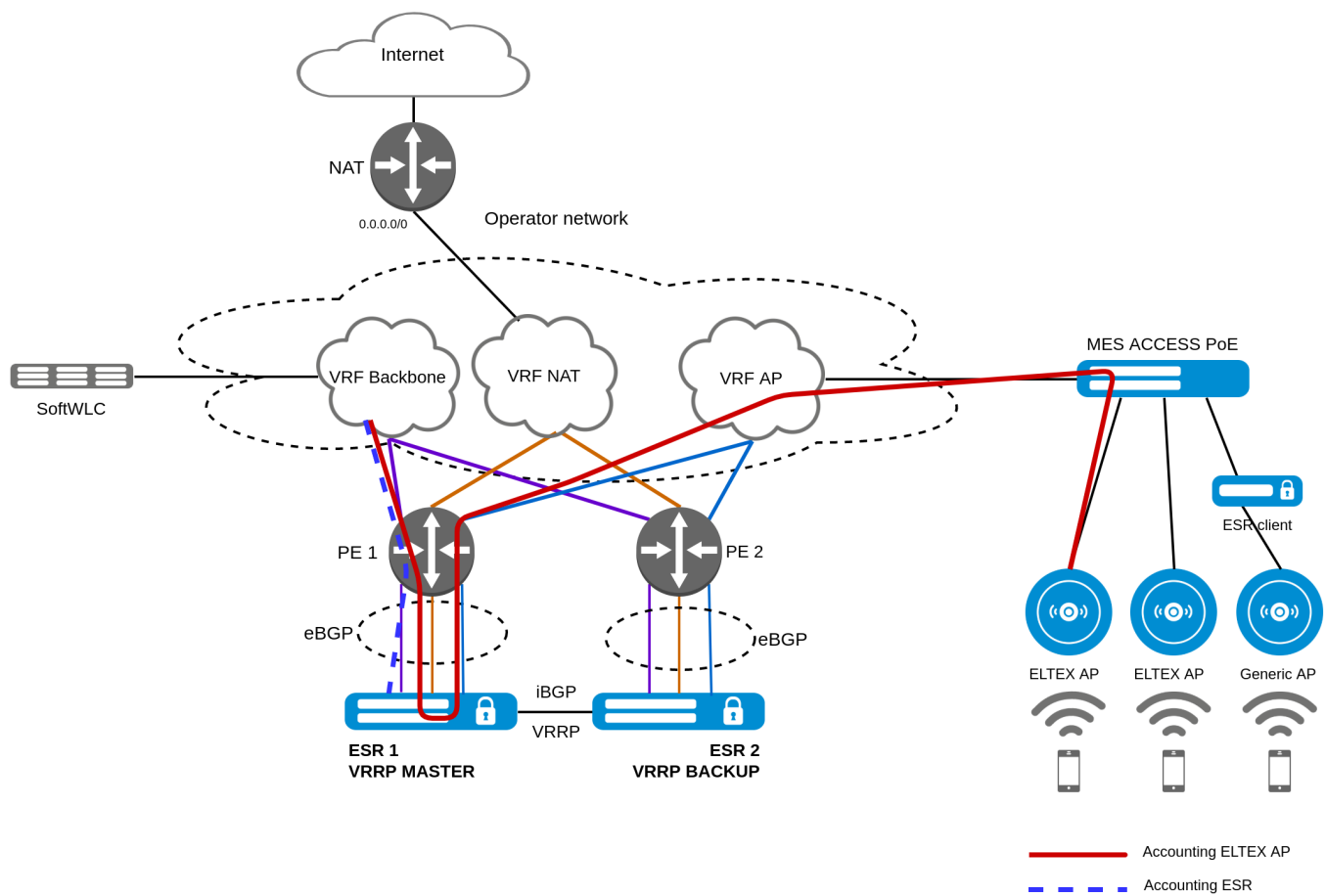


v1.20_

-
-
- 1.1
- 1.2 ELTEX
- 1.3 BRAS
- 1.4 RADIUS accounting
- 1.5
 - 1.5.1 Eltex
 - 1.5.2 BRAS
 - 1.5.2.1 L2-interface
 - 1.5.2.1 option 82
- 2 Eltex-sorm2-replicator
- 3 Eltex-radius-sorm3-federal
- 4
- 5 Eltex-sorm2-replicator
 - 5.1 Eltex-sorm2-replicator
 - 5.2 IP_ACC_N_yyyyMMdd_Hhmm.csv
 - 5.3 Eltex-sorm2-replicator
 - 5.4 RADIUS accounting
 - 5.5 Eltex-radius-nbi
 - 5.6 IP- B2B
- 6 Eltex-radius-sorm3-federal
 - 6.1 Eltex-radius-sorm3-federal
 - 6.3 EMS
 - 6.3.1 « »
 - 6.3.2
 - 6.3.3 Framed-IP-Address WPA Enterprise ELTEX
 - 6.3.4
 - 6.3.5 DPI (Step Logic)
 - 6.4 Eltex-radius-nbi
 - 6.5
 - 6.5 B2B
 - 6.6.1 B2B
 - 6.6.2 Enterprise
- 7
- 8 Eltex-sorm2-replicator

1.0	21.08.2017	.
1.1	21.09.2017	-3 Wi-Fi
1.3	24.10.2017	-3
1.4	07.12.2017	sorm3.enabled
1.6	27.02.2018	.6.3.3
1.7	20.04.2018	yyyy-MM-dd HH:mm:ss eltex-radius-sorm3-federal 15 , .6.2.
1.8	14.05.2019	DPI
1.9	15.09.2021	

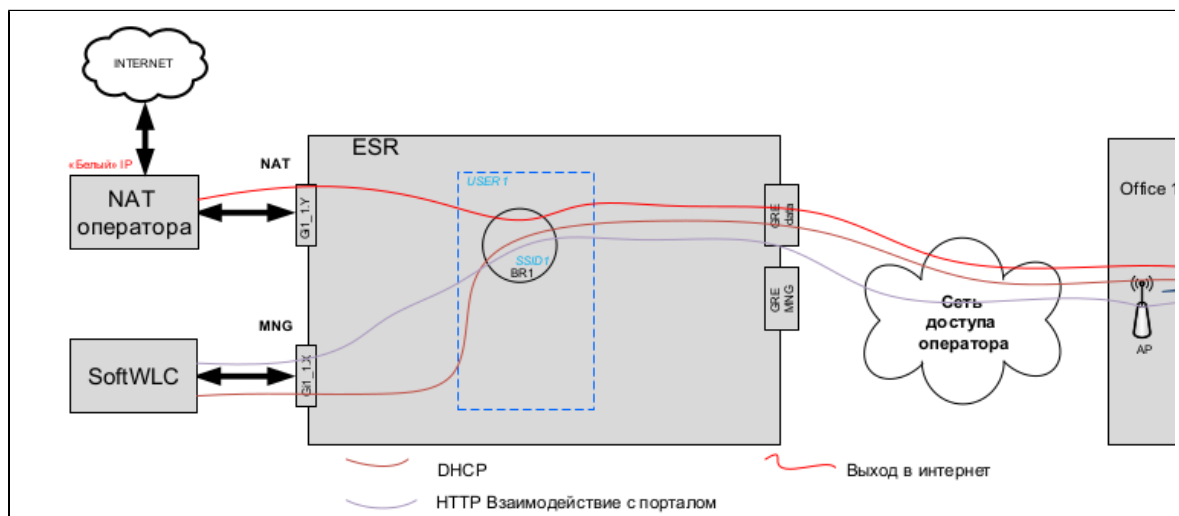
Eltex-sorm2-replicator Eltex-radius-sorm3-federal . . .



1 –

ESR SoftGRE- L3- : Management- Data- .
Management- . L3- , GRE- Data- . ESR (NAT).

1.2 ELTEX

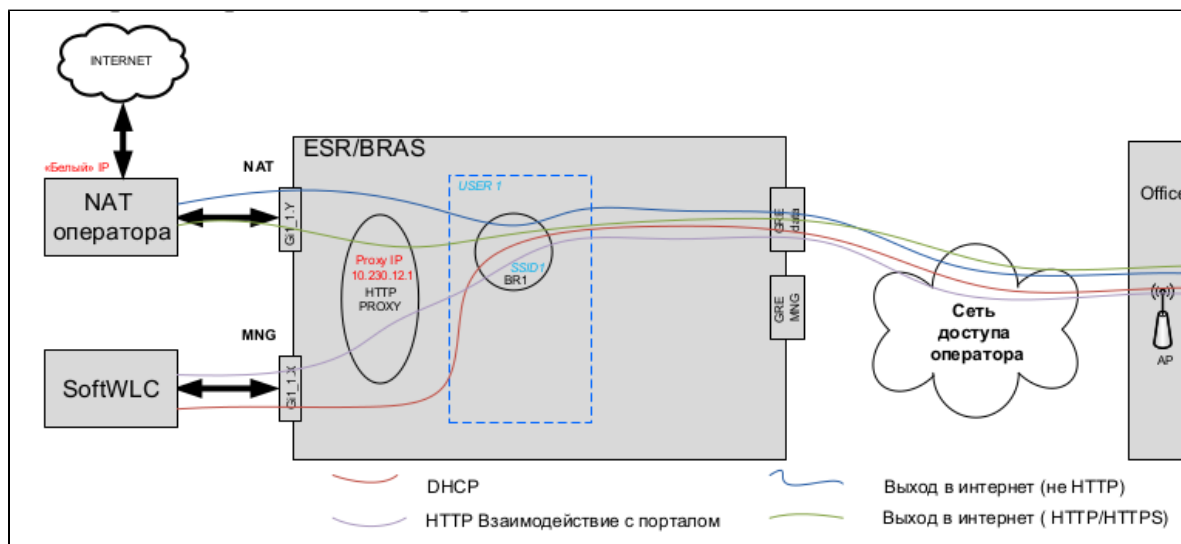


3 – ELTEX

- ELTEX с Hotspot ;
- ELTEX Enterprise.

WEB, HTTP . IP- (User IP), DHCP.

1.3 BRAS



2 – BRAS

• , ESR/BRAS.

• SSID, DHCP . ESR-10 GRE ESR. ESR DHCP-relay SoftWLC. . IP .

• WEB, HTTP ESR, Source (USER IP) ESR (PROXY IP). ESR SoftWLC HTTP(S) IP ESR . USER IP .

• NAT, Source (USER IP). URL, HTTP(S) ESR, Source (USER IP) ESR (PROXY IP). ESR NAT HTTP(S) IP ESR . USER IP

• NAT, « » IP NAT.

1.4 RADIUS accounting

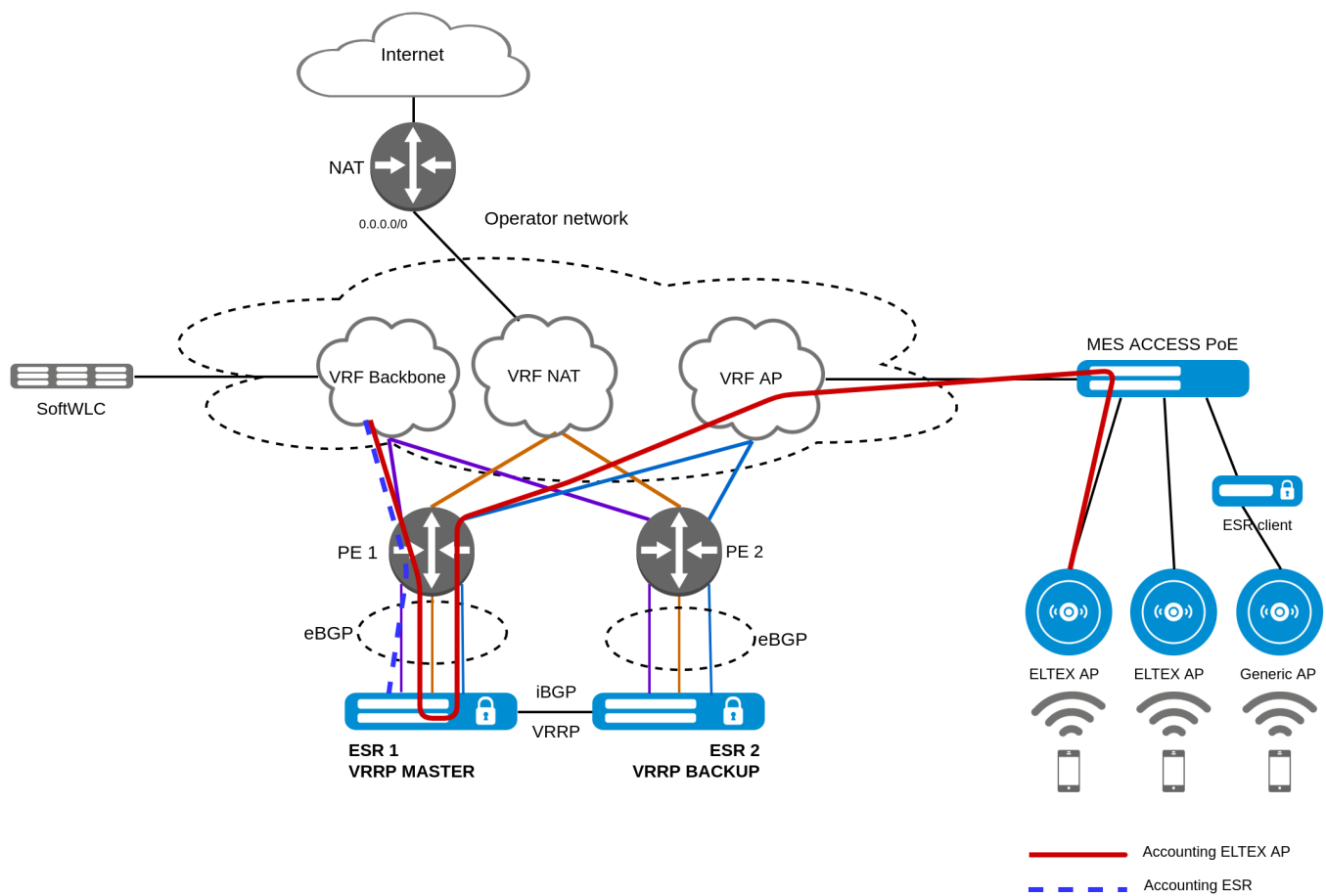
ELTEX SSID Enterprise, RADIUS accounting GRE ESR (VRF AP), SoftWLC (VRF Baskbone).

ELTEX c Hotspot RADIUS accounting GRE ESR (VRF AP), SoftWLC (VRF Baskbone).

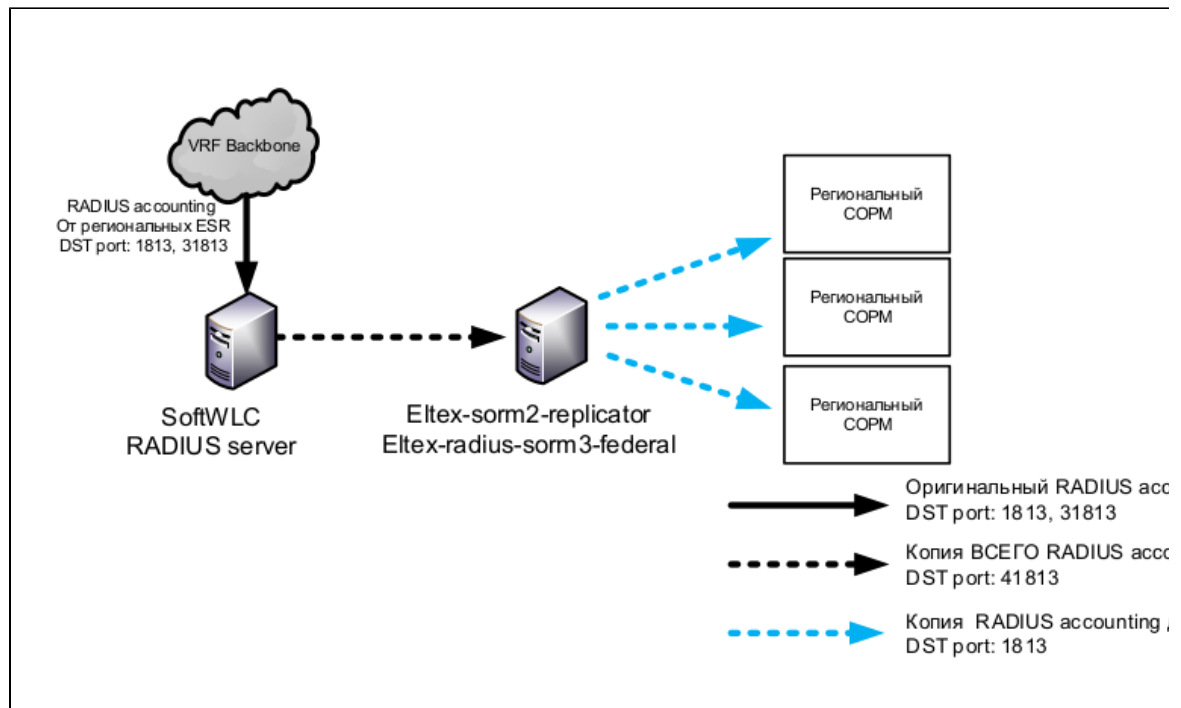
ELTEX c Hotspot HotWiFi RADIUS accounting ESR (BRAS), SoftWLC (VRF Baskbone).

• ESR client, Hotspot, RADIUS accounting ESR (BRAS), SoftWLC (VRF Baskbone).

accounting VRF Backbone, ESR SoftWLC.



4 – RADIUS accounting



5 – RADIUS accounting SoftWLC

1.5

: RADIUS Accounting .

: (-2) (-3). RADIUS ELTEX BRAS, -2 . Eltex-sorm-2-replicator csv FTP- . Eltex-radius-sorm3-federal FTP- (-3) csv.

USER-NAME, , (,).

:

1. RADIUS accounting CALLED-STATION-ID CELL, ;
2. (IP_ACC). WL_MAC_END, WL_MAC_END, WL_CELL_START, WL_CELL_END;
3. WRL (BASE_STATION_WRL). MAC, CELL_WIRELESS.

1.5.1 Eltex

Wi-Fi B2B ELTEX.

CALLED-STATION-ID RADIUS Accounting ELTEX (WEP-2AC, WEP-12AC ..):

...	CALLED-STATION-ID	...
	A8-F9-4B-B6-FE-40:bank	

Called-Station-Id MAC SSID, AP_MAC:CELL IP_ACCT BASE_STATION_WRL.

-2 RADIUS-.

ELTEX. IP_ACCT:

...	WL_CELL_START	WL_MAC_START	WL_CELL_END	WL_MAC_END	...
	A8-F9-4B-B6-FE-40:bank	A8F94BB6FE40	A8-F9-4B-B6-FE-40:bank	A8F94BB6FE40	
	A8-F9-4B-B6-FE-41:bank-corp	A8F94BB6FE40	A8-F9-4B-B6-FE-40:bank-corp	A8F94BB6FE40	

BASE_STATION_WRL ELTEX:

ID	BASE_STATION_ID	CELL_WIRELESS	MAC	REGION_ID
38079	38079	A8-F9-4B-B6-FE-40:bank	A8F94BB6FE40	65
38079	38079	A8-F9-4B-B6-FE-41:bank-corp	A8F94BB6FE40	65
38079	38079	A8-F9-4B-B6-FE-50:bank	A8F94BB6FE40	65
38079	38079	A8-F9-4B-B6-FE-51:bank-corp	A8F94BB6FE40	65

"CELL_WIRELESS" AP_MAC:SSID_NAME, AP_MAC:SSID_NAME WL_CELL_START WL_CELL_END , .

BASE_STATION_ID ELTEX BASE_STATION, , -.

RADIUS :

```

Frame 7: 362 bytes on wire (2896 bits), 362 bytes captured (2896 bits)
Ethernet II, Src: EltexEnt_d8:f2:03 (e0:d9:e3:d8:f2:03), Dst: 02:00:ef:41:23:8c (02:00:ef:41:23:8c)
Internet Protocol Version 4, Src: 10.102.14.216, Dst: 10.10.5.50
User Datagram Protocol, Src Port: 34118, Dst Port: 1813
RADIUS Protocol
  Code: Accounting-Request (4)
  Packet identifier: 0x2 (2)
  Length: 320
  Authenticator: d9c2aeb0c3f1f5d175a0be0d89c33a3d
  [The response to this request is in frame 8]
  Attribute Value Pairs
    AVP: t=Acct-Session-Id(44) l=19 val=619EF07B-74FF3AAE
    AVP: t=Framed-IP-Address(8) l=6 val=172.10.191.149
    AVP: t=Acct-Status-Type(40) l=6 val=Interim-Update(3)
    AVP: t=User-Name(1) l=13 val=79123456987
    AVP: t=Service-Type(6) l=6 val=Unknown(0)
    AVP: t=Vendor-Specific(26) l=49 vnd=Eltex Enterprise, Ltd.(35265)
      Type: 26
      Length: 49
      Vendor ID: Eltex Enterprise, Ltd. (35265)
      VSA: t=Eltex-Domain(13) l=43 val=Guest.ELTEX.Novosibirsk.Sibir.Clietn.root
    AVP: t=NAS-IP-Address(4) l=6 val=10.102.14.216
    AVP: t=Event-Timestamp(55) l=6 val=Jan 5, 2000 14:15:33.000000000 +06
    AVP: t=NAS-Port-Id(87) l=4 val=17
    AVP: t=Called-Station-Id(30) l=30 val=E0-D9-E3-73-07-60:SSID_guest
      Type: 30
      Length: 30
      Called-Station-Id: E0-D9-E3-73-07-60:SSID_guest
    AVP: t=Calling-Station-Id(31) l=19 val=C6-1A-A8-C9-D1-B4
    AVP: t=NAS-Port-Type(61) l=6 val=Wireless-802.11(19)
    AVP: t=Acct-Session-Time(46) l=6 val=42
    AVP: t=Acct-Input-Packets(47) l=6 val=121
    AVP: t=Acct-Output-Packets(48) l=6 val=620
    AVP: t=Acct-Input-Octets(42) l=6 val=16699
    AVP: t=Acct-Input-Gigawords(52) l=6 val=0
    AVP: t=Acct-Output-Octets(43) l=6 val=102030
    AVP: t=Acct-Output-Gigawords(53) l=6 val=0
    AVP: t=Vendor-Specific(26) l=9 vnd=Eltex Enterprise, Ltd.(35265)
    AVP: t=Vendor-Specific(26) l=9 vnd=Eltex Enterprise, Ltd.(35265)
    AVP: t=Vendor-Specific(26) l=9 vnd=Eltex Enterprise, Ltd.(35265)
    AVP: t=Vendor-Specific(26) l=9 vnd=Eltex Enterprise, Ltd.(35265)
    AVP: t=Vendor-Specific(26) l=9 vnd=Eltex Enterprise, Ltd.(35265)
    AVP: t=Vendor-Specific(26) l=9 vnd=Eltex Enterprise, Ltd.(35265)
    AVP: t=Vendor-Specific(26) l=43 vnd=Eltex Enterprise, Ltd.(35265)
      Type: 26
      Length: 43
      Vendor ID: Eltex Enterprise, Ltd. (35265)
      VSA: t=Eltex-AP-Domain(24) l=37 val=ELTEX.Novosibirsk.Sibir.Clietn.root

```

: Hotspot_ELTEX_AP.pcap

1.5.2 BRAS

1.5.2.1 L2-interface

VLAN. ESR-10, .. , VLAN.

RADIUS Accounting BRAS:

...	CALLLED-STATION-ID	L2-interface	CELL
	A8-F9-4B-AB-B4-40:APUSER2	NODE.12968.2408	acd982c6c0f4954f4d3862c3a02c4017
	A8-F9-4B-AB-B4-40:APUSER3	gi1/0/1.200	db02d043336ae07058d34a4dfc912751

Called-Station-Id MAC bridge-location BRAS.

L2-interface L2, ..

L2 InterfaceU/S/P.VLAN (: gi1/0/1.200), :

- Interface - ;
- U - UNIT
- S - SLOT
- P - PORT
- VLAN - VLAN .

L3 NODE.ID.VLAN (: NODE.12968.2408), :

- NODE - ;
- ID - ESR-10 SoftWLC ;
- VLAN - VLAN , ESR-10.

CELL md5sum L2-interface.



eltex-radius-sorm3 L3, L2 .

IP_ACC:

...	WL_CELL_START	WL_MAC_START	WL_CELL_END	WL_MAC_END	L2_INTERFACE	...
	da5cf1504ab138035426050822df05f8	A8F94BABB440	da5cf1504ab138035426050822df05f8	A8F94BABB440	NODE.12886.2410	

"WL_CELL_START"/"WL_CELL_END" CELL.

"WL_MAC_START"/"WL_MAC_END" BRAS MAC.

BASE_STATION_WIFI_WRL l2-intarface:

ID	BASE_STATION_ID	CELL_WIRELESS	MAC	REGION_ID
12886	12886	NODE.12886.2410	A8F94BAB6640	54
12886	12886	NODE.12886.2410	A8F94BABB440	54

BASE_STATION_WIFI_WRL . CELL_WIRELESS MAC , ESR ESR WL_MAC_ RADIUS Accounting.

MAC="A8F94BABB440" - BRAS MAC.

BASE_STATION_ID ESR-10 BASE_STATION, ESR. " " ". ESR-10 (ESR) .

BASE_STATION:

ID	BEGIN_TIME	END_TIME	STATION_TYPE	ADDRESS	SECTOR_TYPE	LAC	CELL	CELL_SIGN	ADDRESS_TYPE_ID	ADDRESS_TYPE	ZIP	
12886	2000-12-31 23:59:59	2024-12-31 23:59:59	3	Russia 29	1				3	0	630068	f

RADIUS :

```

Frame 9: 527 bytes on wire (4216 bits), 527 bytes captured (4216 bits)
Ethernet II, Src: EltexEnt_d8:f2:03 (e0:d9:e3:d8:f2:03), Dst: 02:00:ef:41:23:8c (02:00:ef:41:23:8c)
Internet Protocol Version 4, Src: 10.10.11.1, Dst: 10.10.5.50
User Datagram Protocol, Src Port: 53852, Dst Port: 31813
RADIUS Protocol
  Code: Accounting-Request (4)
  Packet identifier: 0xf0 (240)
  Length: 485
  Authenticator: c2fdde92305b2fb7c6b650583f511697
  [The response to this request is in frame 10]
  Attribute Value Pairs
    AVP: t=User-Name(1) l=13 val=79123456789
    AVP: t=Vendor-Specific(26) l=36 vnd=ciscoSystems(9)
    AVP: t=Acct-Session-Id(44) l=21 val=1873497444986126498
    AVP: t=Acct-Status-Type(40) l=6 val=Interim-Update(3)
    AVP: t=Vendor-Specific(26) l=24 vnd=ciscoSystems(9)
    AVP: t=Event-Timestamp(55) l=6 val=Sep 17, 2021 14:29:09.000000000 +07
    AVP: t=NAS-Port-Id(87) l=18 val=location APUSER5
    AVP: t=Called-Station-Id(30) l=27 val=A8-F9-4B-AB-B4-40:APUSER5
    AVP: t=Vendor-Specific(26) l=47 vnd=ciscoSystems(9)
    AVP: t=Vendor-Specific(26) l=29 vnd=Eltex Enterprise, Ltd.(35265)
      Type: 26
      Length: 29
      Vendor ID: Eltex Enterprise, Ltd. (35265)
      VSA: t=Eltex-Domain(13) l=23 val=ESRAP1.LOADSTEND.root
    AVP: t=Vendor-Specific(26) l=47 vnd=ciscoSystems(9)
      Type: 26
      Length: 47
      Vendor ID: ciscoSystems (9)
      VSA: t=Cisco-AVPair(1) l=41 val=subscriber:l2-interface=NODE.12886.2410
    AVP: t=Vendor-Specific(26) l=56 vnd=ciscoSystems(9)
      Type: 26
      Length: 56
      Vendor ID: ciscoSystems (9)
      VSA: t=Cisco-AVPair(1) l=50 val=subscriber:CELL=da5cf1504ab138035426050822df05f8
    AVP: t=Vendor-Specific(26) l=28 vnd=ciscoSystems(9)
    AVP: t=NAS-Identifier(32) l=14 val=ESR1700-ALFA
    AVP: t=Framed-IP-Address(8) l=6 val=172.12.70.75
    AVP: t=Calling-Station-Id(31) l=19 val=14-58-D0-C5-2A-36
    AVP: t=Vendor-Specific(26) l=16 vnd=ciscoSystems(9)
    AVP: t=Vendor-Specific(26) l=16 vnd=ciscoSystems(9)
    AVP: t=Acct-Input-Gigawords(52) l=6 val=0
    AVP: t=Acct-Input-Octets(42) l=6 val=665497
    AVP: t=Acct-Output-Gigawords(53) l=6 val=0
    AVP: t=Acct-Output-Octets(43) l=6 val=6426598
    AVP: t=Acct-Session-Time(46) l=6 val=120
    AVP: t=NAS-IP-Address(4) l=6 val=10.10.11.1

```

: Hotspot_ELTEX_BRAS_L2-int_.pcap

1.5.2.1 option 82

BRAS option 82 DHCP RADIUS, VSA CELL. RADIUS , RFC4679. CELL RADIUS accounting. option 82 .

GenericAP , PCRF RADIUS c option 82, SSID option 82. SSID, GenericAP EMS . GenericAP "" . .

RADIUS Accounting BRAS:

...	CALLED-STATION-ID	L2-interface	CELL	Broadband Forum (previously 'DSL Forum')(3561)
	A8-F9-4B-AB-B4-40: APUSER2	NODE. 12968.2408	3a6700ae8a413d665ea4ee88910 c8f3e	VSA: t=ADSL-Agent-Circuit-Id(1) l=33 val=Mes2324_ALEX-DEN eth 100/8:2408 VSA: t=ADSL-Agent-Remote-Id(2) l=8 val=	

Called-Station-Id MAC bridge-location BRAS.

Broadband Forum option 82 DHCP .

CELL md5sum VSA l2-interface option82. l2-interface option82 . CELL .

 CELL=md5sum(l2-inerface+option 82)

IP_ACC:

...	WL_CELL_START	WL_MAC_START	...	WL_CELL_END	WL_MAC_END	...	L2_INTERFACE
	3a6700ae8a413d665ea4ee88910c8f3e	A8F94BABB440		3a6700ae8a413d665ea4ee88910c8f3e	A8F94BABB440		NODE.12886.2408

"WL_CELL_START"/"WL_CELL_END" CELL.

"WL_MAC_START"/"WL_MAC_END" BRAS MAC.

BASE_STATION_WIFI_WRL option 82:

ID	BASE_STATION_ID	CELL_WIRELESS	MAC	REGION_ID
13457	13457	3a6700ae8a413d665ea4ee88910c8f3e	A8F94BABB440	54

"CELL_WIRELESS" CELL, .

MAC="A8F94BABB440" - BRAS MAC.

BASE_STATION_ID GenericAP BASE_STATION, .

: GenericAP .

BASE_STATION:

ID	BEGIN_TIME	END_TIME	STATION_TYPE	ADDRESS	SECTOR_TYPE	LAC	CELL	CELL_SIGN	ADDRESS_TYPE_ID	ADDRESS_TYPE	ZIP
13457	2000-12-31 23:59:59	2024-12-31 23:59:59	3	Russia 11 1 30	1				3	0	f

RADIUS :

Frame 15: 572 bytes on wire (4576 bits), 572 bytes captured (4576 bits)
Ethernet II, Src: EltexEnt_d8:f2:03 (e0:d9:e3:d8:f2:03), Dst: 02:00:ef:41:23:8c (02:00:ef:41:23:8c)
Internet Protocol Version 4, Src: 10.10.11.1, Dst: 10.10.5.50
User Datagram Protocol, Src Port: 46239, Dst Port: 31813
RADIUS Protocol
Code: Accounting-Request (4)
Packet identifier: 0x10 (16)
Length: 530
Authenticator: a2ad5eld850039ebbb456c038c5d77a5
[The response to this request is in frame 16]
Attribute Value Pairs
AVP: t=User-Name(1) l=13 val=79123456789
AVP: t=Vendor-Specific(26) l=36
vnd=ciscoSystems(9)
AVP: t=Acct-Session-Id(44) l=21
val=1873497444986126452
AVP: t=Acct-Status-Type(40) l=6 val=Interim-Update(3)
AVP: t=Vendor-Specific(26) l=24
vnd=ciscoSystems(9)
AVP: t=Event-Timestamp(55) l=6 val=Sep 10, 2021 16:42:14.000000000 +07
AVP: t=NAS-Port-Id(87) l=18 val=location
APUSER2
AVP: t=Called-Station-Id(30) l=27 val=A8-F9-4B-AB-B4-40:APUSER2
AVP: t=Vendor-Specific(26) l=47
vnd=ciscoSystems(9)
AVP: t=Vendor-Specific(26) l=29 vnd=Eltex Enterprise, Ltd.(35265)

```

        Type: 26
        Length: 29
        Vendor ID: Eltex Enterprise, Ltd. (35265)
        VSA: t=Eltex-Domain(13) l=23 val=ESRAP1.
LOADSTEND.root
    AVP: t=Vendor-Specific(26) l=47 vnd=Broadband
Forum (previously 'DSL Forum')(3561)
        Type: 26
        Length: 47
        Vendor ID: Broadband Forum (previously
'DSL Forum') (3561)
        VSA: t=ADSL-Agent-Circuit-Id(1) l=33
val=Mes2324_ALEX-DEN eth 100/8:2408
        VSA: t=ADSL-Agent-Remote-Id(2) l=8 val=
    AVP: t=Vendor-Specific(26) l=47
vnd=ciscoSystems(9)
        Type: 26
        Length: 47
        Vendor ID: ciscoSystems (9)
        VSA: t=Cisco-AVPair(1) l=41 val=subscriber:
l2-interface=NODE.12886.2408
    AVP: t=Vendor-Specific(26) l=56
vnd=ciscoSystems(9)
        Type: 26
        Length: 56
        Vendor ID: ciscoSystems (9)
        VSA: t=Cisco-AVPair(1) l=50 val=subscriber:
CELL=3a6700ae8a413d665ea4ee88910c8f3e
    AVP: t=Vendor-Specific(26) l=28
vnd=ciscoSystems(9)
    AVP: t=NAS-Identifier(32) l=14 val=ESR1700-ALFA
    AVP: t=Framed-IP-Address(8) l=6 val=172.
11.247.246
    AVP: t=Calling-Station-Id(31) l=19 val=C6-EF-
86-E8-7B-BF
    AVP: t=Vendor-Specific(26) l=15
vnd=ciscoSystems(9)
    AVP: t=Vendor-Specific(26) l=15
vnd=ciscoSystems(9)
    AVP: t=Acct-Input-Gigawords(52) l=6 val=0
    AVP: t=Acct-Input-Octets(42) l=6 val=66757
    AVP: t=Acct-Output-Gigawords(53) l=6 val=0
    AVP: t=Acct-Output-Octets(43) l=6 val=82787
    AVP: t=Acct-Session-Time(46) l=6 val=180
    AVP: t=NAS-IP-Address(4) l=6 val=10.10.11.1

```

```

0000  02 00 ef 41 23 8c e0 d9 e3 d8 f2 03 08 00 45
00  ...A#. ....E.
0010  02 2e 4a 11 40 00 3f 11 cb 67 0a 0a 0b 01 0a
0a  ..J.@.?..g.....
0020  05 32 b4 9f 7c 45 02 1a 5f 72 04 10 02 12 a2
ad  .2..|E..r.....
0030  5e 1d 85 00 39 eb bb 45 6c 03 8c 5d 77 a5 01
0d  ^...9..El..]w...
0040  37 39 31 32 33 34 35 36 37 38 39 1a 24 00 00
00  79123456789.$...
0050  09 01 1e 73 75 62 73 63 72 69 62 65 72 3a 63
6f  ...subscriber:co
0060  6d 6d 61 6e 64 3d 75 73 65 72 2d 61 75 74 68
2c  mmmand=user-auth,
0070  15 31 38 37 33 34 39 37 34 34 34 39 38 36 31
32  .187349744498612
0080  36 34 35 32 28 06 00 00 00 03 1a 18 00 00 00
09  6452(.....
0090  01 12 73 75 62 73 63 72 69 62 65 72 3a 76 72
66  ..subscriber:vrf
00a0  3d 31 37 06 61 3b 28 76 57 12 6c 6f 63 61 74

```

```

69  =17.a;(vW.locati
00b0  6f 6e 20 41 50 55 53 45 52 32 1e 1b 41 38 2d
46  on APUSER2..A8-F
00c0  39 2d 34 42 2d 41 42 2d 42 34 2d 34 30 3a 41
50  9-4B-AB-B4-40:AP
00d0  55 53 45 52 32 1a 2f 00 00 00 09 01 29 73 75
62  USER2./.....)sub
00e0  73 63 72 69 62 65 72 3a 64 6f 6d 61 69 6e 3d
45  scriber:domain=E
00f0  53 52 41 50 31 2e 4c 4f 41 44 53 54 45 4e 44
2e  SRAP1.LOADSTEND.
0100  72 6f 6f 74 1a 1d 00 00 89 c1 0d 17 45 53 52
41  root.....ESRA
0110  50 31 2e 4c 4f 41 44 53 54 45 4e 44 2e 72 6f
6f  P1.LOADSTEND.roo
0120  74 1a 2f 00 00 0d e9 01 21 4d 65 73 32 33 32
34  t./.....!Mes2324
0130  5f 41 4c 45 58 2d 44 45 4e 20 65 74 68 20 31
30  _ALEX-DEN eth 10
0140  30 2f 38 3a 32 34 30 38 02 08 e0 d9 e3 d2 cc
80  0/8:2408.....
0150  1a 2f 00 00 00 09 01 29 73 75 62 73 63 72 69
62  ./.....)subscrib
0160  65 72 3a 6c 32 2d 69 6e 74 65 72 66 61 63 65
3d  er:l2-interface=
0170  4e 4f 44 45 2e 31 32 38 38 36 2e 32 34 30 38
1a  NODE.12886.2408.
0180  38 00 00 00 09 01 32 73 75 62 73 63 72 69 62
65  8.....2subscribe
0190  72 3a 43 45 4c 4c 3d 33 61 36 37 30 30 61 65
38  r:CELL=3a6700ae8
01a0  61 34 31 33 64 36 36 35 65 61 34 65 65 38 38
39  a413d665ea4ee889
01b0  31 30 63 38 66 33 65 1a 1c 00 00 00 09 01 16
73  10c8f3e.....s
01c0  75 62 73 63 72 69 62 65 72 3a 76 65 72 73 69
6f  ubscriber:versio
01d0  6e 3d 32 20 0e 45 53 52 31 37 30 30 2d 41 4c
46  n=2 .ESR1700-ALF
01e0  41 08 06 ac 0b f7 f6 1f 13 43 36 2d 45 46 2d
38  A.....C6-EF-8
01f0  36 2d 45 38 2d 37 42 2d 42 46 1a 0f 00 00 00
09  6-E8-7B-BF.....
0200  fd 09 49 3b 50 3b 32 38 39 1a 0f 00 00 00 09
fd  ..I;P;289.....
0210  09 4f 3b 50 3b 32 37 32 34 06 00 00 00 00 2a
06  .O;P;2724.....*.
0220  00 01 04 c5 35 06 00 00 00 00 2b 06 00 01 43
63  ....5.....+...Cc
0230  2e 06 00 00 00 b4 04 06 0a 0a 0b
01  .....

```

CELL option82:

- l2-interface hex:

```
4e4f44452e31323838362e32343038
```

- option82 hex VSA (Type, Length, Vendor ID):

```
01214d6573323332345f414c45582d44454e20657468203130302f383a323430380208e0d9e3d2cc80
```

- l2-interface+option82:

```
4e4f44452e31323838362e3234303801214d6573323332345f414c45582d444454e20657468203130302f383a323430380208e0d9e3d2cc80
```

- cell hex

```
00000000 4E 4F 44 45 2E 31 32 38 38 36 2E 32 34 30 38 01 21 4D 65 73 32 33 32 34 5F 41 4C 45 58
2D 44 45 4E 20 65 74 68 20 31 30 NODE.12886.2408.!Mes2324_ALEX-DEN eth 10
00000028 30 2F 38 3A 32 34 30 38 02 08 E0 D9 E3 D2 CC
80 0/8:2408.....
```

- CELL:

```
$ md5sum cell
3a6700ae8a413d665ea4ee88910c8f3e cell
```

: Hotspot_ELTEX_BRAS_option82.pcap

2 Eltex-sorm2-replicator

Eltex-sorm2-replicator SoftWLC. :

- RADIUS ;
- (RADIUS accounting) -3,
- (RADIUS accounting) FTP « » (-);
- , RADIUS . Eltex-DPI-Step-Logic 0/1, .

RADIUS accounting SoftWLC, iptables RADIUS accounting c DST 1813 31813 Eltex-sorm2-replicator DST 41813. Eltex-sorm2-replicator ,
RADIUS csv . SoftWLC (B2B). (). , . Eltex-sorm2-replicator.

():

- option 82 RADIUS ;
- RADIUS ELTEX, Eltex-Ap-Domain;
- L2 (B2B), nas ip L2 ;
- EMS, IP- nas ip.

IP- , IP-, DST RADIUS (B2B). , RADIUS accounting. , .

- *IP_ACC_N_YYYYMMdd_Hhmm.csv*;

N IP Eltex-sorm2-replicator HEX, .

DPI EMS, Eltex-sorm2-replicator Eltex-DPI-Step-logic , DPI.



!

Ap-Domain , (4.6).
, (global.clients eltex-sorm2-replicator.json), . , sorm2-replicator'.

3 Eltex-radius-sorm3-federal

Eltex-radius-sorm3-federal SoftWLC. – FTP « » (-). :

1. WIFI- SoftWLC.

, Northbound-, SOAP/XML (). API – Eltex-radius-sorm3-federal. (URL) . 04:00.
hotspot :

- *ABONENTS_YYYYMMdd_Hhmm.csv*;
- *ABONENTS_ID_YYYYMMdd_Hhmm.csv*.

enterprise :

- *ABONENTS_ENTERPRISE_yyyyMMdd_Hhmm.csv;*
- *ABONENTS_ENTERPRISE_ID_yyyyMMdd_Hhmm.csv.*

:

- *ABONENTS_VOUCHER_yyyyMMdd_Hhmm.csv*
- *ABONENTS_VOUCHER_ID_yyyyMMdd_Hhmm.csv.*

WIFI- :

- *BASE_STATION_yyyyMMdd_Hhmm.csv;_*
- *BASE_STATION_IP_yyyyMMdd_Hhmm.csv;_*
- *BASE_STATION_WIFI_ANTENNA_yyyyMMdd_Hhmm.csv;_*
- *BASE_STATION_WIFI_WRL_yyyyMMdd_Hhmm.csv._*

— . , . .

2. FTP .

4

```
# sudo wget -O - http://archive.eltex.org/wireless/repo.gpg.key | sudo apt-key add -
```

softwlc-1.20-xenial:

```
# echo "deb http://archive.eltex.org/wireless/ softwlc-1.20-xenial main" >> /etc/apt/sources.list.d/eltex.list
```

5 Eltex-sorm2-replicator

5.1 Eltex-sorm2-replicator

: Linux Ubuntu Server 18.04 x64 LTS. , . Oracle JDK8.
Oracle JDK8 :

```
$ sudo apt install openjdk-8-jdk
```

java:

```
tester@ubuntu:~$ java -version
openjdk version "1.8.0_292"
OpenJDK Runtime Environment (build 1.8.0_292-8u292-b10-0ubuntu1~18.04-b10)
OpenJDK 64-Bit Server VM (build 25.292-b10, mixed mode)
```

:

```
# echo net.core.rmem_max=134217728 >> /etc/sysctl.conf
# echo net.core.rmem_default=134217728 >> /etc/sysctl.conf
# sysctl -p
```

:

1.

```
# apt update
```

2.

```
# apt install eltex-sorm2-replicator
```

3. `/etc/eltex-sorm2-replicator/eltex-sorm2-replicator.json`

```
{
  "acct.address" : "0.0.0.0",
  "acct.port" : [41813],
  "acct.receive.buffer.byte" : 134217728,

  "web.monitoring.port" : 7071,

  "cluster.enable" : false,
  "cluster.eventBusPort" : 5802,

  "radius" : {
    "url": "jdbc:mysql://localhost/radius?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000&socketTimeout=5000&autoRe
connect=true&useSSL=false",
    "user": "javauser",
    "password": "javapassword",
    "max_pool_size": 16
  },

  "sql.ems" : {
    "url": "jdbc:mysql://localhost/eltex_ems?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000&socketTimeout=5000&autoRe
connect=true&useSSL=false",
    "user": "javauser",
    "password": "javapassword",
    "max_pool_size": 16
  },

  "sql.wireless" : {
    "url": "jdbc:mysql://localhost/wireless?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000&socketTimeout=5000&autoRe
connect=true&useSSL=false",
    "user": "javauser",
    "password": "javapassword",
    "max_pool_size": 16
  },

  "mongo.sorm2" : {
    "connection_string": "mongodb://localhost:27017/sorm2"
  },

  "mongo.pcrf" : {
    "connection_string": "mongodb://localhost:27017/pcrf"
  },

  "global.clients" : {
    "enabled" : false,
    "clients" : [
      { "host" : "127.0.0.1", "port" : 11813, "secret": "eltex" }
    ]
  },

  "sorm3" : {
    "enabled" : true,
    "host" : "127.0.0.1",
    "port" : 21,
    "period_s" : 900,
    "user" : "ftp",
    "pass" : "ftp",
    "acct_dir" : null
  },

  "sorm2" : {
    "enabled" : true,
```

```

    "federated" : false
  },

  "dpi.step.logic" : {
    "enabled" : false,
    "verbose" : false
  }
}

```

- «radius» radius MySQL;
- «sql.ems» eltex_ems MySQL;
- «sql.wireless» wireless MySQL;
- «mongo.sorm2» sorm2 MongoDB;
- «mongo.pcrf» pcrf MongoDB;
- «global.clients» RADIUS accounting ;
- «sorm3» FTP ;
- «sorm2» RADIUS accounting . RADIUS accounting .
 - "federated" : true/false, "", "-2"
- «dpi.step.logic» DPI.
 - enabled=false - SSID, ,
 - enabled=true - SSID, c dpi cms radius
 - verbose=false - dpi = 1 ()
 - verbose=true - , dpi 0 1

FTP . MongoDB , :

"connection_string": "mongodb://100.110.22.36:27017,100.110.22.37:27017/pcrf?replicaSet=WIFI"

Eltex-sorm2-replicator FTP , FTP. yyyyMMdd (). , Maximum number of files per directory, , () . yyyyMMdd/file.csv.
 FTP acct_dir. , acct_dir: ACCO. ACCO/yyyyMMdd/file.csv. acct_dir: null, yyyyMMdd/file.csv.

5.2 IP_ACC_N_yyyyMMdd_Hhmm.csv

/etc/eltex-sorm2-replicator/sorm3-columns.json Eltex-sorm2-replicator.

/etc/eltex-sorm2-replicator/sorm3-columns.json :

```
{
  "CONNECTION_TIME": true,
  "REGION_ID": true,
  "POINT_ID": true,
  "LOGIN_TYPE": true,
  "SESSION_ID": true,
  "ALLOCATED_IPV4": true,
  "ALLOCATED_IPV6": true,
  "USER_NAME": true,
  "CONNECT_TYPE": true,
  "CALLING_NUMBER": true,
  "CALLED_NUMBER": true,
  "NAS_IPV4": true,
  "NAS_IPV6": true,
  "NAS_IP_PORT": true,
  "IN_BYTES_COUNT": true,
  "OUT_BYTES_COUNT": true,
  "USER_PASSWORD": true,
  "USER_EQ_MAC": true,
  "USER_EQ_VPI": true,
  "USER_EQ_VCI": true,
  "APN": true,
  "SGSN_IPV4": true,
  "SGSN_IPV6": true,
  "GGSN_IPV4": true,
  "GGSN_IPV6": true,
  "SERVICE_AREA_CODE": true,
  "LAC_START": true,
  "CELL_START": true,
  "TA_START": true,
  "WL_CELL_START": true,
  "WL_MAC_START": true,
  "LAC_END": true,
  "CELL_END": true,
  "TA_END": true,
  "WL_CELL_END": true,
  "WL_MAC_END": true,
  "PHONE_CARD_NUMBER": true,
  "IMSI": true,
  "IMEI": true,
  "ESN": true,
  "POOL": true,
  "L2_INTERFACE": false
}
```

"L2_INTERFACE".

5.3 Eltex-sorm2-replicator

mailutils ssmtp. `smtp / /etc/ssmtp/ssmtp.conf`

```
hostname=vagrant-ubuntu-xenial-64
mailhub=mail.eltex.nsk.ru
AuthUser=tester@eltex.nsk.ru
AuthPass=tester
UseTLS=NO
UseSTARTTLS=NO
```

`/etc/ssmtp/revaliases:`

```
root:tester@eltex.nsk.ru:mail.eltex.nsk.ru:25
```

`/etc/default/eltex-sorm2-replicator`

```
#Send notification
NOTIFICATION_ADDR= "email@tester.ru"
```

`eltex-sorm2-replicator`

```
service eltex-sorm2-replicator stop
```


/usr/lib/eltex-sorm2-replicator/check.sh, , .

5.4 RADIUS accounting

RADIUS accounting Eltex-sorm2-replicator, iptables. DST 1813 31813 DST 41813 Eltex-sorm2-replicator. SRC DST IP-
RADIUS- SoftWLC (Eltex-pcrf Eltex-radius). IPTables-sorm2 :

```
*raw
#-A OUTPUT -p udp --sport 1813 -j LOG --log-prefix "raw output : "
#
# conntrack`
-A OUTPUT -p udp --sport 1813 -j NOTRACK
-A OUTPUT -p udp --sport 31813 -j NOTRACK
COMMIT

*mangle
:PREROUTING ACCEPT [0:0]
:INPUT ACCEPT [0:0]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [0:0]
:POSTROUTING ACCEPT [0:0]
-A PREROUTING -p udp --dport 1813 -m mark --mark 1 -j MARK --set-mark 2
-A PREROUTING -p udp --dport 31813 -m mark --mark 1 -j MARK --set-mark 2
-A PREROUTING -p udp --dport 1813 -m mark --mark 0 -j MARK --set-mark 1
-A PREROUTING -p udp --dport 31813 -m mark --mark 0 -j MARK --set-mark 1
-A PREROUTING -p udp --dport 1813 -m mark --mark 1 -j TEE --gateway 127.0.0.1
-A PREROUTING -p udp --dport 31813 -m mark --mark 1 -j TEE --gateway 127.0.0.1
#-A OUTPUT -p udp --dport 1813 -j LOG --log-prefix "mangle output : "
COMMIT

*nat
:PREROUTING ACCEPT [0:0]
:INPUT ACCEPT [0:0]
:OUTPUT ACCEPT [0:0]
:POSTROUTING ACCEPT [0:0]
# destination sorm2
# send to other host
# 211 - 2
# 213 -
-A PREROUTING -p udp --dport 1813 -m mark --mark 1 -j DNAT --to 192.168.107.211:41813
-A PREROUTING -p udp --dport 31813 -m mark --mark 1 -j DNAT --to 192.168.107.211:41813
-A POSTROUTING -p udp --dport 41813 -m mark --mark 1 -j SNAT --to 192.168.107.213
COMMIT
```

:

192.168.107.211 – IP- Eltex-sorm2-replicator
192.168.107.213 – IP- RADIUS- SoftWLC

IP- IPtables-sorm2:

```
# iptables-restore < IPtables-sorm2
```

, , :

```
# apt-get install iptables-persistent
# service iptables-persistent save
```

ip /etc/sysctl.conf

```
sysctl net.ipv4.ip_forward=1
```

```
# sudo sysctl -p
```

5.5 Eltex-radius-nbi

mongo SORM2 API Eltex-sorm2-replicator, "*radius_nbi_config.txt*" :

```
/etc/eltex-radius-nbi/radius_nbi_config.txt
```

mongo SORM2 API Eltex-sorm2-replicator

```
#Eltex.SORM2.replicator MongoDB 'sorm2' connect*
sorm2.mongodb.enabled=true
sorm2.mongodb.uri=mongodb://localhost:27017/sorm2
#Eltex.SORM2.replicator host to use API*
sorm2.enabled=true
sorm2.url=http://192.168.107.211:7071
sorm2.username=admin
sorm2.password=password
# MongoDB , :
sorm2.mongodb.uri=mongodb://10.62.18.36:27017,10.62.18.37:27017/sorm2?replicaSet=WIFI
```

Tomcat7

```
# service tomcat8 restart
```

5.6 IP- B2B

Eltex-sorm2-replicator, RADIUS, IP-, B2B.
-> -> «-2 «»», B2B.

Стартовая

Статистика провайдера

Статистика SMS

Статистика Hotspot

Статистика Enterprise

Сервисы и тарифы

Пользователи Wi-Fi

Точки доступа

Журнал событий

Беспроводные сети

Операции по расписанию

Отчеты

Конструктор порталов

Настройки

Система

Дерево доменов

Системные пользователи

Сохранить

Система

Интеграция

Таблицы

Уведомления

Загрузить иконку

Заголовок приложения

Личный кабинет платформы Wi-Fi

Язык интерфейса и системных сообщений

ru_RU

Количество неверных попыток ввода логина и пароля оператора, п

10

Регулярное выражение для валидации номера телефона

^(79)[0-9]{9}\$

☐ Единый домен сети

Время показа всплывающих сообщений, в сек.

2

Максимальное количество записей в Журнале событий

1000000

☐ Настройка шейперов в "Дереве доменов"

☒ Настройка COPM-2 в "Дереве доменов"

. "-2" ""

Система

Дерево доменов

Системные пользователи

Системные роли

Серверные адреса

RADIUS клиенты

Обновить

Добавить

Редактировать

Копия

Удалить

Экспорт

. "" - radius, radius. MongoDB sorm2.profiles.

Добавить профиль

Имя

Описание

Домен

Домен

IP

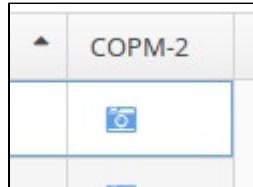
Порт

1813

Кодовое слово

Сохранить
Отменить

" "
MongoDB sorm2.links.



6 Eltex-radius-sorm3-federal

6.1 Eltex-radius-sorm3-federal

: Linux Ubuntu Server 18.04 x64 LTS. , . Oracle JDK8.
Oracle JDK8 :

```
$ sudo apt install openjdk-8-jdk
```

java:

```
tester@ubuntu:~$ java -version
openjdk version "1.8.0_292"
OpenJDK Runtime Environment (build 1.8.0_292-8u292-b10-0ubuntu1~18.04-b10)
OpenJDK 64-Bit Server VM (build 25.292-b10, mixed mode)
```

:
:

1.

```
# apt update
```

2.

```
# apt install eltex-radius-sorm3
```

6.2 Eltex-radius-sorm3-federal

```
/etc/eltex-radius-sorm/eltex-radius-sorm3.conf
```

:

```
[radius-data]
app_name=eltex-radius-sorm3-federal.jar
nbi_ip=localhost
nbi_port=8080
auth_username=admin
auth_password=password
export_path=/var/log/eltex-radius-sorm3/export_data
domain=
ftp_url=ftp://admin:password@192.168.0.1:/ftp/
start_count=128
max_count=1024
skip_with_regionId_eq_0=true
```

:

- nbi_ip – IP- Eltex-radius-nbi;
- nbi_port – SOAP/XML Eltex-radius-nbi;
- auth_username – ;
- auth_password – ;
- ftp_url – ftp ;
- start_count – , ;
- max_count – ;
- skip_with_regionId_eq_0 - REGION_ID.

04:00.
CRON:

```
cat /etc/cron.d/sorm_export
MAILTO=""
00 4 * * * root /usr/share/eltex-radius-sorm3/export_sorm.sh
```

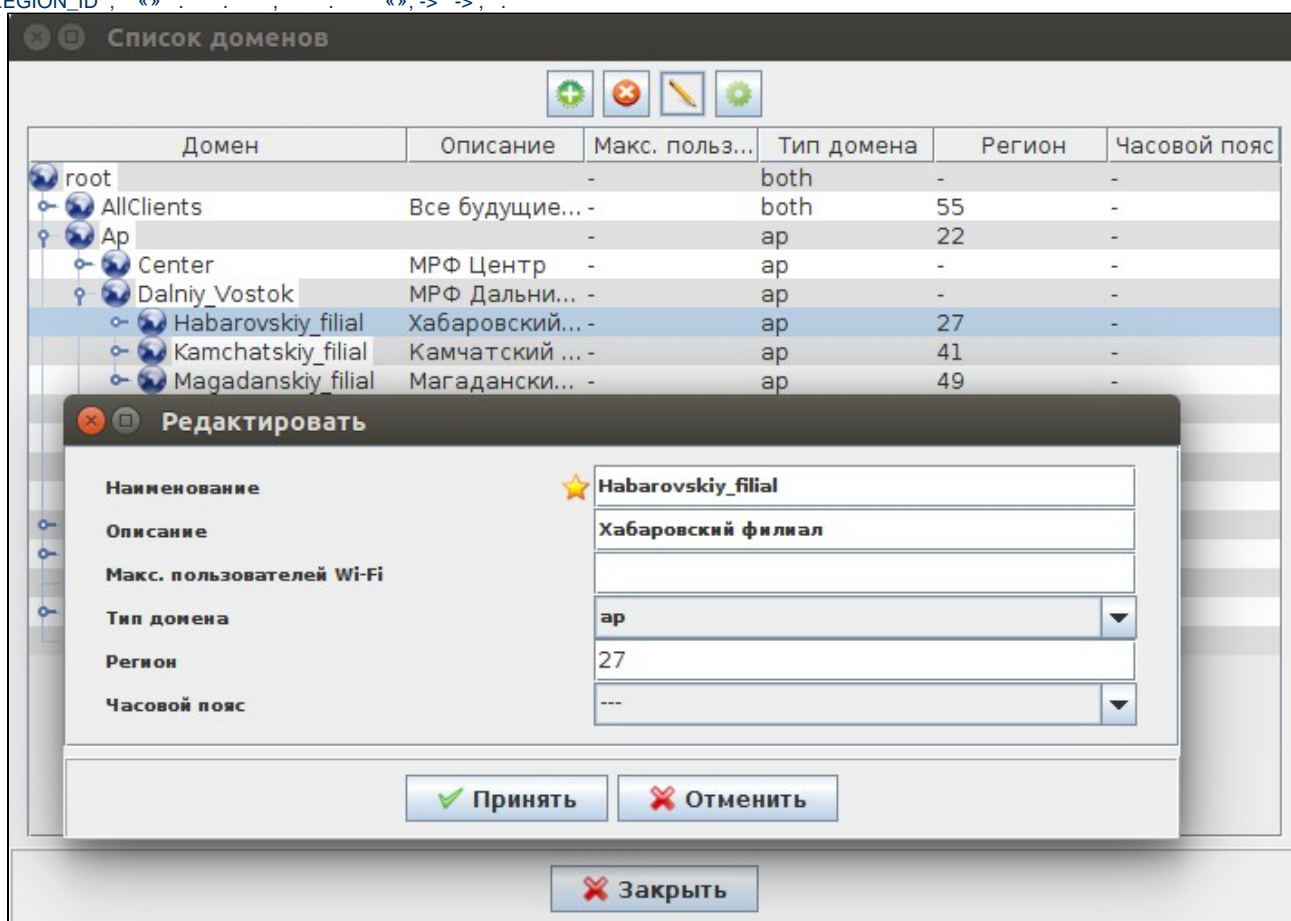


EMS cron softwlc.

6.3 EMS

6.3.1 «»

REGION_ID, «» , «», -> -> ,



, , x , ,

6.3.2

«» «», «37.587614». («»), («»). :

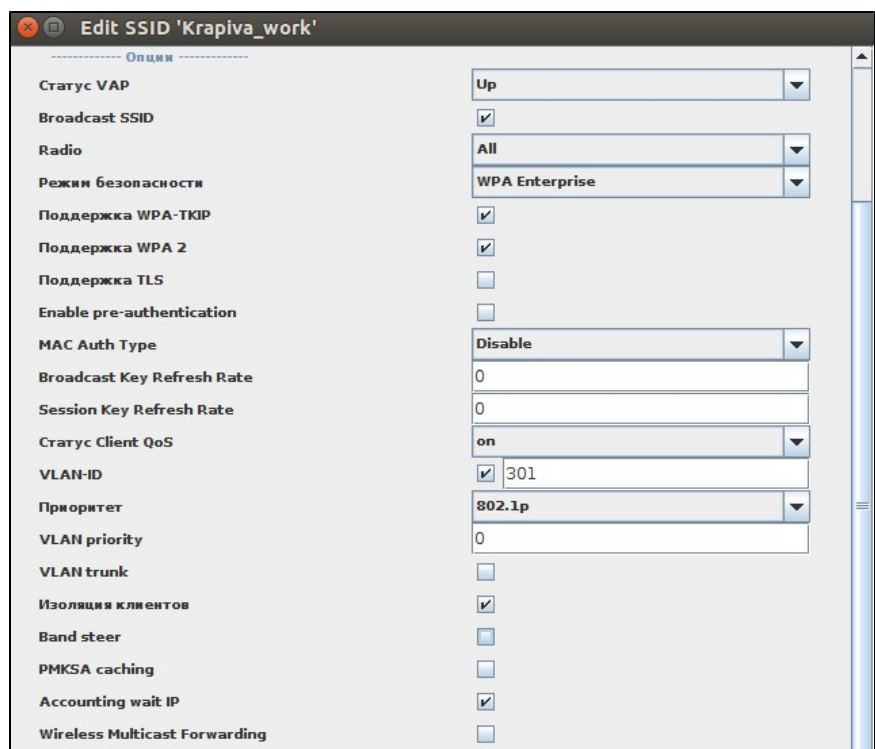
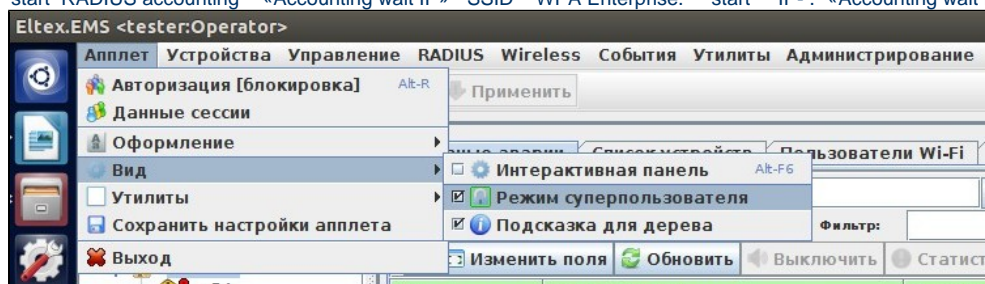
- (<http://kladr-api.ru/api.php>);
- Google(<https://maps.googleapis.com/maps/api/geocode/json>);
- Yandex(<https://geocode-maps.yandex.ru/1.x/>);

system	Режим ACS.GUI	<input type="checkbox"/>
tau	Применять генерацию пользовательских событий	<input type="checkbox"/>
ttfserver	HTTP таймаут, с	300
tl1	Тип доступа к устройствам системы	BY_DOMAIN
topgate	Проверять хостнейм для всех устройств	<input type="checkbox"/>
uap	Включить геоданные объектов	<input checked="" type="checkbox"/>
voipCommon	Включить обязательность геоданных объектов	<input checked="" type="checkbox"/>
wep	Настройка геокодера	GOOGLE
wirelessCommon		
wop		

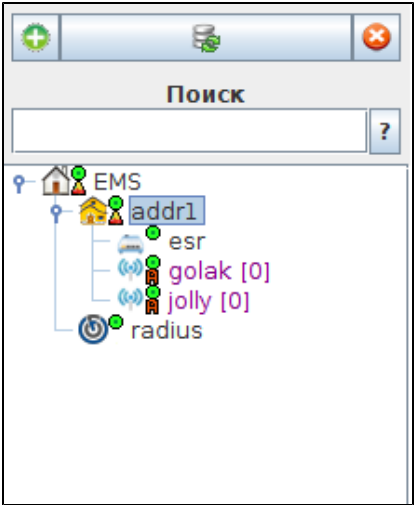
• , • , , •

6.3.3 Framed-IP-Address WPA Enterprise ELTEX

Framed-IP-Address start RADIUS accounting «Accounting wait IP» SSID WPA Enterprise. start IP- . «Accounting wait IP» « » .



6.3.4



- 2. " " DPI. .
- 3. " " " " " "

Активные аварии

Список ONT

Список устройств

Каналы PON

VoIP порты

Пользователи Wi-Fi

Мониторинг конкурентов

групповые операции

Синхронизация времени

Трап приемники

Syslog приемники

Обновление ПО

Добавить пользователя

Редактировать пользователя

Изменить пароль пользователя

Удалить пользователя

SNMP-сценарий

Добавить ТД на RADIUS

Создать data-tunnel на ESR

Установить домен ТД

Получить конфигурацию ТД

Конфигурирование ТД

Переинициализация ТД по привязке

Перезагрузить устройство

Добавить правило автообновления ONT

Редактировать правило автообновления

Удалить правило автообновления ONT

Сменить режим обновления ONT

Загрузка ПО ONT на OLT

Экспорт сводной информации об устройстве

Автоматическая смена ONT ID

Смена параметров Доступа

Обновление параметров георасположения

Тип: --- Все ---

Имя: --- Все ---

Адрес:

Обновить

Экспорт

И-сroll

Записей: 3

Имя	Адрес	Домен	MAC	Тип
esr	192.168.84.80	addr1.root	A8:F9:4B:AA:1F:C0	ESR
golak	192.168.90.32	addr1.root	A8:F9:4B:B0:5F:C0	WEP
jolly	192.168.90.30	addr1.root	e0:d9:e3:70:39:a0	WEP

Выполнить

- 4. 2 " " DPI
- DPI

DPI, SSID.

DPI SSID

- 1. "SSID"

Eltex.EMS <admin:SuperUser>

Апплет Устройства Управление OLT ONT RADIUS Wireless Netconf События Утилиты Администрирование Информация Справка

Синхронизация Поиск ONT Сохранить

XML редактор шаблонов конфигурации
Менеджер шаблонов конфигурации
Менеджер настроек FBT на ТД

События: 0 0 0 2

Поиск

Описание Пользователь

Сеть
Беспроводной доступ
Доступ
Радио интерфейсы
Виртуальные точки
Key holder data
Global RADIUS
QoS. Main
QoS. EDCA parameters
Client QoS. Global
Client QoS. Class Map
Client QoS. Policy Map
WDS
Captive Portal. Global
Captive Portal. Instance
Cluster. Main
AirTune сервис
Системное время
Системные события
SNMP
SNMP trap
CLiternet
CLissh

Менеджер SSID
Менеджер правил инициализации ТД
Сводная информация по Wi-Fi сети
Настройка максимального кол-ва клиентов
Информация по статистике PCRF

Мониторинг Конфигурация Доступ

S...	VLAN-ID	SSID	MAC	Domain	Режим безо...	Captive port...	Статус Clien...	Статус Fast...
1	1	te2	E0:D9:E3:70:3...	root	plainText	wlan0bssvap0	on	off
2	5	FREE	E0:D9:E3:70:3...	addr1.root	plainText	wlan0bssvap2	on	off
3	5	ENT	E0:D9:E3:70:3...	addr1.root	wpaEnterprise	wlan0bssvap3	on	off
4	1	Virtual Access ...	E0:D9:E3:70:3...	-	plainText	wlan0bssvap4	on	off
5	1	Virtual Access ...	E0:D9:E3:70:3...	-	plainText	wlan0bssvap5	on	off
6	1	Virtual Access ...	E0:D9:E3:70:3...	-	plainText	wlan0bssvap6	on	off
7	1	Virtual Access ...	E0:D9:E3:70:3...	-	plainText	wlan0bssvap7	on	off
8	1	Virtual Access ...	E0:D9:E3:70:3...	-	plainText	wlan0bssvap8	on	off
9	1	Virtual Access ...	E0:D9:E3:70:3...	-	plainText	wlan0bssvap9	on	off
10	1	Virtual Access ...	E0:D9:E3:70:3...	-	plainText	wlan0bssvap10	on	off
11	1	Virtual Access ...	E0:D9:E3:70:3...	-	plainText	wlan0bssvap11	on	off
12	1	Virtual Access ...	E0:D9:E3:70:3...	-	plainText	wlan0bssvap12	on	off
13	1	Virtual Access ...	E0:D9:E3:70:3...	-	plainText	wlan0bssvap13	on	off
14	1	Virtual Access ...	E0:D9:E3:70:3...	-	plainText	wlan0bssvap14	on	off
15	1	Virtual Access ...	E0:D9:E3:70:3...	-	plainText	wlan0bssvap15	on	off

Задачи

ID задачи	Название задачи	Пользователь	IP пользователя	Дата старта	Дата завершения	Статус	Прогресс	Сообщение	Прервать
21	смена параметров...	admin	192.168.84.100	2019-05-14 04:13:37	2019-05-14 04:13:37	Завершена успешно	100 %	Успешно для 2 уст...	
20	смена параметров...	admin	192.168.84.100	2019-05-14 04:03:13	2019-05-14 04:03:13	Завершена успешно	100 %	Успешно для 2 уст...	
19	смена параметров...	admin	192.168.84.100	2019-05-14 04:02:49	2019-05-14 04:02:49	Завершена успешно	100 %	Успешно для 2 уст...	
18	смена параметров...	admin	192.168.84.100	2019-05-14 04:02:34	2019-05-14 04:02:34	Завершена успешно	100 %	Успешно для 2 уст...	

2. SSID DPI, ""

Работа с менеджером SSID

База SSID
Привязки SSID
Шаблоны Policy
Шаблоны MAC
Hotspot 2.0

Страница: 1 / 1 на странице: 20 Фильтр:

Изменить поля Обновить Добавить SSID Добавить SSID привязку Редактировать

Индекс	Имя	Описание	Домен	Дата создания	Статус S
1	FREE		addr1.root	13.05.2019 07:28:...	Operationa
2	ENT		addr1.root	13.05.2019 07:28:...	Operationa

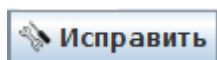
3. "DPI (Step Logic)" .

VAP Limit Down, kbps 0

DPI (Step Logic) ☒

----- Minimal signal -----

4. , "SSID", SSID



Работа с менеджером			
База SSID	Страница: 1 / 1 на странице: 20 Фильтр: <input type="text"/>		
Привязки SSID	Изменить поля Обновить Исправить Удалить Очистить		
Шаблоны Policy			
Шаблоны MAC			
Hotspot 2.0			
Индекс	Ключ NAS	SSID индекс	SSID[Домен]
1	addr1.root	1	FREE[addr1.ro
2	addr1.root	2	ENT[addr1.root

SSID DPI NBI

, SSID DPI Step Logic API NBI.

SSID wpa personal.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:nbi="http://nbi.radius.eltex.org" xmlns:xsd="http://response.object.nbi.radius.eltex.org/xsd">
  <soapenv:Header/>
  <soapenv:Body>
    <nbi:CreateSSID>
      <!--Optional:-->
      <nbi:name>Test_wpa</nbi:name>
      <!--Optional:-->
      <nbi:domain>root</nbi:domain>
      <!--Optional:-->
      <nbi:descr></nbi:descr>
      <!--Zero or more repetitions:-->
      <nbi:params>
        <xsd:name>DPI_Step_Logic</xsd:name>
        <xsd:value>true</xsd:value>
      </nbi:params>
      <nbi:params>
        <xsd:name>Security_Type</xsd:name>
        <xsd:value>1</xsd:value>
      </nbi:params>
      <nbi:params>
        <xsd:name>Broadcast_Key_Refresh_Rate</xsd:name>
        <xsd:value>0</xsd:value>
      </nbi:params>
      <nbi:params>
        <xsd:name>VAP_Status</xsd:name>
        <xsd:value>up</xsd:value>
      </nbi:params>
      <nbi:params>
        <xsd:name>Radio</xsd:name>
        <xsd:value>ALL</xsd:value>
      </nbi:params>
    </nbi:CreateSSID>
  </soapenv:Body>
</soapenv:Envelope>
```

NBI : <http://ubuntu:8080/eltex-radius-nbi/asciidoc/>

DPI .



:

1. DPI SSID .
 - a. " " DPI.
 - b. " SSID" SSID DPI, .
2. DPI SSID .
 - a. " " DPI.
 - b. " SSID" SSID, DPI, .
3. DPI SSID .
 - a. " " DPI, "" DPI.
 - b. " SSID" SSID DPI, .
4. DPI SSID .
 - a. " " DPI, "" DPI.
 - b. " SSID" SSID, DPI, .

DPI

DPI.

- ▶ AVP: t=Connect-Info(77) l=23 val=CONNECT 0Mbps 802.11g
- ▼ AVP: t=Vendor-Specific(26) l=12 vnd=Eltex Enterprise, Ltd.(35265)
 - Type: 26
 - Length: 12
 - Vendor ID: Eltex Enterprise, Ltd. (35265)
 - ▶ VSA: t=Eltex-DPI-Step-Logic(29) l=6 val=Off(0)
- ▶ AVP: t=Vendor-Specific(26) l=16 vnd=Eltex Enterprise, Ltd.(35265)

DPI.

- ▶ AVP: t=Connect-Info(77) l=23 val=CONNECT 0Mbps 802.11g
- ▼ AVP: t=Vendor-Specific(26) l=12 vnd=Eltex Enterprise, Ltd.(35265)
 - Type: 26
 - Length: 12
 - Vendor ID: Eltex Enterprise, Ltd. (35265)
 - ▶ VSA: t=Eltex-DPI-Step-Logic(29) l=6 val=On(1)
- ▶ AVP: t=Vendor-Specific(26) l=16 vnd=Eltex Enterprise, Ltd.(35265)

6.4 Eltex-radius-nbi

`/etc/eltex-radius-nbi/radius_nbi_config.txt``sorm3.enabled`

```
#It enables records export to SORM3 while editing wifi users
sorm3.enabled=true
```

`Tomcat7`

```
# service tomcat8 restart
```

:

- Wi-Fi
- () Wi-Fi

6.5

`sorm3.enabled`, `NBI` (`admin`), (`,` `).` `softwlc_service/softwlc` `NBI`. `NBI`, « `NBI`».

Конструктор порталов

Версия: 1.8-452 (06.12.17 15:16:05)

Стартовая страница

Галерея изображений

Системные настройки ▾

Конструктор порталов

Уведомления

Доступ к NBI

Доступ к NGW

Взаимодействие с BRAS

БД платежей

Доступ к NBI

Протокол

HTTP

Хост

localhost

Порт

8080

Путь к WSDL

/axis2/services/RadiusNbiService?wsdl

Имя пользователя

softwlc_service

Пароль

softwlc

Сохранить

6.5 B2B

6.6.1 B2B

`B2B`. / `Wi-Fi`, `,` `.`, `Wi-Fi`.
->, `.`

Редактировать : u2

Логин *

u2

?

Пароль *

*

?

Системная роль *

default_platform_admin

Домен *

4444.root

Часовой пояс *

(+03:00) Europe/Moscow

Дата создания

2017-09-04 08:19:54

Действует до

Фамилия *

?

Имя и отчество *

?

Мобильный телефон *

?

Email

example@example.ru

?

Описание

?

Сохранить

Отменить

6.6.2 Enterprise

, Enterprise. B2B .

7

Eltex-sorm2-replicator Eltex-radius-sorm3 . Eltex-sorm2-replicator. RADIUS Eltex-sorm2-replicator, . Eltex-radius-sorm3 .

8 Eltex-sorm2-replicator

, . 4. Eltex-sorm2-replicator 5701 tcp, 5801 tcp /etc/eltex-sorm2-replicator/hazelcast-cluster.xml :

- network:
public-address - ;
interface - , multicast;
member -).
- multicast tcp-ip .

```

<network>
  <!-- Write here public address of the node -->
  <public-address>192.168.0.1</public-address>
  <port auto-increment="false" port-count="100">5702</port>
  <outbound-ports>
    <ports>0</ports>
  </outbound-ports>
  <join>
    <multicast enabled="true">
      <trusted-interfaces>
        <interface>192.168.26.*</interface>
      </trusted-interfaces>
    </multicast>
    <tcp-ip enabled="false">
      <!-- Write here IP of all members of the cluster (including this) -->
      <member>192.168.0.1</member>
      <member>192.168.0.2</member>
    </tcp-ip>
    <discovery-strategies>
    </discovery-strategies>
  </join>
  <interfaces enabled="true">
    <!-- Write here IP of the interface to use for cluster -->
    <interface>192.168.0.1</interface>
  </interfaces>
  <ssl enabled="false"/>
  <socket-interceptor enabled="false"/>
  <symmetric-encryption enabled="false">
    <algorithm>PBEWithMD5AndDES</algorithm>
    <!-- salt value to use when generating the secret key -->
    <salt>thesalt</salt>
    <!-- pass phrase to use when generating the secret key -->
    <password>thepass</password>
    <!-- iteration count to use when generating the secret key -->
    <iteration-count>19</iteration-count>
  </symmetric-encryption>
</network>

```

/etc/eltex-sorm2-replicator/eltex-sorm2-replicator.json :

```
"cluster.enable" : true,
```

, *Eltex-sorm2-replicator* <http://ubuntu:7071/system>. :


```

{
  "key" : "PcrfErrorCode.success",
  "message" : "Success",
  "code" : 0,
  "args" : [ ],
  "data" : {
    "version" : "1.8-162 (20171017-1233)",
    "java_memory" : {
      "used" : 40,
      "free" : 267,
      "total" : 308,
      "max" : 455
    },
    "java" : {
      "vendor" : "Oracle Corporation",
      "title" : "Java Runtime Environment",
      "version" : "1.8.0_144"
    },
    "system" : {
      "cpu" : 6
    },
    "vertx" : {
      "clustered" : true
    },
    "hazelcast" : {
      "cluster" : {
        "members" : {
          "192.168.107.211" : {
            "local" : true
          },
          "192.168.107.212" : {
            "local" : false
          }
        }
      },
      "state" : "ACTIVE"
    }
  }
}

```

hazelcast .



!

	time to live (TTL)	
MongoDB sorm2.profiles	1200	evict , NBI
MongoDB sorm2.links	1200	evict , NBI
(ap domain, dpi, cms) MySQL eltex-ems.ELTEX_OBJ_GEO	600 c	
(region_id) MySQL eltex-ems.DOMAINS, DOMAIN_PARAMS	600	
(ap domain) MongoDB pcrf.subnets	600	
ssid (dpi) MySQL wireless.SSID, SSID_PARAMS	600 c	

, TTL, . DPI , , 600 .

