-
  - clear interfaces counters
  - description
  - history statistics
  - interface
  - ip tcp adjust-mss
  - load-average
  - mode
  - mtu
  - rate-limit arp-broadcast
  - rate-limit arp-broadcast pps
  - show interfaces counters
  - show interfaces description
  - show interfaces history
  - show interfaces status
  - show interfaces utilization
  - show system jumbo-frames
  - shutdown
  - speed
  - switchport dot1q ethertype egress stag
  - switchport mode
  - system jumbo-frames
-
  - snmp trap link-status
  - show interfaces protected-ports
  - show interfaces sfp
  - show interfaces switch-port configuration
  - show interfaces switch-port status
  - threshold rx-utilization
  - threshold rx-utilization monitoring
  - threshold tx-utilization
  - threshold tx-utilization monitoring
  - switchport community
  - switchport protected
  - switchport protected-port
-
  - channel-group
  - lacp port-priority
  - lacp system-priority
  - lacp timeout
  - port-channel load-balance
  - show interfaces port-channel
  - show lacp counters
  - show lacp interfaces
  - show lacp parameters
- E1/multilink
  - enable
  - ip tcp header-compression
  - ip tcp compression-connections
  - mrru
  - password
  - ppp authentication chap
  - ppp chap hostname
  - ppp chap password
  - ppp chap refuse
  - ppp chap username
  - ppp ipcp accept-address
  - ppp ipcp remote-address
  - ppp max-configure
  - ppp max-failure
  - ppp max-terminate
  - ppp mru
  - ppp multilink
  - ppp multilink-group
  - ppp timeout keepalive
  - ppp timeout retry
  - show controllers e1
  - switchport e1 slot
  - switchport e1 clock source
  - switchport e1 crc
  - switchport e1 framing
  - switchport e1 invert data
  - switchport e1 linecode
  - switchport e1 timeslots
  - switchport e1 unframed

- switchport mode e1
-
  - chat-script
  - clear line aux
  - databits
  - dialer
  - dialer idle-timeout
  - dialer in-band
  - dialer map
  - dialer string
  - flowcontrol
  - line aux
  - modem inout
  - parity
  - show line aux
  - speed
  - stopbits
  - transport telnet port
-
  - allowed-auth
  - allowed-mode
  - apn
  - cellular modem
  - cellular profile
  - device
  - enable
  - ip-version
  - mru
  - number
  - password
  - pin
  - preferred-mode
  - profile
  - show cellular configuration modem
  - show cellular configuration profile
  - show cellulas status modem
  - user
-
  - authentication name
  - authentication password
  - call-forwarding busy
  - call-forwarding busy number
  - call-forwarding no-answer
  - call-forwarding no-answer number
  - call-forwarding no-answer timeout
  - call-forwarding unconditional
  - call-forwarding unconditional number
  - call-waiting
  - caller-id mode
  - dial-type
  - enable
  - flash call-transfer
  - flash call-transfer mode
  - flash timer
  - hotline
  - hotline ipt
  - hotline pstn
  - hotline number
  - hotline number ipt
  - hotline number pstn
  - hotline timeout
  - hotline timeout ipt
  - hotline timeout pstn
  - hybrid rx
  - hybrid tx
  - ipt prefix-name
  - ipt prefix-number
  - ipt offhook-ringing
  - ipt ring-number
  - profile sip
  - profile pbx
  - pstn transmit-number
  - pstn transmit-prefix
  - shutdown
  - sip port
  - sip user display-name
  - sip user phone
  - timing delay
  - timing digit

- timing flash
- timing pulse-digit
- timing pulse-interdigit
- timing pulse-pause
- timing tone-digit
- timing tone-interdigit
-
- test voice-port start
- test voice-port status

.

, ( ), ( ).

clear interfaces counters

.

```
clear interfaces counters [<IF>]
```

<IF> – , , .

«,» «-». , . .

10

ROOT

:

```
esr# clear interfaces counters gigabitethernet 1/0/5
```

description

.

(no) .

```
description <DESCRIPTION>
no description
```

<DESCRIPTION> – , 255 .

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-PORT-CHANNEL

CONFIG-LOOPBACK

CONFIG-E1

CONFIG-MULTILINK

CONFIG-SERVICE-PORT

CONFIG-CELLULAR-PROFILE

CONFIG-CELLULAR-MODEM

CONFIG-VOICE-PORT

CONFIG-VOIP-PROFILE

CONFIG-LINE-AUX [1]

:

```
esr(config-if-gi)# description "Uplink interface"
```

[1] ESR-21.

history statistics

.

(no) .

```
[no] history statistics
```

.

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-LOOPBACK

CONFIG-MULTILINK

CONFIG-E1

CONFIG-BRIDGE

CONFIG-CELLULAR-MODEM

:

```
esr:esr(config-if-gi)# history statistics
esr:esr(config-if-gi)#
```

interface

.

(no) .

```
[no] interface <IF>
```

<IF> – , , .

10

CONFIG

1

Ethernet- gi 1/0/20:

```
esr(config)# interface gigabitethernet 1/0/20
esr(config-if-gi)#
```

2

Ethernet- te 1/0/2:

```
esr(config)# interface tengigabitethernet 1/0/2
esr(config-if-te)#
```

3

:

```
esr(config)# interface loopback 5
esr(config-loopback)#
```

4

c:

```
esr(config)# interface gigabitethernet 1/0/20.20
esr(config-subif)#
```

5

port-channel 2:

```
esr(config)# interface port-channel 2
esr(config-port-channel)#
```

6

e1 1/0/1:

```
esr(config)# interface e1 1/0/1
esr(config-e1)#
```

7

multilink 1:

```
esr(config)# interface multilink 1
esr(config-multilink)#
```

ip tcp adjust-mss

MSS (Maximum segment size) TCP-.

(no) MSS.

`ip tcp adjust-mss <MSS>`

`no ip tcp adjust-mss`

<MSS> – MSS, [500..1460].

1460

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-LOOPBACK

```
esr(config-if-gi)# ip tcp adjust-mss 1400
```

load-average

, .

.

`load-average <TIME>`

`no load-average`

<TIME> – , [5..150].

5

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-E1

CONFIG-MULTILINK

CONFIG-BRIDGE

CONFIG-LOOPBACK

CONFIG-CELLULAR-MODEM

:

```
esr(config-if-gi)# load-average 30
```

mode

/ .

(no) .

```
mode <MODE>
no mode
```

<MODE> – / , :

- switchport – L2-. vlan, IP- /qinq-.
- routerport – L3-. IP- /qinq-, vlan .
- hybrid – vlan, IP- /qinq- [1] .

routerport

10

CONFIG-GI

CONFIG-TE

CONFIG-PORT-CHANNEL

:

```
esr(config-if-gi)# mode switchport
```

[1] ESR-1000/1200/1500/1511/1700.

mtu

MTU (Maximum Transmition Unit) .

(no) MTU .

```
mtu <MTU>
no mtu
```

<MTU> – MTU , :

ESR-10/12V/12VF/14VF/15 – [552..9600],

ESR-20/21/30 – [552..9500],

ESR-100/200/1000/1200/1500/1511/1700 – [552..10000],

ESR-3100/3200 – [552..9190].

Serial, E1 multilink- – [552-1500] .

MTU 1500 Jumbo-, system jumbo-frames.

1500

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-BRIDGE

CONFIG-E1

CONFIG-MULTILINK

CONFIG-CELLULAR-MODEM

:

```
esr(config-if-gi)# mtu 1400
```

rate-limit arp-broadcast

arp- bridge-.

(no) arp- bridge-.

```
[no] rate-limit arp-broadcast
```

.

.

10

CONFIG-BRIDGE

:

```
esr(config-bridge)# rate-limit arp-broadcast
```

rate-limit arp-broadcast pps

arp- bridge-. arp- bridge-.

(no) .

```
rate-limit arp-broadcast pps <PPS>
no rate-limit arp-broadcast pps
```

<PPS> – arp-, [1..65535].

100

10

CONFIG-BRIDGE

:

```
esr(config-bridge)# rate-limit arp-broadcast pps 2000
```

show interfaces counters

:,, , .

```
show interfaces counters [ <IF> ]
```

<IF> – , , .

, .

. , . , . .

1

ROOT

:

```
esr# show interfaces counters gigabitethernet 1/0/4-6
Interface       UC recv         Bytes recv      Errors recv     MC recv
-------------   -------------   -------------   -------------   -------------
gi1/0/4         0               0               0               0
gi1/0/5         0               0               0               0
gi1/0/6         0               0               0               0
Interface       UC sent         Bytes sent      Errors sent
-------------   -------------   -------------   -------------
gi1/0/4         0               0               0
gi1/0/5         1138            393748          0
gi1/0/6         0               0               0
esr# show interfaces counters gigabitethernet 1/0/4
 Packets received:               0
 Bytes received:                 0
 Dropped on receive:             0
 Receive errors:                 0
 Multicasts received:            0
 Receive length errors:          0
 Receive buffer overflow errors: 0
 Receive CRC errors:             0
 Receive frame errors:           0
 Receive FIFO errors:            0
 Receive missed errors:          0
 Receive compressed:             0
 Packets transmitted:            0
 Bytes transmitted:              0
 Dropped on transmit:            0
 Transmit errors:                0
 Transmit aborted errors:        0
 Transmit carrier errors:        0
 Transmit FIFO errors:           0
 Transmit heartbeat errors:      0
 Transmit window errors:         0
 Transmit comressed:             0
 Collisions:                     0
```

show interfaces description

.

```
show interfaces description [ <IF> ]
```

<IF> – , , .

. , . .

1

ROOT

:

```
esr# show interfaces description gigabitethernet 1/0/4-5
Interface       Admin   Link    Description
                State   State
-------------   -----   -----   ----------------------------------------------------
gi1/0/4         Up      Down    Link to NSK
gi1/0/5         Up      Down    Link to MSK
```

show interfaces history

.

```
show interfaces history [<IF>] [timer <TIMER>]
```

<IF> – , , .

<TIMER > – timer. :

- hours 72 ,
- minutes 60 ,
- seconds 60 ,
- timer 3 ().

5

ROOT

:

```
esr# show interfaces history gi 1/0/1 timer minutes
gi1/0/1
Last 60 minutes:
Timer  Recv utilization, Kbit/s  Sent utilization, Kbit/s  Recv errors  Sent errors  Output drops
------ ------------------------- ------------------------- ------------ ------------ --------------
0-1   240            16             0       0       0
1-2   961            64             0       0       0
2-3   962            64             0       0       0
3-4   962            64             0       0       0
4-5   960            64             0       0       0
5-6   961            64             0       0       0
6-7   719            64             0       0       0
7-8   960            64             0       0       0
8-9   800            65             0       0       0
9-10  962            64             0       0       0
10-11 865            64             0       0       0
11-12 962            64             0       0       0
12-13 817            65             0       0       0
13-14 962            65             0       0       0
14-15 961            65             0       0       0
15-16 880            60             0       0       0
16-17 960            63             0       0       0
17-18  0             0              0       0       0
18-19  0             0              0       0       0
19-20  0             0              0       0       0
20-21  0             0              0       0       0
21-22  0             0              0       0       0
```

show interfaces status

.

```
show interfaces status [<IF>]
```

<IF> – , , .

. , . , . .

1

ROOT

:

```
esr# show interfaces status gigabitethernet 1/0/1-2
Interface       Admin   Link    MTU      MAC address          Uptime
                state   state
-------------   -----   -----   ------   ------------------   -------------------------
gi1/0/1         Up      Down    1500     a8:f9:4b:aa:53:fc    --
gi1/0/2         Up      Up      1500     a8:f9:4b:aa:53:fd    15 hours, 17 minutes and 52 seconds
```

show interfaces utilization

.

```
show interfaces utilization [ <IF> ]
```

<IF> – , , .

«,» «-». , . .

1

ROOT

:

```
esr# show interfaces utilization gigabitethernet 1/0/3-5,1/0/9
Port       Period, s     Sent,         Recv,         Frames Sent   Frames Recv
                         Kbit/s        Kbit/s
--------   -----------   -----------   -----------   -----------   -----------
gi1/0/3    5             0             0             0             0
gi1/0/4    5             0             0             0             0
gi1/0/5    5             0             0             0             0
gi1/0/9    5             0             0             0             0
```

show system jumbo-frames

ESR-200/1000/1200/1500/1511/1700.

jumbo-.

`show system jumbo-frames`

.

1

ROOT

:

```
esr# show system jumbo-frames
Jumbo frames are disabled
Jumbo frames will be disabled after reset
```

shutdown

.

(no) .

`[no] shutdown`

.

10

CONFIG-GI

CONFIG-TE

CONFIG-SUBIF

CONFIG-QINQ-IF

CONFIG-SERIAL

CONFIG-PORT-CHANNEL

CONFIG-LOOPBACK

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-if-gi)# shutdown
```

.

speed

, . : 10 /, 100 /, 1000 /, 10 / auto.

(no) .

```
speed <SPEED> <DUPLEX>
no speed
```

<SPEED> – :

- 10M – 10 /;
- 100M – 100 /;
- 1000M – 1000 /;
- 10G – 10 /;
- auto – (10G-).

<DUPLEX> – , :

- full-duplex – ;
- half-duplex – .

auto

10

CONFIG-GI

CONFIG-TE

CONFIG-PORT-CHANNEL

1

```
esr(config-if-te)# speed 10G
```

10 /.

2

```
esr(config-if-gi)# speed 10M full-duplex
```

10 /, .

switchport dot1q ethertype egress stag

EtherType VLAN .

(no) .

```
[no] switchport dot1q ethertype egress stag { 802.1q | 802.1ad }
```

.

802.1q (0x8100)

10

CONFIG-GI

CONFIG-TE

CONFIG-PORT-CHANNEL

:

```
esr(config-if-gi)# switchport dot1q ethertype egress stag 802.1ad
```

switchport mode

VLAN.

(no) .

```
switchport mode <MODE>
no switchport mode
```

<MODE> – :

- access [1] – , VLAN;
- trunk [1] – , VLAN, **switchport trunk native vlan** , switchport trunk native-vlan;
- general [2] – general;
- e1 – E1 ( ).

access [1]

general [2]

10

CONFIG-GI

CONFIG-TE

CONFIG-PORT-CHANNEL

:

```
esr(config-if-gi)# switchport mode trunk
```

1 ESR-10/12V/12VF/14VF/15/20/21/30/100/200/3100/3200.

2 ESR-1000/1200/1500/1511/1700.

system jumbo-frames

Jumbo-. .

(no) Jumbo-.

```
[no] system jumbo-frames
```

.

.

10

CONFIG

:

```
esr(config)# system jumbo-frames
```

snmp trap link-status

snmp-trap / .

(no) snmp-trap / .

```
[no] snmp trap link-status
```

.

.

15

CONFIG-GI

CONFIG-TE

:

```
esr(config-if-gi)# snmp trap link-status
```

show interfaces protected-ports

ESR-1000/1200/1500/1511/1700.

.

```
show interfaces protected-ports [ <IF> ]
```

<IF> – , , .

. , . , . .

1

ROOT

:

```
esr# show interfaces protected-ports
Interface   State           Community
---------   -------------   ---------
gi1/0/5     Protected       4
```

show interfaces sfp

SFP-.

```
show interfaces sfp [ <IF> ]
```

<IF> – , , . . , . , . .

1

ROOT

:

```
esr# show interfaces sfp
Interface 'te1/0/1':
 SFP present:       Yes
 Connector Type:    LC
 Type:              SFP/SFP+
 Compliance code:   10G BASE-SR
 Laser wavelength:  850 nm
 Transfer distance: 300.00 m
 Vendor OUI:        24:00:00
 Vendor name:       Modultech
 Vendor PN:         MT-PP-85192-SR
 Vendor SN:         M1204011007
 Vendor date:       04.05.12
 Vendor revision:   1.0
 DDM supported:     Yes
 Temperature:       40.562 C
 Voltage:           3.3364 V
 Current:           6.004 mA
 RX Power:          0.0001 mW / -40.0000 dBm
 TX Power:          0.4398 mW / -3.5674 dBm
 RX LOS:            Yes
 TX Fault:          No
 TX Disable:        No
 Soft TX Disable:   No
Interface 'te1/0/2':
 SFP present:       Yes
 Connector Type:    SC
 Type:              SFP/SFP+
 Compliance code:   1000BASE-LX
 Laser wavelength:  1310 nm
 Transfer distance: 20.00 km
 Vendor OUI:        --
 Vendor name:       OEM
 Vendor PN:         APSB35123CXS20
 Vendor SN:         SG35224701333
 Vendor date:       12.12.12
 Vendor revision:   1.00
 DDM supported:     No
```

show interfaces switch-port configuration

ESR-1000/1200/1500/1500/1511/1700.

.

```
show interfaces switch-port configuration [ <IF> ]
```

<IF> – , , .

«-». , . .

1

ROOT

:

```
esr# show interfaces switch-port configuration gigabitethernet 1/0/5-7
Port       Media     Duplex   Speed      Neg        Flow      Admin   Back
                                                     control   State   Pressure
--------   -------   ------   --------   --------   -------   -----   --------
gi1/0/5    none      Half     10 Mbps    Enabled    Off       Up      Disabled
gi1/0/6    none      Half     10 Mbps    Enabled    Off       Up      Disabled
gi1/0/7    none      Half     10 Mbps    Enabled    Off       Up      Disabled
```

show interfaces switch-port status

.

```
show interfaces switch-port status [ <IF> ]
```

<IF> – , , .

«,» «-». , . , . .

1

ROOT

:

```
esr# show interfaces switch-port status
Port       Media    Duplex   Speed   Neg        Flow   Link    Back       MDI       Port
                                                 ctrl   State   Pressure   Mode      Mode
--------   ------   ------   -----   --------   ----   -----   --------   -------   -------
gi1/0/1    --       --       --      Enabled    --     Down    --         --        access
gi1/0/2    --       --       --      Enabled    --     Down    --         --        access
gi1/0/3    --       --       --      Enabled    --     Down    --         --        access
gi1/0/4    --       --       --      Enabled    --     Down    --         --        access
gi1/0/5    --       --       --      Enabled    --     Down    --         --        access
gi1/0/6    --       --       --      Enabled    --     Down    --         --        access

esr# show interfaces switch-port status gigabitethernet 1/0/2
Interface       gigabitethernet 1/0/2
  Status:       up
  Media:        copper
  Speed:        100 Mbps
  Duplex:       full
  Flow control: no
  MAC address:  a8:f9:b5:00:00:25
MAC status:
  Buffers full:            no
  Doing back pressure:     no
  Sending PAUSE frames:    no
  Receiving PAUSE frames:  no
  Auto-Negotiation done:   yes
  Sync fail:               no
```

threshold rx-utilization

snmp-trap eltexInterfaceRxUtilizationHigh eltexInterfaceRxUtilizationHighOk.

(no) .

```
threshold rx-utilization <TH-HIGH> clear <TH-LOW>
no threshold rx-utilization
```

<TH-HIGH> – snmp-trap eltexInterfaceRxUtilizationHigh;

<TH-LOW> – snmp-trap eltexInterfaceRxUtilizationHighOk.

<TH-HIGH> – 90%;

<TH-LOW> – 85%.

10

CONFIG-GI

CONFIG-TE

CONFIG-PORT-CHANNEL

:

```
esr(config-if-gi)# threshold rx-utilization 90 clear 80
```

threshold rx-utilization monitoring

snmp-trap eltexInterfaceRxUtilizationHigh eltexInterfaceRxUtilizationHighOk.

(no) snmp-trap eltexInterfaceRxUtilizationHigh eltexInterfaceRxUtilizationHighOk.

```
[no] threshold rx-utilization monitoring
```

.

.

10

CONFIG-GI

CONFIG-TE

CONFIG-PORT-CHANNEL

:

```
esr(config-if-gi)# threshold rx-utilization monitoring
```

threshold tx-utilization

snmp-trap eltexInterface T xUtilizationHigh eltexInterface T xUtilizationHighOk.

(no) .

```
threshold tx-utilization <TH-HIGH> clear <TH-LOW>
no threshold tx-utilization
```

<TH-HIGH> – snmp-trap eltexInterfaceTxUtilizationHigh;

<TH-LOW> – snmp-trap eltexInterfaceTxUtilizationHighOk.

<TH-HIGH> – 90%;

<TH-LOW> – 85%.

10

CONFIG-GI

CONFIG-TE

CONFIG-PORT-CHANNEL

:

```
esr(config-if-gi)# threshold tx-utilization 90 clear 80
```

threshold tx-utilization monitoring

snmp-trap eltexInterface T xUtilizationHigh eltexInterface T xUtilizationHighOk.

(no) snmp-trap eltexInterface T xUtilizationHigh eltexInterface T xUtilizationHighOk.

```
[no] threshold tx-utilization monitoring
```

.

.

10

CONFIG-GI

CONFIG-TE

CONFIG-PORT-CHANNEL

:

```
esr(config-if-gi)# threshold tx-utilization monitoring
```

switchport community

ESR-1000/1200/1500/1511/1700.

. , .

(no) .

```
switchport community <ID>
no switchport community
```

<ID> – , [1..30].

10

CONFIG-GI

CONFIG-TE

CONFIG-PORT-CHANNEL

:

```
esr(config-if-gi)# switchport community 10
```

switchport protected

ESR-1000/1200/1500/1511/1700.

Private VLAN , .

(no) Private VLAN.

```
switchport protected <IF>
no switchport protected
```

<IF> – , , .

Private VLAN .

10

CONFIG-GI

CONFIG-TE

CONFIG-PORT-CHANNEL

:

```
esr(config-if-gi)# switchport protected gigabitethernet 1/0/1
```

switchport protected-port

ESR-1000/1200/1500/1511/1700.

. , , .

(no) .

```
[no] switchport protected-port
```

.

.

10

CONFIG-GI

CONFIG-TE

CONFIG-PORT-CHANNEL

:

```
esr:esr(config-if-gi)# switchport protected-port
```

channel-group

.

(no) .

```
channel-group <ID> mode <MODE>
no channel-group
```

<ID> – , [1..12].

<MODE> – :

- auto – LACP;
- on – .

10

CONFIG-GI

CONFIG-TE

:

```
esr(config-if-gi)# channel-group 6 mode auto
```

lacp port-priority

LACP- Ethernet.

.

```
lacp port-priority <PRIORITY>
no lacp port-priority
```

<PRIORITY> – , [1..65535].

1

10

CONFIG-GI

CONFIG-TE

:

```
esr(config-if-gi)# lacp port-priority 5000
```

lacp system-priority

LACP.

(no) .

```
lacp system-priority <PRIORITY>
no lacp system-priority
```

<PRIORITY> – , [1..65535].

1

10

CONFIG

:

```
esr(config)# lacp system-priority 5000
```

lacp timeout

LACP.

.

```
lacp timeout { short | long }
no lacp timeout
```

long – (90);

short – (3).

long

10

CONFIG-GI

CONFIG-TE

:

```
esr(config-if-gi)# lacp timeout short
```

port-channel load-balance

.

(no) .

```
port-channel load-balance {src-dst-mac-ip|src-dst-mac|src-dst-ip|src-dst-mac-ip-port}
no port-channel load-balance
```

ESR-1000, ESR-1200, ESR-1500, ESR-1511 ESR-1700

src-dst-mac – MAC- ;

src-dst-ip – IP- ;

src-dst-mac-ip – MAC- IP- ;

src-dst-ip-port – IP- tcp/udp- ;

src-dst-mac-ip-port – MAC-, IP- .

ESR-10, ESR-12V, ESR-12VF, ESR-14VF, ESR-15, ESR-20, ESR-21, ESR-30, ESR-100, ESR-200, ESR-3100 ESR-3200

active-backup – , down;

src-dst-mac – MAC- ;

src-dst-mac-ip – MAC- IP- ;

src-dst-ip-port – IP- tcp/udp- ;

src-dst-mac

10

CONFIG

:

```
esr(config)# port-channel load-balance src-dst-mac-ip
```

show interfaces port-channel

.

```
show interfaces port-channel [<ID>]
```

<ID> – , [1..12].

1

ROOT

:

```
esr# show interfaces port-channel 1
load-balance: src-dst-mac
Channels   Ports
--------   ----------------------------------------
po1        gi1/0/21
```

show lacp counters

ESR-1000/1200/1500/1511/1700.

LACP- Ethernet.

```
show lacp counters [ <IF> ]
```

<IF> – , , .

. , . , .

1

ROOT

:

```
esr# show lacp counters port-channel 2
Interface          Sent           Recv           Link failure
----------------   ------------   ------------   ------------
po2                42             814            2
```

show lacp interfaces

LACP.

```
show lacp interfaces [ <IF> ]
```

<IF> – , , .

. , LACP- .

1

ROOT

:

```
esr# show lacp interfaces port-channel 2
port-channel 2 [aggregator 1, active] ports count: 1
                   Actor Port             Partner Port
----------------   --------------------   --------------------
System Priority    32768                  1
System MAC         a8:f9:4b:aa:12:40      a8:f9:4b:83:01:80
Key                8000                   1
port-channel 2 [aggregator 2, backup] ports count: 1
                   Actor Port             Partner Port
----------------   --------------------   --------------------
System Priority    32768                  65535
System MAC         a8:f9:4b:aa:12:40      00:00:00:00:00:00
Key                8000                   FFFF
esr# show lacp interfaces gigabitethernet 1/0/1
gigabitethernet 1/0/1 [active] up
                   Actor Port     Partner Port
----------------   ------------   ------------
Port Priority      32768          1
LACP Activity      Active         Active
```

show lacp parameters

LACP Ethernet.

```
show lacp parameters [ <IF> ]
```

<IF> – , , . .

. , . , .

1

ROOT

:

```
esr# show lacp parameters tengigabitethernet 1/0/2
   LACP parameters
   ~~~~~~~~~~~~~~~
Interface   Port Priority   Timeout   Mode
---------   -------------   -------   -------
te1/0/2    32768           Short     Active
```

E1/multilink

enable

PPP-.

(no) PPP-.

```
[no] enable
```

.

PPP- .

10

CONFIG-PPP-USER

:

```
esr(config-ppp-user)# enable
```

ip tcp header-compression

tcp-. .

(no) tcp-.

```
[no] ip tcp header-compression
```

.

10

CONFIG-E1

CONFIG-MULTILINK

:

```
(config-e1)# ip tcp header-compression
```

ip tcp compression-connections

tcp-, tcp-.

(no) tcp-, tcp-.

```
ip tcp compression-connections <NUMBER>
no ip tcp compression-connections
```

<NUMBER> – tcp-, tcp-. [2..16].

16

10

CONFIG-E1

CONFIG-MULTILINK

:

```
esr:esr(config-e1)# ip tcp compression-connections 32
esr:esr(config-e1)#
```

mrru

MLPPP-.

(no) mrru .

```
mrru { <MRRU> }
no mrru
```

<MRRU> – MLPPP-, [1500..10000].

1500

10

CONFIG-MULTILINK

:

```
esr(config-multilink)# mrru 1700
```

password

. . .

(no) .

```
password ascii-text { <CLEAR-TEXT> | encrypted <ENCRYPTED-TEXT> }
no password
```

<CLEAR-TEXT> – , [1 .. 64] , [0-9a-fA-F];

<ENCRYPTED-TEXT> – , [2..128] .

⚠ , .

15

CONFIG-PPP-USER

:

```
esr(config-ppp-user)# password ascii-text 01234567
```

ppp authentication chap

CHAP-.

(no) .

```
[no] ppp authentication chap
```

.

15

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-e1)# ppp authentication chap
```

ppp chap hostname

, CHAP-.

(no) .

```
ppp chap hostname <NAME>
no ppp chap hostname
```

<NAME> – , 31 .

(hosthame).

15

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-e1)# ppp chap hostname esr1
```

ppp chap password

, CHAP-.

(no) .

```
ppp chap password ascii-text { <CLEAR-TEXT> | encrypted <ENCRYPTED-TEXT> }
no ppp chap password
```

<CLEAR-TEXT> – , [1 .. 64] , [0-9a-fA-F];

<ENCRYPTED-TEXT> – , [2..128] .

⚠ , .

15

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-e1)# ppp chap password ascii-text 01234567
```

ppp chap refuse

.

(no) .

```
[no] ppp chap refuse
```

.

.

15

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-e1)# ppp chap refuse
```

ppp chap username

.

(no) .

```
[no] ppp chap username <NAME>
```

<NAME> – , 31 .

15

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-e1)# ppp chap username xap
```

ppp ipcp accept-address

IP- IP-.

(no) .

```
[no] ppp ipcp accept-address
```

.

IP- .

10

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-e1)# ppp ipcp accept-address
```

ppp ipcp remote-address

IP-, .

(no) IP- .

```
ppp ipcp remote-address <ADDR>
no ppp ipcp remote-address
```

<ADDR> – IP- .

10

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-e1)# ppp ipcp remote-address 192.168.1.2
```

ppp max-configure

Configure-Request , .

(no) .

```
ppp max-configure <VALUE>
no ppp max-configure
```

<VALUE> – , [1..255].

10

10

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-e1)#i ppp max-configure 4
```

ppp max-failure

Configure-NAK , .

(no) .

```
ppp max-failure <VALUE>
no ppp max-failure
```

<VALUE> – , [1..255].

10

10

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-if-gi)#i ppp max-failure 3
```

ppp max-terminate

Terminate-Request , .

(no) .

```
ppp max-terminate <VALUE>
no ppp max-terminate
```

<VALUE> – , [1..255].

2

10

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-if-gi)#i ppp max-terminate 4
```

ppp mru

MRU (Maximum Receive Unit) .

(no) MRU .

```
ppp mru <MRU>
no ppp mru
```

<MRU> – MRU, [552..1500].

1500

10

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-if-gi)# mru 1400
```

ppp multilink

MLPPP E1-.

(no) MLPPP.

```
[no] ppp multilink
```

.

10

CONFIG-E1

:

```
esr(config-e1)# ppp multilink
```

ppp multilink-group

E1- .

(no) .

```
ppp multilink-group <GROUP-ID>
```

<GROUP-ID> – , [1..4].

10

CONFIG-E1

:

```
esr(config-e1)# ppp multilink-group 1
```

ppp timeout keepalive

, keepalive-.

(no) .

```
ppp timeout keepalive [ <TIME >]
no ppp timeout keepalive
```

<TIME> – , [1..32767].

10

10

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-if-gi)# ppp timeout keepalive 200
```

ppp timeout retry

, .

(no) .

```
ppp timeout retry <TIME>
no ppp timeout retry
```

<TIME> – , [1..255].

3

10

CONFIG-SERIAL

CONFIG-E1

CONFIG-MULTILINK

:

```
esr(config-if-gi)# ppp timeout retry 3
```

show controllers e1

1-.

```
show controllers e1 [<IF>]
```

<IF> – , , .

1

ROOT

:

```
esr# show controllers e1
Interface 'te1/0/1':
 SFP present:     Yes
 SFP Vendor name: NSC-COM
 SFP Vendor PN:   611.900
 Line code:       HDB3
 Clock source:    Internal
 Timeslot:        24
 Invert Data:     No
 Framing CRC4:    No
 Loopback:        --
 CRC algorithm:   FCS16
 E1 Link:         Down
 E1 Synced:       No
 E1 RX AIS:       No
 E1 RX RAI:       No
```

switchport e1 slot

1 . (no) .

```
[no] switchport e1 slot <SLOT>
```

<SLOT> – , [0..12].

10

CONFIG-GI

CONFIG-TE

:

```
esr(config-if-gi)# switchport e1 0
```

switchport e1 clock source

e1-.

(no) .

```
switchport e1 clock source { internal | line }
no switchport e1 clock source
```

internal – ;

line – .

internal

10

CONFIG-GI

CONFIG-TE

:

```
esr:esr(config-if-gi)# switchport e1 clock source line
```

switchport e1 crc

.

(no) .

```
switchport e1 crc { 16 | 32 }
no switchport e1 crc
```

16 – 16- (RC);

32 – 32- (RC).

16

10

CONFIG-GI

CONFIG-TE

:

```
esr:esr(config-if-gi)# switchport e1 crc 16
```

switchport e1 framing

CRC4.

(no) .

```
switchport e1 framing { crc4 | no-crc4 }
no switchport e1 framing
```

crc4 – CRC4;

no-crc4 – CRC4.

.

10

CONFIG-GI

CONFIG-TE

:

```
esr:esr(config-if-gi)# switchport e1 framing crc4
```

switchport e1 invert data

.

(no) .

```
[no] switchport e1 invert data
```

.

.

10

CONFIG-GI

CONFIG-TE

:

```
esr:esr(config-if-gi)# switchport e1 invert data
```

switchport e1 linecode

, .

(no) .

```
switchport e1 linecode { ami | hdb3 }
```

ami – ami;

hdb3 – hdb3.

hdb3

10

CONFIG-GI

CONFIG-TE

:

```
esr:esr(config-if-gi)# switchport e1 linecode ami
```

switchport e1 timeslots

64 / 1.

(no) .

```
switchport e1 timeslots < RANGE >
no switchport e1 timeslots
```

< RANGE > – 64 / , [1..31].

31

10

CONFIG-GI

CONFIG-TE

:

```
esr:esr(config-if-gi)# switchport e1 timeslots 16
```

switchport e1 unframed

1 64 /.

(no) .

```
[no] switchport e1 unframed
```

.

.

10

CONFIG-GI

CONFIG-TE

:

```
esr:esr(config-if-gi)# switchport e1 unframed
```

switchport mode e1

SFP 1 .

(no) .

```
[no] switchport mode e1
```

.

10

CONFIG-GI

CONFIG-TE

:

```
esr(config-if-gi)# switchport mode e1
```

ESR-21.

chat-script

chat-script, dialup.

(no) chat-script.

```
chat-script <NAME> <TEXT>
no chat-script { <NAME> | all }
```

<NAME> – , 31 .

<TEXT> – , 255 . "\" .

all – .

15

CONFIG

:

```
esr(config)# chat-script DIAL "\(ABORT ERROR ABORT BUSY \"\" \"ATZ\" OK \"ATDTT\" TIMEOUT 30 CONNECT\)"
```

clear line aux

.

```
clear line aux [ <NUM> ]
```

<NUM> – , [1..3].

15

ROOT

:

```
esr# clear line aux 2
```

databits

.

(no) .

```
databits <BITS>
no databits
```

<BITS> – . [7..8]

8

15

CONFIG-LINE-AUX

:

```
esr(config-line-aux)# databits 7
```

dialer

.

(no) .

```
[no] dialer
```

.

.

10

CONFIG-SERIAL

:

```
esr(config-serial)# dialer
```

dialer idle-timeout

.

(no) .

```
dialer idle-timeout <TIME>
no dialer idle-timeout
```

<TIME> – , [1..65535].

30

10

CONFIG-SERIAL

:

```
esr(config-serial)# dialer idle-timeout 210
```

dialer in-band

serial- V.25bis.

(no) .

```
[no] dialer in-band
```

.

.

10

CONFIG-SERIAL

:

```
esr(config-serial)# dialer in-band
```

dialer map

IP- .

(no) .

```
dialer map ip <SUBNET> name <PPPUSER> [ modem-script <SCRIPT-NAME> ] <PHONE-NUM>
no dialer map ip
```

<SUBNET> – , AAA.BBB.CCC.DDD/NN, AAA-DDD [0..255] NN [1..32].

<PPPUSER> – , 31 .

<SCRIPT-NAME> – , 31 .

<PHONE-NUM> – . 15 , .

.

10

CONFIG-SERIAL

:

```
esr(config-serial)# dialer map ip 192.168.33.0/27 name SITE12 5512
```

dialer string

dialup-.

(no) dialup-.

```
dialer string <PHONE-NUM>
no dialer string
```

<PHONE-NUM> – . 15 , .

.

15

CONFIG-SERIAL

:

```
esr(config-serial)# dialer string 3835401
```

flowcontrol

.

(no) .

```
flowcontrol <MODE>
no flowcontrol
```

<MODE> – . :

- software – ;
- hardware – ;
- disabled – .

.

15

CONFIG-LINE-AUX

:

```
esr(config-line-aux)# flowcontrol software
```

line aux

.

`line aux <NUM>`

<NUM> – , [1..3].

15

CONFIG

:

```
esr(config)# line aux 1
esr(config-line-aux)#
```

modem inout

.

(no) .

`modem inout`

`no modem inout`

.

, .

15

CONFIG-LINE-AUX

:

```
esr(config-line-aux)# modem inout
```

parity

.

(no) .

```
parity <MODE>
no parity
```

<MODE> – . :

- odd – ;
- even – ;
- none – .

none.

15

CONFIG-LINE-AUX

:

```
esr(config-line-aux)# parity even
```

show line aux

.

```
show line aux [ <NUM> ]
```

<NUM> – , [1..3].

10

ROOT

:

```
esr# show line aux
AUX Line 1
 Baud rate:            115200
 Databits:             8
 Parity:               NONE
 Stopbits:             1
 Flowcontrol:          Disabled
 Timeout Exec (min):   300
 Telnet port:          2001
 Modem mode:           Disabled
```

speed

.

(no) .

`speed <SPEED>`

`no speed`

<SPEED> – /. :

- 300;
- 1200;
- 2400;
- 4800;
- 9600;
- 19200;
- 38400;
- 57600;
- 115200.

115200.

15

CONFIG-LINE-AUX

:

```
esr(config-line-aux)# speed 9600
```

stopbits

.

(no) .

`stopbits <STOP-BITS>`

`no stopbits`

<STOP-BITS> – . [1..2].

1

15

CONFIG-LINE-AUX

:

```
esr(config-line-aux)# stopbits 2
```

transport telnet port

TCP- . telnet- IP- TCP- , .

(no) TCP- .

```
transport telnet port <PORT>
no transport telnet port
```

<PORT> – TCP- . [1..65535].

.

15

CONFIG-LINE-AUX

:

```
esr(config-line-aux)# transport telnet port 2001
```

allowed-auth

.

(no) .

```
allowed-auth <TYPE>
no allowed-auth
```

<TYPE> – [none, PAP, CHAP, MSCHAP, MSCHAPv2, EAP]

PAP

15

CONFIG-CELLULAR-PROFILE

:

```
esr(config-cellular-profile)# allowed-auth MSCHAP
```

allowed-mode

USB-.

(no) .

```
[no] allowed-mode <MODE>
```

<MODE> – USB- [2g, 3g, 4g]

, "Allowed modes:" show cellular status modem <ID>.

10

CONFIG-CELLULAR-MODEM

:

```
esr(config-cellular-modem)# allowed-mode 4g
```

apn

.

```
apn <NAME>
```

<NAME> – , 253 .

.

10

CONFIG-CELLULAR-PROFILE

:

```
esr(config-cellular-profile)# apn internet
```

cellular modem

USB- USB-.

(no) USB-.

```
[no] cellular modem <ID>
```

<ID> – USB- [1..10].

10

CONFIG

:

```
esr(config)# cellular modem 1
```

cellular profile

USB- .

(no) USB-.

```
[no] cellular profile <ID>
```

<ID> – USB- [1..10].

10

CONFIG

:

```
esr(config)# cellular profile 1
```

device

USB- .

(no) .

```
device <WORD>
no device
```

<WORD> – USB [1..12].

"USB port device" show cellular status modem.

.

10

CONFIG-CELLULAR-MODEM

:

```
esr(config-cellular-modem)# device 1-1
```

enable

USB-.

(no) USB-.

```
[no] enable
```

.

USB- .

10

CONFIG-CELLULAR-MODEM

:

```
esr(config-cellular-modem)#
```

ip-version

IP- .

(no) IPv4 IPv6.

```
ip-version { ipv4 | ipv6 }
no ip-version
```

ipv4 – IPv4;

ipv6 – IPv6;

IPv4 IPv6.

10

CONFIG-CELLULAR-PROFILE

:

```
esr(config-cellular-profile)# ip-version ipv4
```

mru

.

(no) .

```
mru { <MRU> }
no mru
```

<MRU> – MRU, [128..16383].

1500

10

CONFIG-CELLULAR-MODEM

:

```
esr(config-cellular-modem)# mru 1476
```

number

.

(no) .

```
number <WORD>
no number
```

<WORD> – , 1 15 .

.

10

CONFIG-CELLULAR-PROFILE

:

```
esr(config-cellular-profile)# number *99#
```

password

. . .

(no) .

```
password ascii-text { <CLEAR-TEXT> | encrypted <ENCRYPTED-TEXT> }
no password
```

<CLEAR-TEXT> – , [1..64] , [0-9a-fA-F];

<ENCRYPTED-TEXT> – , [2..128] .

⚠ , .

15

CONFIG-PPP-USER

:

```
esr(config-ppp-user)# password ascii-text 01234567
```

pin

SIM-.

(no) SIM-.

```
pin <WORD>
no pin
```

<WORD> – SIM- [4..8] . .

PIN .

15

CONFIG-CELLULAR-MODEM

:

```
esr(config-cellular-modem)# pin 4856
```

preferred-mode

USB- .

(no) USB- .

```
preferred-mode { <MODE> }
no preferred-mode
```

<MODE> – USB- [2g, 3g, 4g].

USB-.

10

CONFIG-CELLULAR-MODEM

:

```
esr(config-cellular-modem)# preferred-mode 4g
```

profile

USB- USB-.

(no) USB-.

```
profile <ID>
no profile
```

<ID> – USB- [1..10].

ID .

10

CONFIG-CELLULAR-MODEM

:

```
esr(config-cellular-modem)# profile 1
```

show cellular configuration modem

USB-.

```
show cellular configuration modem [ <ID> ]
```

<ID> – USB- [1..10].

USB- USB-.

10

ROOT

:

```
esr# show cellular configuration modem
Number   State      Description                      USB port device   Profile
modem
------   --------   ------------------------------   ---------------   --------
1        Enabled    megafon                          1-1               1
2        Enabled    mts                              1-2               2

esr# show cellular configuration modem 2
State:             Enabled
Description:       mts
USB port device:   1-2
Pin:               --
MRU:               --
MTU:               1500
Preferred mode:    none
Allowed modes:     all
Profile:           2
Description:          MTS
  User name:            mts
  Number:               *99#
  APN:                  internet.mts.ru
  Password (encrypted): 91A010
  IP version:           both
  Allowed auth:         EAP
Security zone:     --
```

show cellular configuration profile

USB-.

```
show cellular configuration profile [ <ID> ]
```

<ID> – USB- [1..10].

USB- USB-.

10

ROOT

:

```
esr# show cellular configuration profile
Number    User name          APN                Number             Description
profile
-------   ----------------   ----------------   ----------------   ------------------------------
1         gdata              internet           *99#               MEGAFON
2         mts                internet.mts.ru    *99#               MTS

esr# show cellular configuration profile 1
Description:          MEGAFON
User name:            gdata
Number:               *99#
APN:                  internet
Password (encrypted): 9BB00279B1
IP version:           both
Allowed auth:         EAP
```

show cellulas status modem

USB-.

```
show cellular status modem [ <ID> ]
```

<ID> – USB- [1..10].

USB- USB-.

1

ROOT

:

```
esr# show cellular status modem
Number   USB port   Manufacturer   Model        Current state   Inteface          Link
device                                                                            state
------   --------   ------------   ----------   -------------   ---------------   -----
1        1-1        huawei         E3372        disabled        --                Down

esr# show cellulars status modem 1
Interface 'modem 1' status information:
        USB port device:         1-1
        Manufacturer:            huawei
        Model:                   E3372
        Revision:                21.180.01.00.00
        IMEI:                    861821036192893
        Status SIM lock:         --
        Status unlock retries:   sim-pin (3) sim-pin2 (3) sim-puk (10) sim-puk2 (10)
        Current state:           disabled
        Access tech:             unknown
        Signal level:            0
        Support modes:
                allowed 2G; preferred none;
                allowed 3G; preferred none;
                allowed 4G; preferred none;
                allowed 2G 3G 4G; preferred none;
        Allowed modes:           2G 3G 4G
        Preferred modes:         none
        Type IP:                 IPv4
        Operator name:
        Registration:            unknown
```

user

. .

(no) .

```
[no] user <NAME>
```

<NAME> – , 1 31 .

.

15

CONFIG-CELLULAR-PROFILE

:

```
esr(config-cellular-profile)# user gdata
```

ESR-12V/12VF/14VF.

authentication name

, SIP- ( ).

(no) .

```
authentication name {<LOGIN> | as-phone}
no authentication name
```

<LOGIN> – , , 31 as-phone, , ;

As-phone – , .

.

15

CONFIG-VOICE-PORT-FXO

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxo)# authentication name userlogin
```

authentication password

, SIP- ( ).

(no) .

```
authentication password { <PASS> | encrypted <ENCRYPTED-PASS>}
no authentication password
```

<PASS> – , 16 ;

<ENCRYPTED-PASS> – sha512, [2..32] .

.

10

CONFIG-VOICE-PORT-FXO

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# authentication password superpassword
```

call-forwarding busy

CFB (Call Forward at Busy) – .

(no) « ».

```
[no] call-forwarding busy
```

.

CFB .

10

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# call-forwarding busy
```

call-forwarding busy number

, , *« »*.

(no) .

```
call-forwarding busy number <PHONE>
no call-forwarding busy number
```

<PHONE> – , , 50 .

.

10

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# call-forwarding busy number 4596
```

call-forwarding no-answer

CFNA (Call Forward at No Answer) – .

(no) « ».

```
[no] call-forwarding no-answer
```

.

CFNA .

10

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# call-forwarding no-answer
```

call-forwarding no-answer number

, , « ».

(no) .

```
call-forwarding no-answer number <PHONE>
no call-forwarding no-answer number
```

<PHONE> – , , 50 .

.

10

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# call-forwarding no-answer number 4685
```

call-forwarding no-answer timeout

, , « ».

(no) .

```
call-forwarding no-answer timeout <TIME>
no call-forwarding no-answer timeout
```

<TIME> – , , [0-120].

0

10

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# call-forwarding no-answer timeout 15
```

call-forwarding unconditional

CFU (Call Forward Unconditional) – .

(no) « ».

```
[no] call-forwarding unconditional
```

.

CFU .

10

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# call-forwarding unconditional
```

call-forwarding unconditional number

.

(no) .

```
call-forwarding unconditional number <PHONE>
no call-forwarding unconditional number
```

<PHONE> – , , « », 50 .

.

10

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# call-forwarding unconditional number 4685
```

call-waiting

« ».

(no) « ».

```
[no] call-waiting
```

.

CW .

10

CONFIG-VOICE-PORT-FXS

CONFIG-VOIP-PROFILE

:

```
esr(config-voice-port-fxs)# call-waiting
```

caller-id mode

– (Caller ID).

(no) – (Caller ID).

```
caller-id mode <MODE>
no caller-id mode
```

<MODE> – – (Caller ID), :

- auto – , Caller-id. FXO-;
- dtmf – DTMF. DTMF ;
- fsk-bell – FSK Bell202. ;
- fsk-v23 – FSK ITU-T V.23. .

Caller ID.

10

CONFIG-VOICE-PORT-FXO

CONFIG-VOICE-PORT-FXS

CONFIG-VOIP-PROFILE

:

```
esr(config-voice-port-fxs)# caller-id mode fsk-v23
```

dial-type

FXO-.

(no) .

```
dial-type <MODE>
no dial-type
```

<MODE> – FXO-, :

- dtmf – ;
- pulse – .

dtmf

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# dial-type pulse
```

enable

.

(no) .

```
[no] enable
```

.

.

10

CONFIG-VOIP-PROFILE

:

```
esr(config-config-voip-sip-proxy)# enable
```

flash call-transfer

flash ( ).

(no) .

```
flash call-transfer <METHOD>
no flash call-transfer
```

<METHOD> – flash, :

- attended – flash ( );
- unattended – flash ( );
- transmit-flash – flash (, transfer flash SIP-);
- local-transfer – , REFER.

transmit-flash

10

CONFIG-VOICE-PORT-FXS

CONFIG-VOIP-PROFILE

:

```
esr(config-voice-port-fxs)# flash call-transfer attended
```

flash call-transfer mode

– Attended calltransfer Local calltransfer .

(no) .

```
flash call-transfer mode <MODE>
no flash call-transfer mode
```

<MODE> – , :

- r4 – R 4;
- hook – ;
- both – R 4.

r4

10

CONFIG-VOICE-PORT-FXS

CONFIG-VOIP-PROFILE

:

```
esr(config-voice-port-fxs)# flash call-transfer mode hook
```

flash timer

flash ( ).

(no) .

```
flash timer <TIME>
no flash timer
```

<TIME> – flash , [80..1000]

100

10

CONFIG-VOICE-PORT-FXS

CONFIG-VOIP-PROFILE

:

```
esr(config-voice-port-fxs)# flash timer 200
```

hotline

«/ ». – « », « ».

```
[no] hotline
```

.

«/ » .

10

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# hotline
```

hotline ipt

«/» VoIP.

(no) «/» VoIP.

```
[no] hotline ipt
```

.

«/ » .

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# hotline ipt
```

hotline pstn

«/» VoIP .

(no) «/» VoIP .

```
[no] hotline pstn
```

.

«/» .

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# hotline pstn
```

hotline number

, «/».

(no) "/".

```
hotline number <PHONE>
no hotline number
```

<PHONE> – , , 1 50 .

.

10

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# hotline number 5462
```

hotline number ipt

, «/» VoIP.

(no) «/» VoIP.

```
hotline number ipt <PHONE>
no hotline number ipt
```

<PHONE> – , «/» VoIP, 1 50 .

.

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# hotline number ipt 6347
```

hotline number pstn

, «/» VoIP .

(no) «/» VoIP .

```
hotline number pstn <PHONE>
no hotline number pstn
```

<PHONE> – , 50 .

.

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# hotline number pstn 5462
```

hotline timeout

« » .

(no) .

```
hotline timeout <TIME>
no hotline timeout
```

<TIME> – , , [0..60].

0

10

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# hotline timeout 10
```

hotline timeout ipt

« » c « » VoIP.

(no) .

```
hotline timeout ipt <TIME>
no hotline timeout ipt
```

<TIME> – , , [0..60].

0

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# hotline timeout ipt 10
```

hotline timeout pstn

« » c « » VoIP .

(no) .

```
hotline timeout pstn <TIME>
no hotline timeout pstn
```

<TIME> – , , [0..60].

0

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# hotline timeout pstn 10
```

hybrid rx

.

```
hybrid rx <NUM>
no hybrid rx
```

<NUM> – -200 200

0

10

CONFIG-VOICE-PORT-FXO

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# hybrid rx 100
```

hybrid tx

.

```
hybrid rx <NUM>
no hybrid rx
```

<NUM> – -200 200

0

10

CONFIG-VOICE-PORT-FXO

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# hybrid rx 20
```

ipt prefix-name

CallerID, VoIP.

(no) .

```
ipt prefix-name <NAME>
no ipt prefix-name
```

<NAME> – , CallerID, 1 21 .

.

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# ipt prefix-name localPSTN
```

ipt prefix-number

CallerID, VoIP.

(no) .

```
ipt prefix-number <NUMBER>
no ipt prefix-number
```

<NUMBER> – , CallerID, 1 21 .

.

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# ipt prefix-number 7
```

ipt offhook-ringing

TDM IP VoIP.

(no) TDM IP , SIP-. «Hotline».

```
[no] ipt offhook-ringing
```

.

TDM IP .

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# no ipt offhook-ringing
```

ipt ring-number

« », FXO (« ») « ».

(no) .

```
ipt ring-number <COUNT>
no ipt ring-number
```

<COUNT> – « », FXO , [2..10].

2

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# ipt ring-number 4
```

profile sip

SIP- .

```
profile sip <PROFILE>
```

<PROFILE> – SIP , [1..5].

.

10

CONFIG-VOICE-PORT-FXO

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxo)# profile sip 1
```

profile pbx

SIP- .

```
profile pbx<PROFILE>
```

<PROFILE> – SIP-, PBX, 1 31 .

.

10

CONFIG-VOICE-PORT-FXO

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxo)# profile pbx fxs_ports
```

pstn transmit-number

, IP (Request URI INVITE) , .

, IP.

```
[no] pstn transmit-number
```

.

.

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# pstn transmit-number
```

pstn transmit-prefix

FXO-.

FXO-.

```
[no] pstn transmit-prefix
```

.

FXO-.

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# pstn transmit-prefix
```

shutdown

.

(no) .

[no] shutdown

.

.

10

CONFIG-VOICE-PORT-FXO

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# shutdown
```

sip port

UDP- SIP , SIP- .

(no) .

sip port <PORT>

no sip port

<PORT> – UDP-, [1..65535].

5060

10

CONFIG-VOICE-PORT-FXO

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# sip port 5080
```

sip user display-name

, (Display-Name From SIP).

(no) .

```
sip user display-name <LOGIN>
no sip user display-name
```

<LOGIN> – , Display-Name, 31 .

.

10

CONFIG-VOICE-PORT-FXO

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# sip user display-name "port-1"
```

sip user phone

, .

(no) .

```
sip user phone <PHONE>
no sip user phone
```

<PHONE> – , , 50 .

.

10

CONFIG-VOICE-PORT-FXO

CONFIG-VOICE-PORT-FXS

:

```
esr(config-voice-port-fxs)# sip user phone 4101
```

timing delay

.

(no) .

```
timing delay <TIME>
no timing delay
```

<TIME> – , [0..10].

2

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# timing delay 4
```

timing digit

FXS-.

(no) .

```
timing digit <TIME>
no timing pulse-interdigit
```

<TIME> – , [150...20000].

200

10

CONFIG-VOICE-PORT-FXS

CONFIG-VOIP-PROFILE

:

```
esr(config-voice-port-fxs)# timing interdigit 300
```

timing flash

«flash».

(no) .

```
timing flash <TIME>
no timing flash
```

<TIME> – , [70..1000].

100

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# timing flash 150
```

timing pulse-digit

.

(no) .

```
timing pulse-digit <TIME>
no timing pulse-digit
```

<TIME> – , [50..120].

80

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# timing pulse-digit 75
```

timing pulse-interdigit

FXO-.

(no) .

```
timing pulse-interdigit <TIME>
no timing pulse-interdigit
```

<TIME> – , [80...2500].

200

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# timing pulse-interdigit 300
```

timing pulse-pause

.

(no) .

```
timing pulse-pause <TIME>
no timing pulse-pause
```

<TIME> – , [50..100].

80

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# timing pulse-pause 75
```

timing tone-digit

.

(no) .

```
timing tone-digit <TIME>
no timing tone-digit
```

<TIME> – , [65..100].

80

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# timing tone-digit 75
```

timing tone-interdigit

.

(no) .

```
timing tone-interdigit <TIME>
no timing tone-interdigit
```

<TIME> – , [80..2500].

100

10

CONFIG-VOICE-PORT-FXO

:

```
esr(config-voice-port-fxo)# timing tone-interdigit 150
```

ESR-12V/12VF/14VF.

test voice-port start

.

```
test voice-port <NUM> start
```

<NUM> – FXS-, [1..3].

1

ROOT

:

```
esr# test voice-port 3 start
Voice-port 3 test started. The result will be available in 80 seconds, or more if the test run on other ports.
```

test voice-port status

.

```
test voice-port <NUM> status
```

<NUM> – FXS-, [1..3].

1

ROOT

:

```
esr# test voice-port 3 status
Testing voice-port 3 is idle
Last test start: Sat May 20 16:01:37 2017
Number voip-port 3
  Foreign DC voltage A (TIP):    0.128377 U
  Foreign DC voltage B (RING):   0.144342 U
  Foreign AC voltage A (TIP):    0.026239 U
  Foreign AC voltage B (RING):   0.032287 U
  Cross current:                 0.260343 mA
  Longitudinal current:          -0.101857 mA
  Line supply voltage:           -50.370598 U
  Resistance A (TIP) – B (RING): 1007.203674 kOm
  Resistance A (TIP) – Ground:   402.105469 kOm
  Resistance B (RING) – Ground:  874.041443 kOm
  Capacity A (TIP) – B (RING):   50.000000 nF
  Capacity A (TIP) – Ground:     573.000000 nF
```