IS-IS

address-family

IS-IS.
(no) .

```
[no] address-family { ipv4 | ipv6 }
```

- ipv4 – IPv4;
- ipv6 – IPv6.

ipv4 – ;

ipv6 – .

10

CONFIG-ISIS

```
esr(config-isis)# address-family ipv4
```

authentication area algorithm

L1-, LSP/SNP-.

(no) .

```
authentication area algorithm <ALGORITHM>
no authentication area algorithm
```

<ALGORITHM> – :

- cleartext – , ;
- md5 – md5.

.

15

CONFIG-ISIS

```
esr(config-isis)# authentication area algorithm cleartext
```

authentication area key

L1-, LSP/SNP-.

(no) .

```
authentication area key ascii-text { <CLEAR-TEXT> | encrypted <ENCRYPTED-TEXT> }
no authentication area key
```

<CLEAR-TEXT> – , , [8..16] ;

<ENCRYPTED-TEXT> – [8..16] ([16..32]) (0xYYYY...) (YYYY...).

15

CONFIG-ISIS

```
esr(config-isis)# authentication area key ascii-text password
```

authentication area key chain

L1-.

(no) .

```
authentication area key chain <KEYCHAIN>
no authentication area key chain
```

<KEYCHAIN> – , [1..16] .

15

CONFIG-ISIS

```
esr(config-isis)# authentication area key chain key-1
```

authentication domain algorithm

L2-, LSP/SNP-.

(no) .

```
authentication domain algorithm <ALGORITHM>
no authentication domain algorithm
```

<ALGORITHM> – :

- cleartext – , ;
- md5 – md5.

15

CONFIG-ISIS

```
esr(config-isis)# authentication domain algorithm cleartext
```

authentication domain key

L2-, LSP/SNP-.

(no) .

```
authentication domain key ascii-text { <CLEAR-TEXT> | encrypted <ENCRYPTED-TEXT> }
no authentication domain key
```

<CLEAR-TEXT> – , , [8..16] ;

<ENCRYPTED-TEXT> – [8..16] ([16..32]) (0xYYYY...) (YYYY...).

15

CONFIG-ISIS

```
esr(config-isis)# authentication domain key ascii-text password
```

authentication domain key chain

L2-.

(no) .

```
authentication domain key chain <KEYCHAIN>
no authentication domain key chain
```

<KEYCHAIN> – , [1..16] .

15

CONFIG-ISIS

```
esr(config-isis)# authentication domain key chain key-1
```

clear isis

IS-IS . IS-IS, .

```
clear isis [ <ID> ] [ vrf <VRF_NAME> ]
```

<ID> – , [1..65535];

<VRF> – VRF, 31 .

10

ROOT

```
esr# clear isis 15
```

hostname dynamic

TLV 137, hostname LSP.

(no) .

```
[no] hostname dynamic
```

.

10

CONFIG-ISIS

```
esr(config-isis)# hostname dynamic
```

is-type

, IS-IS.

(no) .

```
is-type <LEVEL>
no is-type
```

<LEVEL> – IS-IS:

- level-1 – 1 ;
- level-1-2 – 1, 2 ;
- level-2-only – 2 .

level-1-2

10

CONFIG-ISIS

```
esr(config-isis)# is-type level-1
```

isis adjacency point-to-point mode

"-".

(no) .

```
isis adjacency point-to-point mode <MODE>
no isis adjacency point-to-point mode
```

<MODE> – :

- two-way-only – IIH TLV 240 "Point-to-Point Three-Way Adjacency" , TLV 240 ;
- three-way-only – IIH TLV 240 ;
- two-way-three-way – TLV 240 .

.

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis adjacency point-to-point mode three-way-only
```

isis authentication algorithm

hello- (IIH), .

(no) .

```
isis authentication algorithm <ALGORITHM> [ <LEVEL> ]
no isis authentication algorithm [ <LEVEL> ]
```

<ALGORITHM> – :

- cleartext – , ;
- md5 – md5;

<LEVEL> – IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

15

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis authentication algorithm cleartext level-1
```

isis authentication key

hello- (IIH).

(no) .

```
isis authentication key ascii-text { <CLEAR-TEXT> | encrypted <ENCRYPTED-TEXT> } [ <LEVEL> ]
no isis authentication key [ <LEVEL> ]
```

<CLEAR-TEXT> – , , [8..16] ;

<ENCRYPTED-TEXT> – [8..16] ([16..32]) (0xYYYY...) (YYYY...).

<LEVEL> – IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

15

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis authentication key ascii-text password level-1
```

isis authentication key chain

hello- (IIH).

(no) .

```
isis authentication key chain <KEYCHAIN> [ <LEVEL> ]
no isis authentication key chain [ <LEVEL> ]
```

<KEYCHAIN> – , [1..16] .

<LEVEL> – IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

15

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis authentication key chain key-1 level-1
```

isis circuit-type

IS-IS .

(no) IS-IS IS-IS .

```
isis circuit-type <LEVEL>
no isis circuit-type
```

<LEVEL> – IS-IS:

- level-1 – 1 ;
- level-1-2 – 1, 2 ;
- level-2-only – 2 .

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis circuit-type level-1
```

isis csnp-interval

Complete Sequence Number Protocol Data Units (CSNP PDUs).

(no) .

```
isis csnp-interval <TIME> [ <LEVEL> ]
no isis csnp-interval [ <LEVEL> ]
```

<TIME> – , [1..65535];

<LEVEL> – IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

10

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis csnp-interval 33 level-1
```

isis enable

IS-IS .

(no) IS-IS .

```
isis enable
no isis enable
```

.

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis enable
```

isis hello-interval

hello- (IIH) .

(no) .

```
isis hello-interval <TIME> [ <LEVEL> ]
no isis hello-interval [ <LEVEL> ]
```

<TIME> – , [1..65535];

<LEVEL> – IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

10

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis hello-interval 33 level-1
```

isis hello-multiplier

Hold Time (Hold Time = hello-timer * hello-multiplier) hello (IIH).

(no) .

```
isis hello-multiplier <VALUE> [ <LEVEL> ]
no isis hello-multiplier [ <LEVEL> ]
```

<VALUE> – , [3..1000];

<LEVEL> – IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

3

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis hello-multiplier 34 level-1
```

isis instance

IS-IS .

(no) IS-IS .

```
isis instance <ID>
no isis instance
```

<ID> – , [1..65535].

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis instance 35
```

isis lsp-interval

Link-state Packets (LSPs) Broadcast .

(no) .

```
isis lsp-interval <TIME> [ <LEVEL> ]
no isis lsp-interval [ <LEVEL> ]
```

<TIME> – , [1-10000];

<LEVEL> – IS-IS:

- level-1 – 1 ;

- level-2 – 2 .

100

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis lsp-interval 36 level-2
```

isis lsp-retransmit-interval

Link-state Packets (LSPs) PtP-.

(no) .

```
isis lsp-retransmit-interval <TIME> [ <LEVEL> ]
no isis lsp-retransmit-interval [ <LEVEL> ]
```

<TIME> – , [1..65535];

<LEVEL> – IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

5

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis lsp-retransmit-interval 37 level-2
```

isis metric

a.

(no) .

```
isis metric <VALUE> [<LEVEL>]
no isis metric [<LEVEL>]
```

<VALUE> – , [1..16777215];

<LEVEL> – IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

10

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis metric 38 level-1
```

isis network point-to-point

point-to-point IS-IS.

(no) .

```
[no] isis network point-to-point
```

.

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-gre)# isis network point-to-point
```

isis priority

DIS.

(no) .

```
isis priority <VALUE> [ <LEVEL> ]
no isis priority [ <LEVEL> ]
```

<VALUE> – , [0..127];

<LEVEL> – IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

64

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis priority 39 level-2
```

isis psnp-interval

Partial Sequence Number Protocol Data Units (PSNP PDUs).

(no) .

```
isis psnp-interval <TIME> [ <LEVEL> ]
no isis psnp-interval [ <LEVEL> ]
```

<TIME> – , [1..65535];

<LEVEL> – IS-IS:

- level-1 – 1 ;

- level-2 – 2 .

2

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis psnp-interval 40 level-1
```

lsp-refresh-interval

/ LSP.

(no) .

```
lsp-refresh-interval { min | max } <TIME> [ <LEVEL> ]
no lsp-refresh-interval { min | max } [ <LEVEL> ]
```

min — /;

max — /;

<TIME> — , [1..65535];

<LEVEL> — IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

min 30

max 900

10

CONFIG-ISIS

```
esr(config-isis)# lsp-refresh-interval min 41 level-1
```

max-lsp-lifetime

LSP.

(no) .

```
max-lsp-lifetime <TIME> [ <LEVEL> ]
no max-lsp-lifetime [ <LEVEL> ]
```

<TIME> – , [1..65535];

<LEVEL> – IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

1200

10

CONFIG-ISIS

```
esr(config-isis)# max-lsp-lifetime 42 level-2
```

metric-style

, IS-IS .

(no) .

```
metric-style { narrow | wide | transition } [ <LEVEL> ]
no metric-style [ <LEVEL> ]
```

narrow — TLV 128 ;

wide — TLV 135;

transition — ;

<LEVEL> — IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

narrow

10

CONFIG-ISIS

```
esr(config-isis)# metric-style wide level-1
```

net

NET (Network Entity Title) . AFI (Authority and Format Identifier), Area ID ( ), System ID ( ) Selector.

(no) .

```
[no] net <NET>
```

<NET> – NET , : ff[.ffff.ffff.ffff.ffff.ffff.ffff].ffff.ffff.ffff.00, f – [1..F];

10

CONFIG-ISIS

```
esr(config-isis)# net 49.0123.1010.1010.1010.00
```

no isis hello-padding

TLV 8 hello- (IIH).

(no) .

```
[no] isis hello-padding
```

.

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-IP4IP4

CONFIG-GRE

CONFIG-LOOPBACK

CONFIG-LT

```
esr(config-if-gi)# isis hello-padding
```

preference

IS-IS .

(no) .

```
preference <VALUE>
no preference
```

<VALUE> – [1..255].

160

10

CONFIG-ISIS

```
esr(config-isis)# preference 43
```

router isis

IS-IS .

(no) IS-IS .

```
[no] router isis <ID> [ vrf <VRF> ]
```

<ID> – , [1..65535];

<VRF> – VRF, 31 .

10

CONFIG

```
esr(config)# router isis 44
```

show ip isis

.

```
show ip isis [ <ID> ] [ <ADDR/LEN> ] [ <LEVEL> ] [ vrf <VRF> ]
```

<ID> – , [1..65535];

<ADDR/LEN> – , AAA.BBB.CCC.DDD/EE, AAA – DDD [0..255] EE [1..32];

<LEVEL> — IS-IS:

- level-1 – 1 ;
- level-2 – 2 ;

<VRF> – VRF, 31 .

1

ROOT

```
esr# show ip isis 45
IPv4 local Level 1 RIB for IS-IS process
Last update: 2020-01-24 06:51:02.110
Address                      Type Metric Via
3.3.3.11/32                  L1   20     2.2.2.11 on gi1/0/2

IPv4 local Level 2 RIB for IS-IS process
Last update: 2020-01-24 06:51:12.440
Address                      Type Metric Via
3.3.3.22/32                  IA   20     1.1.1.2 on gi1/0/1
```

show ipv6 isis

ipv6- .

```
show ipv6 isis [ <ID> ] [ <IPV6-ADDR/LEN> ] [ <LEVEL> ] [ vrf <VRF> ]
```

<ID> – , [1..65535];

<IPV6-ADDR/LEN> – IPv6- , X:X:X:X::X/EE, X [0..FFFF] EE [1..128];

<LEVEL> — IS-IS:

- level-1 – 1 ;
- level-2 – 2 ;

<VRF> – VRF, 31 .

1

ROOT

```
esr# show ipv6 isis 46
IPv6 local Level 1 RIB for IS-IS process
Last update: 2020-01-24 07:08:37.761
Address                      Type Metric Via
6666::/64                    L1   20     fe80::aaf9:4bff:feab:813a on gi1/0/2

IPv6 local Level 2 RIB for IS-IS process
Last update: 2020-01-24 07:07:22.917
Address                      Type Metric Via
2001::/64                    IA   20     fe80::aaf9:4bff:feac:b4a1 on gi1/0/1
```

show isis database

LSP (LSDB).

```
show isis database [ <ID> ] [ <LEVEL> ] [ <LSP-ID> ] [ detailed ] [ vrf <VRF> ]
```

<ID> – , [1..65535];

<LEVEL> — IS-IS:

- level-1 – 1 ;
- level-2 – 2 ;

<LSP-ID> – ID LSP , xxxx.xxxx.xxxx.yy-zz, x – System-ID, y – Pseudonode-ID, z – . [0..F];

detailed – ;

<VRF> – VRF, 31 .

1

ROOT

```
esr# show isis database 47
IS-IS Level 1 Link State Database
LSPID                 Hostname          LSP Seq Num  LSP Checksum  LSP Holdtime  ATT/P/OL
1010.1010.1010.00-00 * esr-l1l2         0x0000000f   0x5eba        960           1/0/0
1111.1111.1111.00-00   esr-l1           0x00000010   0x4402        1071          0/0/0
1111.1111.1111.01-00   esr-l1           0x00000004   0x1a99        985           0/0/0

IS-IS Level 2 Link State Database
LSPID                 Hostname          LSP Seq Num  LSP Checksum  LSP Holdtime  ATT/P/OL
1010.1010.1010.00-00 * esr-l1l2         0x00000010   0x7776        1082          0/0/0
1222.1222.1222.01-00   esr-l2           0x00000003   0xb87a        997           0/0/0
1222.1222.1222.00-00   esr-l2           0x0000000e   0x84c4        997           0/0/0
```

show isis hostname

System-id .

```
show isis hostname [ <ID> ] [ vrf <VRF> ]
```

<ID> – , [1..65535];

<VRF> – VRF, 31 .

1

ROOT

```
esr# show isis hostname 48
IS-IS 12
Level  System ID        Dynamic Hostname
   1   1010.1010.1010 * esr-l1l2
   1   1111.1111.1111   esr-l1
   2   1010.1010.1010 * esr-l1l2
   2   1222.1222.1222   esr-l2
```

show isis neighbors

IS-IS .

```
show isis neighbors [ <ID> ] [ <LEVEL> ] [ detailed ] [ vrf <VRF> ]
```

<ID> – , [1..65535];

<LEVEL> — IS-IS:

- level-1 – 1 ;
- level-2 – 2 ;

detailed – ;

<VRF> – VRF, 31 .

1

ROOT

```
esr# show isis neighbors 49 detailed
IS-IS Level 1 Neighbors
System ID       Hostname          Interface         State         Holdtime  SNPA
1111.1111.1111  esr-l1            gi1/0/2           Up            10        a8f9.4bab.813a

IS-IS Level 2 Neighbors
System ID       Hostname          Interface         State         Holdtime  SNPA
1222.1222.1222  esr-l2            gi1/0/1           Up            10        a8f9.4bac.b4a1
```

show isis topology

.

```
show isis topology [ <ID> ] [ <LEVEL> ] [ ipv4 | ipv6 ] [ vrf <VRF> ]
```

<ID> – , [1..65535];

<LEVEL> — IS-IS:

- level-1 – 1 ;
- level-2 – 2 ;

ipv4 – IPv4;

ipv6 – IPv6;

<VRF> – VRF, 31 .

1

ROOT

```
esr# show isis topology 50 level-2 Ipv4
IS-IS path to Level 2 routers (narrow metric-style)
Last update: 2020-01-24 07:08:47.783
Vertex                      Type             Metric   Next-Hop          Interface
1.1.1.0/24                  IPv4 Internal    0        --

IS-IS path to Level 2 routers (wide metric-style)
Last update: 2020-01-24 07:08:47.783
Vertex                      Type             Metric   Next-Hop          Interface
3.3.3.22/32                 IPv4 IA          20       esr-l2            gi1/0/1
1.1.1.0/24                  IPv4             0        --
```

spf-timeout

SPF.

(no) .

```
spf-timeout <TIME> [ <LEVEL> ]
no spf-timeout [ <LEVEL> ]
```

<TIME> — , [1..10000];

<LEVEL> — IS-IS:

- level-1 – 1 ;
- level-2 – 2 .

5000

10

CONFIG-ISIS

```
esr(config-isis)# spf-timeout 51 level-1
```