP Address/Name:

步骤6.在TTL字段中，选择单选按钮以指定traceroute允许的最大跳数。TTL（生存时间）功能用于防止数据包陷入无尽的环路；如果数据包超过其TTL值，它到达的下一台路由器将丢弃该数据包，并将ICMP超时数据包发回交换机。选择**使用默认设置(30)**，或选择**用户定义**输入自定义编号（范围为1-255）。

Traceroute

Host Definition: By IP address By name

IP Version: Version 6 Version 4

Source IP:

Host IP Address/Name:

TTL: Use Default User Defined (Range: 1 - 255, Default: 30)

Timeout: Use Default User Defined sec (Range: 1 - 60, Default: 3)

步骤7.在超时字段中，选择单选按钮以指定交换机在宣告丢失并转到下一个数据包之前等待返回数据包的时间。选择**使用默认设置（3毫秒）**，或选择**用户定义**输入自定义编号（范围为1-

60) 。

Traceroute

Host Definition: By IP address By name

IP Version: Version 6 Version 4

Source IP: Auto

Host IP Address/Name: 192.168.1.1

TTL: Use Default User Defined (Range: 1 - 255, Default: 30)

Timeout: Use Default User Defined 10 sec (Range: 1 - 60, Default: 3)

Activate Traceroute Cancel

步骤8.单击“**激活Traceroute**”以启动traceroute，或单击“**取消**”以清除设置。

Traceroute

Host Definition: By IP address By name

Host IP Address/Name: 192.168.1.1

Activate Traceroute Cancel

步骤9.在处理traceroute时，将出现一个加载条。单击此栏下的Stop Traceroute按钮取消traceroute。

Traceroute

Host Definition: By IP address By name

Host IP Address/Name: 192.168.1.1

Activate Traceroute Cancel

Processing Data

Stop Traceroute

步骤10.当traceroute完成时，将显示 *Traceroute* 表，其中包含返回的所有信息。Traceroute向远程主机发送三个数据包，每个数据包的单个信息位于每个 *Round Trip 1-3* 字段下。

Traceroute

Status: Traceroute Complete

Traceroute Table

Index	Host	Round Trip 1		Round Trip 2		Round Trip 3	
		Time (ms)	Status	Time (ms)	Status	Time (ms)	Status
1	192.168.1.1	20	Succeeded	20	Succeeded	20	Succeeded

[Back](#)

字段为：

- 索引 — 显示跳数。
- 主机 — 显示路由上停止的IP地址。
- 往返1-3 — 显示每个数据包的跟踪路由信息。
 - 时间(ms) — 显示到停车站的往返时间。
 - 状态 — 显示数据包是否成功到达停止。