ISIS Configuration Commands

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1.1 ISIS Configuration Commands

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1.1.1 area-password

To activate the domain authentication of level-1, run the following first command. To cancel this domain authentication, run the following second command.

area-password *WORD* **[authenticate snp send-only|validate]**

no area-password

Parameter

Parameter	Description
WORD	Designates the authentication password.
Send-only	Means that the password is inserted only when level-1 SNP PDUs are sent but not authenticated when SNP PDUs are received.
Validate	Means that the password is inserted only when level-1 SNP PDUs are sent and authenticated when SNP PDUs are received.

Default value

No validation and no authentication

Command mode

Routing configuration mode

Instruction

This command can be used to stop the unauthorized routers to enter the link state database incorrectly. The password is transformed through the text mode, so only a limited security guarantee can be provided. This command takes effect only for level-1 LSP and SNP PDU.

Example

The following example shows how to set the domain authentication password of process 2 to **angel**.

router isis 2
    area-password angel

Related command

domain-password

isis password

1.1.2 debug isis

To open the corresponding debugging switch, run **debug isis ifsm|nsm|events|pdu|lsp|spf**; to close the corresponding debugging switch, run **no debug isis ifsm|nsm|events|pdu|lsp|spf**.

debug isis ifsm|nsm|events|pdu|lsp|spf

no debug isis ifsm|nsm|events|pdu|lsp|spf

Parameter

Parameter	Description
ifsm	Debugs the state machine of an interface.
nfsm	Debugs the state machine of a neighbor.
events	Debugs an inner event.
pdu	Debugs ISIS PDU.
lsp	Debugs LSP information.
spf	Debugs routing calculation.
nsm	Debugs routing information.

Default value

All options are closed by default.

Command mode

EXEC

Instruction

The debugging command is used to display the corresponding debugging information through the designation of debugging items.

Example

The following example shows how to open the PDU and SPF debugging switches and the terminal displays the debugging information of the two debugging items.

router# debug isis pdu
router# debug isis spf

1.1.3 default-information originate

To generate a default route, run **default-information originate**. To disable the function, run **no default-information originate**.

default-information originate

no default-information originate

Parameter

None

Default value

The function to generate a default route is disabled.

Command mode

Routing configuration mode

Instruction

After **default-information originate** is activated, the **0.0.0.0/0** routing information will be carried when the routing update is transmitted.

Example

When the routing update is transmitted, a default route (0.0.0.0/0) will be carried.

router isis 2
  default-information originate

1.1.4 domain-password

To activate the domain authentication of level-2, run the following first command. To cancel this domain authentication, run the following second command.

domain-password *WORD* **[authenticate snp send-only|validate]**

no domain-password

Parameter

Parameter	Description
WORD	Designates the authentication password.
Send-only	Means that the password is inserted only when level-2 SNP PDUs are sent and the password is not authenticated when SNP PDUs are received.
Validate	Means that the password is inserted only when level-2 SNP PDUs are sent and authenticated when SNP PDUs are received.

Default value

Invalid

Command mode

Routing configuration mode

Instruction

This command can be used to stop the unauthorized routers to enter the link state database incorrectly. The password is transformed through the text mode, so only a limited security guarantee can be provided. This command takes effect only for level-2 LSP and SNP PDU.

Example

The following example shows how to set the domain authentication password of level-2 to **flower**.

router isis 2
   domain-password flower

Related command

area-password

isis password

1.1.5   ignore-lsp-errors

To omit the error of the LSP check code, run **ignore-lsp-errors**; to cancel this function, run **no ignore-lsp-errors**.

ignore-lsp-errors

no ignore-lsp-errors

Parameter

None

Default value

If this command is not used, the check code will be authenticated.

Command mode

Routing configuration mode

Instruction

By default, the router will authenticate the received LSP check code; if error happens, the corresponding LSP will be discarded.

Example

The following example shows how to ignore the error of LSP check code of ISIS process 2:

router isis 2
   ignore-lsp-errors

Related command

None

1.1.6   ip router isis

To enable the ISIS process on an interface, which is necessary to enable the ISIS routing protocol, run **ip router isis** *<1-65535>*. To disable the ISIS process, run **no ip router isis** *<1-65535>*.

ip router isis *<1-65535>*

no ip router isis *<1-65535>*

Parameter

Parameter	Description
<1-65535>	Means the ISIS process ID.

Default value

ISIS is not enabled on the port.

Command mode

Interface configuration mode

Instruction

If this command is configured on a port, ISIS will transmit the ISIS HELLO packets on the port. Only one ISIS process can be enabled on one port.

Example

The following example shows how to enable ISIS3 on port Ethernet2.

interface Ethernet2
 ip address 10.2.2.5 255.255.255.0
 ip router isis 3

Related command

router isis

1.1.7   isis circuit-type

To configure the link type of interface, run **isis circuit-type level-1|level-1-2|level-2-only**. To resume the default configuration, run **no isis circuit-type**.

isis circuit-type level-1|level-1-2|level-2-only

no isis circuit-type

Parameter

Parameter	Description
level-1	Forms level-1 adjacency.

level-2-only	Forms level-2 adjacency.
level-1-2	Forms level-1 adjacency and level-2 adjacency.

Default value

Level-1 adjacency and level-2 adjacency are formed at the same time by default.

Command mode

Interface configuration mode

Instruction

If level-1 or level-2 is used for configuration, ISIS only transmits PDUs of a corresponding level on this interface; if this interface is a point-to-point one, there are only hello packets and the ISIS hello packets will always be forwarded no matter what circuit-type is.

If a router is set by IS-type to level-1 or level-2, PDUs of the corresponding level will be only transmitted.

Example

The following example shows how to connect ISIS 2 on interface Ethernet 0 and how to set the interface to **level-2-only**.

interface ethernet 0
 ip router isis 2
 isis circuit-type level-2-only

Related command

is-type

1.1.8   isis hello-interval

To set the interval of transmitting hello packets, run the following first command; to resume the related default settings, run the following second command.

isis hello-interval *INTERVAL* **[level-1|level-2]**

no isis hello-interval [level-1|level-2]

Parameter

Parameter	Description
INTERVAL	Means the interval of transmitting hello packets, which ranges between zero and 65535 seconds.
level-1	Sets the hello interval for level 1.
level-2	Sets the hello interval for level 2.

Default value

The hello intervals of level 1 and level 2 are both set to 10 seconds by default.

Command mode

Interface configuration mode

Instruction

This command is used to change the interval of transmitting the hello packets. DIS transmits the hello packets. If ISIS is selected as DIS on this interface, the hello interval is set to 3.3 seconds by default. If the level is not designated, the related operations are effective both to level 1 and level 2.

Example

The following example shows how to set the hello interval of level 1 to 5 seconds.

interface serial 0
    isis hello-interval 5 level-1

Related command

isis hello-multiplier

1.1.9   isis hello-multiplier

To set the hold time of hello packets, run the following first command; to resume the related default settings, run the following second command.

isis hello-multiplier *<3-1000>* **[level-1|level-2]**

no isis hello-multiplier   [level-1|level-2]

Parameter

Parameter	Description
<3-100>	Means the multiplier of hello.
level-1	Sets the multiplier of level-1 hello.
level-2	Sets the multiplier of level-2 hello.

Default value

The hello multipliers of level 1 and level 2 are both set to 3 by default.

Command mode

Interface configuration mode

Instruction

This command is used to change the hold time of hello packets. The hold time can be obtained by multiplying the hello interval and the multiplier. If the level is not designated, the related operations are effective both to level 1 and level 2.

Example

The following example shows how to set the hello interval of level 1 to 6 seconds and how to set the hold time to 60 seconds in the case that the hello multiplier is 10.

```
interface serial 1
    ip router isis
    isis hello-interval 6 level-1
    isis hello-multiplier 10 level-1
```

Related command

Isis hello-interval

1.1.10 isis lsp-interval

To set the transmission interval of LSP packets, run the following first command; to resume the related default settings, run the following second command.

isis lsp-interval *<1-4294967295>*

no isis lsp-interval

Parameter

Parameter	Description
<1-4294967295>	Means the LSP transmission interval, whose unit is millisecond.

Default value

33 milliseconds is used as the default transmission interval.

Command mode

Interface configuration mode

Instruction

This command is used to modify the transmission interval of two neighboring LSP packets; when LSP transmission is triggered at flooding or some other time, LSP is put to a corresponding queue on the interface and then will be scheduled and transmitted.

Example

The following example shows how to set the LSP transmission interval on a serial interface to 100 milliseconds.

```
interface serial 0
```

isis lsp-interval 100

Related command

   None

1.1.11   isis metric

To set the metric of an interface, run the following first command; to resume the related default settings, run the following second command.

isis metric *<1-63>* **[level-1|level-2]**

no isis metric [level-1|level-2]

Parameter

Parameter	Description
<1-63>	Means the metric value of an interface.
level-1	Sets the metric for the level-1 link.
level-2	Sets the metric for the level-2 link.

Default value

The metrics of the level-1 link and the level-2 link are both 10 by default.

Command mode

   Interface configuration mode

Instruction

TLVs, ip reachability, carry the metric value of the interface when they are transmitted. TLVs are mainly used for calculating the SPF algorithm. If the level is not designated, the related operations are effective both to level 1 and level 2.

Example

The following example shows how to set the metric of serial interface 0 of level 1 to 15.

interface serial 0
   isis metric 15 level-1

Related command

   None

1.1.12   isis network

To set a broadcast interface to be a point-to-point one, run the following first command; to resume the original broadcast interface, run the following second command.

isis network [broadcast|point-to-point]

no isis network

Parameter

Parameter	Description
broadcast	Designates the ISIS interface to be a broadcast one.
point-to-point	Designates the ISIS interface to be a point-to-point one.

Default value

The default interface type depends on the type of the physical interface.

Command mode

Interface configuration mode

Instruction

When an interface is a point-to-point one, DIS selection will be performed.

Example

The following example shows how to set interface eth0 to be a point-to-point one:

interface eth0
   isis network point-to-point

Related command

network

1.1.13   isis password

To set the password authentication of the hello packets, run the following first command; to cancel the password authentication, run the following second command.

isis password *WORD* **[level-1|level-2]**

no isis password   [level-1|level-2]

Parameter

Parameter	Description
WORD	Means the authentication password.
level-1	Designates the authentication password for the level-1 hello PDUs.
level-2	Designates the authentication password for the level-2 hello PDUs.

Default value

There is no password authentication on an interface by default.

Command mode

Interface configuration mode

Instruction

This command is used to set the corresponding password authentication for level-1 hello packets or level-2 hello packets respectively. If the authentication is not passed, the corresponding neighborhood cannot be established. Because it is a kind of text authentication, the protection is still limited. If the level is not designated, the related operations are effective both to level 1 and level 2.

Example

The following example shows how to set the level-1 authentication password of interface Ethernet 0 to **frank**.

interface ethernet 0
    isis password frank level-1

Related command

Area-password

Domain-password

1.1.14   isis priority

To configure the router priority for DIS selection, run the following first command; to resume its default settings, run the following second command.

isis priority *<0-127>* **[level-1|level-2]**

no isis priority   [level-1|level-2]

Parameter

Parameter	Description
<0-127>	Stands for the value of the priority.
level-1	Designates the priority value for level-1 DIS.
level-2	Designates the priority value for level-2 DIS.

Default value

The default priority for level 1 and level 2 are both 64.

Command mode

Interface configuration mode

Instruction

This command is used to change the priority of LAN ISIS hello PDUs. As to an point-to-point interface, this command is invalid. The higher its priority is, the more possible it is to be selected as DIS. If the level is not designated, the related operations are effective both to level 1 and level 2.

Example

The following example shows how to set the priority of interface eth0 to 127:

interface eth0
  isis priority 127

1.1.15   isis restart-hello-interval

To set T1 timer, that is, the hello interval of restart tlv, run the following first command; to resume the default settings, run the following second command.

isis restart-hello-interval *<1-65535>* **[level-1|level-2]**

no isis restart-hello-interval [level-1|level-2]

Parameter

Parameter	Description
<1-65535>	Stands for the interval, whose unit is second.
level-1	Designates the interval of level-1 IIHs.
level-2	Designates the interval of level-2 IIHs.

Default value

3 seconds is used as the T1 timer for level 1 and level 2.

Command mode

Interface configuration mode

Instruction

If the level is not designated, the related operations are effective both to level 1 and level 2.

Example

The following example shows how to set the level-1 restart hello interval of interface eth0 to 12 seconds.

interface eth0

  isis restart-hello-interval 12 level-1

Related command

restart-timer

isis restart grace-period

1.1.16   isis restart grace-period

To configure the T3 timer, that is, the time to keep the forwarding table when a router is restarted, run the following first command; to resume the default settings, run the following second command.

isis restart grace-period <*1-65535*>

no isis restart grace-period

Parameter

Parameter	Description
<1-65535>	Stands for the time, whose unit is second.

Default value

The default time is 65535 seconds.

Command mode

Global configuration mode

Instruction

After a router is restarted but before this command is configured, the router still uses the old FIB information to forward data.

Example

The following example shows how to set the time of keeping the forwarding table during ISIS rebooting to 500 seconds.

interface eth0

   isis restart grace-period 500

Related command

restart-timer

isis restart grace-period

1.1.17   isis restart helper

To set an router to be in help mode when it is restarted, run the following first command; to cancel this function, run the following second command.

isis restart helper

no isis restart helper

Parameter

None

Default value

The help mode is not enabled by default.

Command mode

Global configuration mode

Instruction

A router in help mode will use specific RIB information to notify the link of restarted router is resumed, and the restarted router will be responsible for resuming the neighborhood before the breakage of the link. When the restarted router collects all this kind of information from all routers in help mode, it regards that all its neighbors are normal, switches the routing information with the routers in help mode, and finally forwards data according to the updated FIB table. During rebooting, the restarted routers and the routers in help mode forward data according to the FIB table before trouble.

Example

The following example shows how to set a router to be a helper router.

interface eth0

isis restart helper

Related command

restart-timer

isis restart grace-period

1.1.18   isis retransmit-interval

To set the retransmission interval of LSP packets, run the following first command; to resume the related default settings, run the following second command.

isis retransmit-interval *<0-65535>*

no isis retransmit-interval

Parameter

Parameter	Description
<0-65535>	Stands for the interval of retransmitting a same LSP, whose unit is second.

Default value

The default interval is 5 seconds.

Command mode

Interface configuration mode

Instruction

When LSP is dropped, it will be retransmitted. So when the interval is set too big, the convergence of the system is not so clear. But when the interface is a serial interface, this value can be set a little big to enhance stability.

Example

The following example shows how to set the LSP retransmission interval of serial interface 0 to 15 seconds.

interface serial 0

   isis retransmit-interval 15

1.1.19 is-type

To set an router to be a router of corresponding level, run the following first command; to resume the default value, run the following second command.

is-type [level-1|level-1-2|level-2-only]

no is-type

Parameter

Parameter	Description
level-1	Runs as a level-1 router.
level-2	Runs as a level-2 router.
level-1-2	Runs as a level-1-2 router.

Default value

It runs as a level-1-2 router by default.

Command mode

Routing configuration mode

Instruction

This command is used to enable routing of a specific level, but only one ISIS process can be run on level 2.

Example

The following example shows how to set ISIS 2 to a level-2 router.

router isis 2

   is-type level-2-only

1.1.20 lsp-gen-interval

To set the minimum interval of LSP generation, run the following first command; to resume the related default settings, run the following second command.

lsp-gen-interval [level-1|level-2] *<1-120>*

no lsp-gen-interval

Parameter

Parameter	Description
<1-120>	Lsp generation interval
leve-1	Designates an interval for level 1.
level-2	Designates an interval for level 2.

Default value

The interval of generating level-1 LSP and level-2 LSP are both set to 30 seconds.

Command mode

Routing configuration mode

Instruction

This command, along with other commands, can be used to control the rate of LSP generation and transmission.

Example

The following example shows how to set LSP generation interval of ISIS 2 to 50 seconds.

router isis 2

   lsp-gen-interval 50

Related command

lsp-refresh-interval

1.1.21 lsp-refresh-interval

To set the refreshment interval of LSP packets, run the following first command; to resume the related default settings, run the following second command.

lsp-refresh-interval *<1-65535>*

no lsp-refresh-interval

Parameter

Parameter	Description
<1-65535>	Stands for the interval of LSP refreshment, whose unit is second.

Default value

The default refreshment interval is 900 seconds.

Command mode

Routing configuration mode

Instruction

It is recommended that **lsp-refresh-interval** should be smaller than the configured value of **max-lsp-lifetime**.

Example

The following example shows how to set LSP refreshment interval of ISIS 2 to 1080 seconds.

router isis 2
  lsp-refresh-interval 1080

1.1.22   max-area-addresses

To designate the maximum area addresses, run the following first command; to resume the default value, run the following second command.

max-area-addresses *MAXAREA*

no max-area-addresses

Parameter

Parameter	Description
MAXAREA	Stands for the maximum area addresses, which ranges between 3 and 254.

Default value

The default maximum number of area addresses is 3.

Command mode

Routing configuration mode

Instruction

This command can be used to increase the number of configurable areas of a router.

Example

The following example shows how to set the maximum number of area addresses of ISIS 2 to **5**:

router isis 2
  max-area-addresses 5

1.1.23   max-lsp-lifetime

To set the maximum LSP lifetime, run the following first command; to resume the related default settings, run the following second command.

max-lsp-lifetime *<1-65535>*

no max-lsp-lifetime

Parameter

Parameter	Description
<1-65535>	Stands for the vale range of the maximum LSP lifetime.

Default value

The default maximum LSP lifetime is 1200 seconds.

Command mode

Routing configuration mode

Instruction

It is recommended that **max-lsp-lifetime** should be larger than **lsp-refresh-interval**.

Example

The following example shows how to set the maximum LSP lifetime of ISIS 2 to 1500 seconds.

```
router isis 2
  max-lsp-lifetime 1500
```

Related command

lsp-refresh-interval

1.1.24   net

To configure a title for a ISIS net, run the following first command; to cancel the title, run the following second command.

net *XX. .. .XXXX.YYYY.YYYY.YYYY.00*

no net *XX. .. .XXXX.YYYY.YYYY.YYYY.00*

Parameter

Parameter	Description
XX. .. .XXXX	Stands for the area address.
YYYY.YYYY.YYYY	Stands for the system ID.

Default value

The default ISIS hasn't any NET settings.

Command mode

Routing configuration mode

Instruction

When a title of a network is configured, the last byte is always **n-selector** and must be set to 0. The six bytes before **n-selector** stand for the system ID, which is fixed in length and cannot be changed at will and is always same in a same router, regardless of in any different ISIS, any level and any network title.

The number of network titles cannot exceed the maximum number of addresses, that is, the value of **max-area-addresses**.

Example

The following example shows how to configure a network title for ISIS1, of which the system ID is 0001.0002.0003 and the area ID is 49.0000.
router isis 1
  net 49.0000.0001.0002.0003.00

Related command

max-area-addresses

1.1.25   redistribute

To add a route to ISIS, run **redistribute**. To forbid the route to be added to ISIS, run **no distribute**.

redistribute *protocol* *[process-id]* *[***route-map** *map-name]* *[* **level-1| level-2** *]*

no redistribute *protocol* *[process-id]* *[***route-map** *map-name]*   *[* **level-1| level-2** *]*

Parameter

Parameter	Description
protocol	Stands for the type of a routing protocol.
process-id	Stands for the process ID of a routing protocol, such as the process ID of OSPF.
route-map	Sets the route's attribute through the route map.
map-name	Stands for the name of the route map.
level-1	Forwards the corresponding route to the ISIS level-1 database.
level-2	Forwards the corresponding route to the ISIS level-2 database.

Default value

None

Command mode

Routing configuration mode

Instruction

None

Example

The following example shows how to forward OSPF 1 to the level-1 database of ISIS 1.

Router isis 1

  redistribute ospf 1 level-1

1.1.26   restart-timer

To configure the T2 timer, that is, the maximum time for the system to wait for LSP database synchronization, run the following first command; to resume the default settings, run the following second command.

restart-timer *<5-65535>* **[level-1|level-1-2|level-2]**

no restart-timer [level-1|level-1-2|level-2]

Parameter

Parameter	Description
<5-65535>	Stands for the waiting time, whose unit is second.
level-1	Sets the waiting time for level 1.
level-2	Sets the waiting time for level 2.
level-1-2	Sets the waiting time for level 1 and level 2 respectively.

Default value

By default, the waiting time of both level 1 and level 2 is set to 60 seconds.

Command mode

Routing configuration mode

Instruction

None

Example

The following example shows how to set the T2 timer of ISIS 1 to 100 seconds.

router isis 1

  restart-timer 100 level-1

1.1.27   restart isis graceful

To restart the ISIS process, run the following command.

restart isis graceful [grace-period <1-65535>|]

Parameter

Parameter	Description
<1-65535>	Stands for the value range of the T3 timer, that is, the time to keep the forwarding table during rebooting.

Default value

The command is not used by default and the graceful rebooting will not be performed.

Command mode

Global configuration mode

Instruction

This command can be used to restart ISIS smoothly.

Example

The following example shows how to restart ISIS gracefully and how to set the T3 timer to 60 seconds at the same time.

Router# restart isis graceful grace-period 60

1.1.28   router isis

To enable an ISIS, run the following first command; to cancel the ISIS, run the following second command.

router isis *<1-65535>*

no router isis *<1-65535>*

Parameter

Parameter	Description
<1-65535>	Stands for the ID of ISIS.

Default value

ISIS hasn't any settings.

Command mode

Global configuration mode

Instruction

This command can be used to create an ISIS instance and enter the ISIS routing configuration mode, configuring at least one network title and connecting the corresponding ISIS on a related interface for normal routing.

Example

The following example shows how to start a ISIS instance whose process ID is 3.

Router_config# router isis 3

Related command

Ip router isis

1.1.29   set-overload-bit

To set the overload bit in self-generated LSP, run the following first command; to cancel the settings, run the following second command.

set-overload-bit [SUPPRESS|STARTUP]

SUPPRESS = suppress external|interlevel

STARTUP = on-startup *<5-86400>*

no set-overload-bit

Parameter

Parameter	Description
extern	Mounts and forwards external routes.
interlevel	Mounts and forwards internal routes that are forwarded between different levels.
<5-86400>	Stands for the interval of maintaining the overload bit during rebooting.

Default value

There is no configuration of the overload bit by default.

Command mode

Routing configuration mode

Instruction

In general, the overload bit is allowed to set only when trouble occurs on a router. For example, if the memory of a router is in shortage, the link state database may not be complete and the routing table is incomplete or incorrect. If the overload bit is set in LSP packets, other routers will be told that an unreliable router should be ignored at SPF calculation until it recovers from trouble. In this case, other routers in ISIS find no pass to get through the troubled router. But the IP and the CLNS prefix that is directly connected the troubled router can still be connected successfully.

When the **on-startup** option is designated, the overload bit is set only at startup and will be cleared after the designated interval.

When the **suppress** option is designated, the router will mount the forwarding of the corresponding reachable information.

Example

The following example shows how to set the overload bit and keep it for 120 seconds at ISIS startup.

router isis 3
  set-overload-bit on-startup 120

Related command

redistribute

1.1.30 show isis database

To display the information in the ISIS link-state database, run the following command:

show isis database [detail]

Parameter

Parameter	Description
detail	Stands for the detailed information in the ISIS link state database.

Default value

None

Command mode

EXEC

Instruction

Users can see related information in the current ISIS link state database.

Example

outer_config_isis#show isis database

Area 1:

IS-IS Level-1 Link State Database:

LSPID ATT/P/OL	LSP Seq Num	LSP Checksum	LSP Holdtime
0000.0000.000A.00-00*	0x00000065	0x 1873	1088	0/0/0
0000.0000.000B.00-00	0x000000a2	0x cedb	741	0/0/0
0000.0000.000B.02-00	0x0000006c	0x b811	598	0/0/0

IS-IS Level-2 Link State Database:

LSPID ATT/P/OL	LSP Seq Num	LSP Checksum	LSP Holdtime
0000.0000.000A.00-00*	0x00000183	0x 8abe	1091	0/0/0

0000.0000.000B.00-00	0x0000008d	0x	384b 983	0/0/0
0000.0000.000B.02-00	0x00000073	0x	3a11 983	0/0/0

1.1.31   show isis interface

To display the information about related ISIS interfaces, run the following command:

show isis interface [*IFNAME* **]**

Parameter

Parameter	Description
IFNAME	Means the name of an interface.

Default value

None

Command mode

EXEC

Instruction

According to the information exported by the command, you can check the information about related ISIS interfaces.

Example

Router_config_isis#show isis interface

FastEthernet0/1 is up, line protocol is up

  Routing Protocol: IS-IS (1)

    Network Type: broadcast

    Circuit Type: level-1-2

    Local circuit ID: 0x02

    Extended Local circuit ID: 0x00000005

    Local SNPA: 00e0.0f26.2d99

    IP interface address:

      170.168.20.152

    Level-1 Metric: 10, Priority: 15, Circuit ID: 0000.0000.000B.02

    Number of active level-1 adjacencies: 1

    Level-2 Metric: 10, Priority: 15, Circuit ID: 0000.0000.000B.02

    Number of active level-2 adjacencies: 1

    Next IS-IS LAN Level-1 Hello in 6 seconds

    Next IS-IS LAN Level-2 Hello in 6 seconds

1.1.32   show isis neighbor

To display ISIS neighbors and neighborhood, run the following command:

show isis neighbor

Parameter

None

Default value

None

Command mode

EXEC

Instruction

According to the output information, you can check current ISIS neighbors and neighborhood.

Example

Router_config_isis#show isis neighbors

```
Area 1:
System Id        Interface        State   Type Priority  Circuit Id
0000.0000.000B FastEthernet0/1 Up       L1   64        0000.0000.000B.02
                                Up       L2   64        0000.0000.000B.02
```

1.1.33   show isis route

To display the ISIS routing table of IPv4, run the following command:

show isis route

Parameter

None

Default value

None

Command mode

EXEC

Instruction

None

Example

Router_config_isis#show isis rout

Codes: C - connected, E - external, L1 - IS-IS level-1, L2 - IS-IS level-2

ia - IS-IS inter area, D - discard, e - external metric

Area 1:

	Destination	Metric	Next-Hop	Interface
C	152.1.1.0	10	--	Loopback0
L1	154.1.1.0	20	170.168.20.154	FastEthernet0/1
L2	154.1.1.0	20	170.168.20.154	FastEthernet0/1
C	170.168.20.0	10	--	FastEthernet0/1

1.1.34   spf-interval

To set the shortest SPF calculation, run the following first command; to resume the related default settings, run the following second command.

spf-interval (level-1|level-2) *<1-120>*

no spf-interval

Parameter

Parameter	Description
<1-120>	Stands for the interval, whose unit is second.
level-1	Sets the SPF interval for level 1.
level-2	Sets the SPF interval for level 2.

Default value

The SPF intervals of level 1 and level 2 are both set to 10 seconds by default.

Command mode

Routing configuration mode

Instruction

This command is used to control the shortest interval of two SPF calculations, preventing frequent SPF calculation from being led by frequent network changes.

Example

The following example shows how to set the shortest SPF interval of ISIS 2 of level 2 to 5 seconds.

router isis bb

    spf-interval 5 level-2

1.1.35   summary-address

To summary all IPv4 reachable information, run the following first command; to cancel the summary, run the following second command.

summary-address *address mask* **[level-1|level-1-2|level-2]**

no summary-address address mask

Parameter

Parameter	Description
address	Aggregation address with the designated address range
Mask	Subnet mask of the aggregation route
level-1	Summaries level-1 routes.
level-2	Summaries level-2 routes.
level-1-2	Summaries level-1 and level-2 routes at the same time.

Default value

None

Command mode

Routing configuration mode

Instruction

Multiple groups of addresses are summarized. Routes learned from other routing protocols can also be summarized. After the aggregation, all covered networks cannot be transmitted to other routing fields. The cost of the summary route is the minimum value among the cost values of all summary routes. The command cannot be used to reduce the size of the routing table.

Example

In the following example, the summary address 10.1.0.0 stands for addresses such as 10.1.1.0, 10.1.2.0 and 10.1.3.0, and only address 10.1.0.0 is broadcasted.

summary-address 10.1.0.0 255.255.0.0