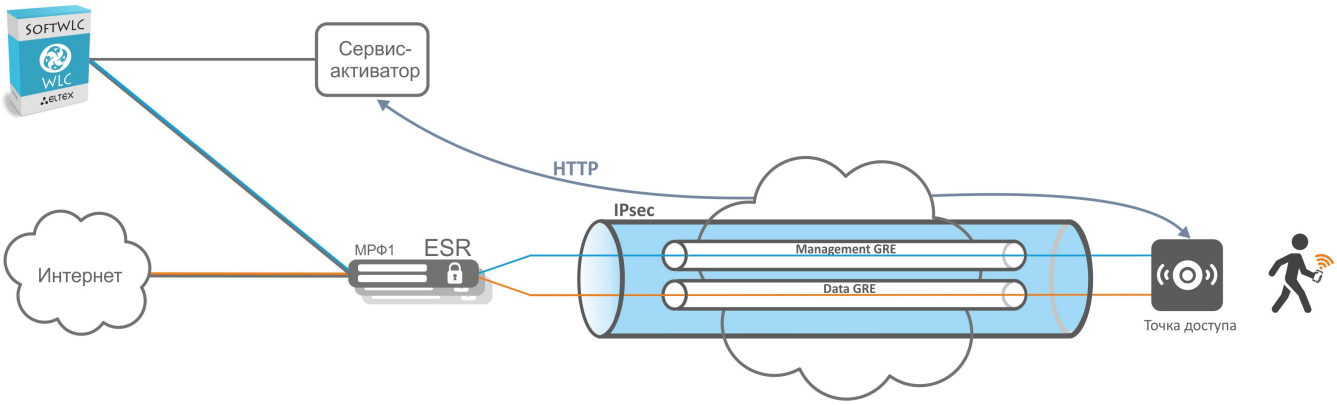
v1.18_OTT



Quickstart

1. SoftWLC -:
2. /etc/eltex-wifi-sa/factory-fw.conf , () . downgrade false. /var/lib/eltex-wifi-sa/firmware/ , /etc/eltex-wifi-sa/factory-fw.conf.
3. /etc/eltex-wifi-sa/ -.
4. /etc/eltex-wifi-sa/application.conf -. CheckMAC yes. -:
   service eltex-wifi-sa restart.
5. ESR .
6. . SNMP TCP . (.)
7. . "Connected".(.)
8. OTT IPsec. "IPsec password" , ESR, "testing123". NBI – CreateOttProfile.(. ESR OTT)
9. EMS ESR . OTT: ServiceProvider BRAS. , ESR SoftWLC. (. ESR OTT)
10. NAS (Radius -) RADIUS ESR, , "testing123".
11. ESR OTT IP ESR OTT. NBI – CreateOttStation. (. ESR OTT)
12. SSID. SSID Location, ESR, "testing2".(.)
13. "" " ", . ( )
14. " " SSID.( )

-

- – x86, Ubuntu 14.04 . POST HTTPs , SoftWLC. - – WEB-. - 8043 IP-. - URL, IP- - DNS-. - EMS, SoftWLC. - EMS (firewall). - SoftWLC firewall 8080 (HTTP), - EMS.

- -c IP- . , -c POST- - TCP-. - TCP-, .

, HTTPs- - , - . - -, Provider-ID. Provider-ID – . , , , - . - MAC- , MAC- . . , handshake .. , - . */etc/eltex-wifi-sa/factory-fw.conf*. - , , - . - .

- , -, . , , - "" .

() . , , -.

2 :

1. **OTT.** IPsec, ESR IPsec-.
   1. NBI *CreateOttProfile*.
2. **OTT ESR**. IP- ESR , . IPsec OTT ESR. , -, ESR, IP- IPsec, ESR. , ESR IPsec. ESR IPsec, . OTT ESR NBI *CreateOttStation*.

OTT ESR - ESR , ESR EMS. (Service Provider), ESR . , IP-. ESR , OTT. , ESR.

, , MAC. OTT Connected. , ESR OTT .

- ESR, IPsec : - ESR OTT , . ESR , , OTT ESR. OTT ESR , - 4022. ESR - , . - X-Auth , IP ESR, IPsec, ESR, / X-Auth.

, , ESR. ESR, , , ESR, .

-

- . Wi-Fi . "ott.root" "ott_default" "ott.root". SSID . SSID , , , . ESR OTT OTT.

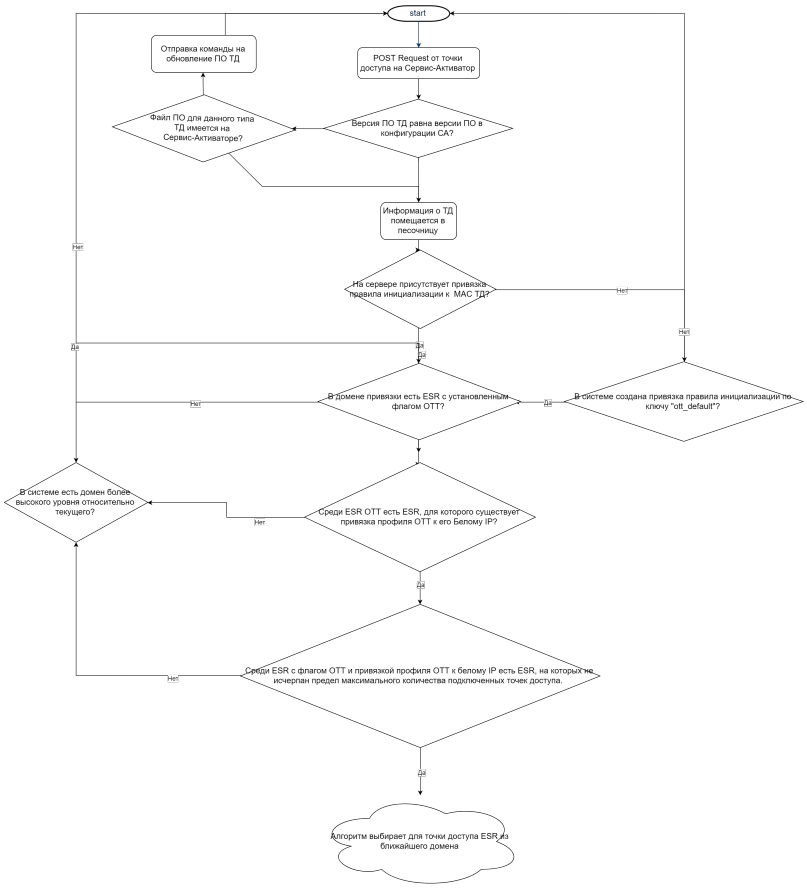
:

- POST- - .
- -, MAC- ESR .
- , IPsec-.
- SoftWLC, SSID, .

.

, MA, . , , - , . - . MAC , . .

-



- "/etc/eltex-wifi-sa/". - : "service eltex-wifi-sa restart".

, :

"application.conf".

-.

logLevel	debug, info, warn, error	info	. /var/log/eltex-wifi-sa/main.log.
requestTimeout	integer	45	M (0). , .
http { enabled	yes, no	true	HTTP.
http { port	integer (0-65535)	8042	TCP, - HTTP.
https { enabled	yes, no	true	HTTP.
https { port	integer (0-65535)	8043	TCP, - HTTPs.
https { keyStore { path	string	server.p12	-. , , .
https { keyStore { password	string	""	-. – .
https { clients { certificate	string	client.crt	. , , .
https { clients { checkMAC	yes, no	yes	MAC- , .
https { clients { fwCheckCrt	yes, no	yes	ProviderID , .
ems { host	localhost IP		EMS-, -.

ems { port	integer (0-65535)	8080	, - EMS.
ems { parallelLimit	integer	5	EMS-
ipsec-activator { wait-timer	integer	180	, IPsec-. .
ipsec-activator { update-time	integer	600	, -. .

"factory-fw.conf"

.

downgrade	true, false	false	\ ,
min	string		,
file	string		, /var/lib/eltex-wifi-sa/firmware/

/usr/lib/eltex-radius-nbi/conf/ott/ott.xml

, ESR. - , - ESR OTT , . , ESR, - ESR , ESR.

subtype	100, 200, 1000, 1200, 1700		ESR (ESR-100, ESR-200, ESR-1000, ESR-1200, ESR-1700)
max			ESR
param name, default, regex, description			, , , .

-.

- CPU 2 Core
- RAM 8GB
- HDD 100GB (5000)

-

root@vagrant-ubuntu-trusty-64:/home/vagrant# **echo "deb http://archive.eltex.org/ems 3.13 main" >> /etc/apt/sources.list.d/eltex.list**

root@vagrant-ubuntu-trusty-64:/home/vagrant# **add-apt-repository -y ppa:webupd8team/java**

root@vagrant-ubuntu-trusty-64:/home/vagrant# **apt-key adv --keyserver keyserver.ubuntu.com --recv F558A287**

root@vagrant-ubuntu-trusty-64:/home/vagrant# **apt-get update**

root@vagrant-ubuntu-trusty-64:/home/vagrant# **apt-get -y install oracle-java8-installer**

root@vagrant-ubuntu-trusty-64:/home/vagrant# **apt-get install eltex-wifi-sa**

, - , /etc/eltex-wifi-sa/application.conf EMS -:

```
ems {
host = "localhost"
port = 8080
```

ESR

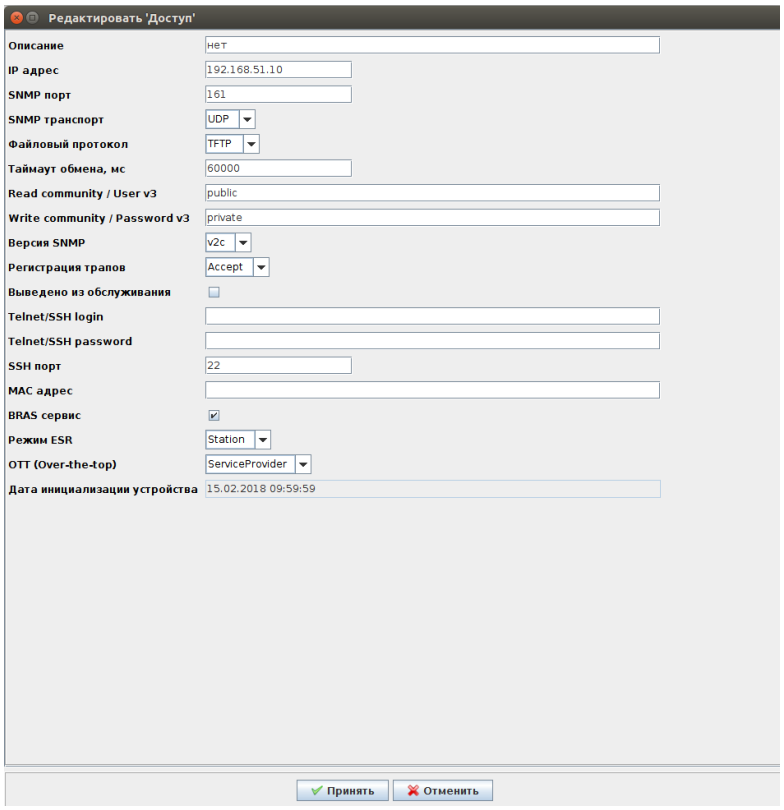
ESR 2 . , Default Gateway, ESR IPsec. ESR IP-. IP- IPsec, 500 4500 . ESR , . , 2 , Next-Hop Bridge, . , Bridge, , Next-Hop Default Gateway.

IPsec X-Auth . ESR (-) RADIUS- PCRF SoftWLC. PCRF Mongo DB ESR .

ESR N+1. ESR IPsec- - ESR. - ESR . ESR . ESR .

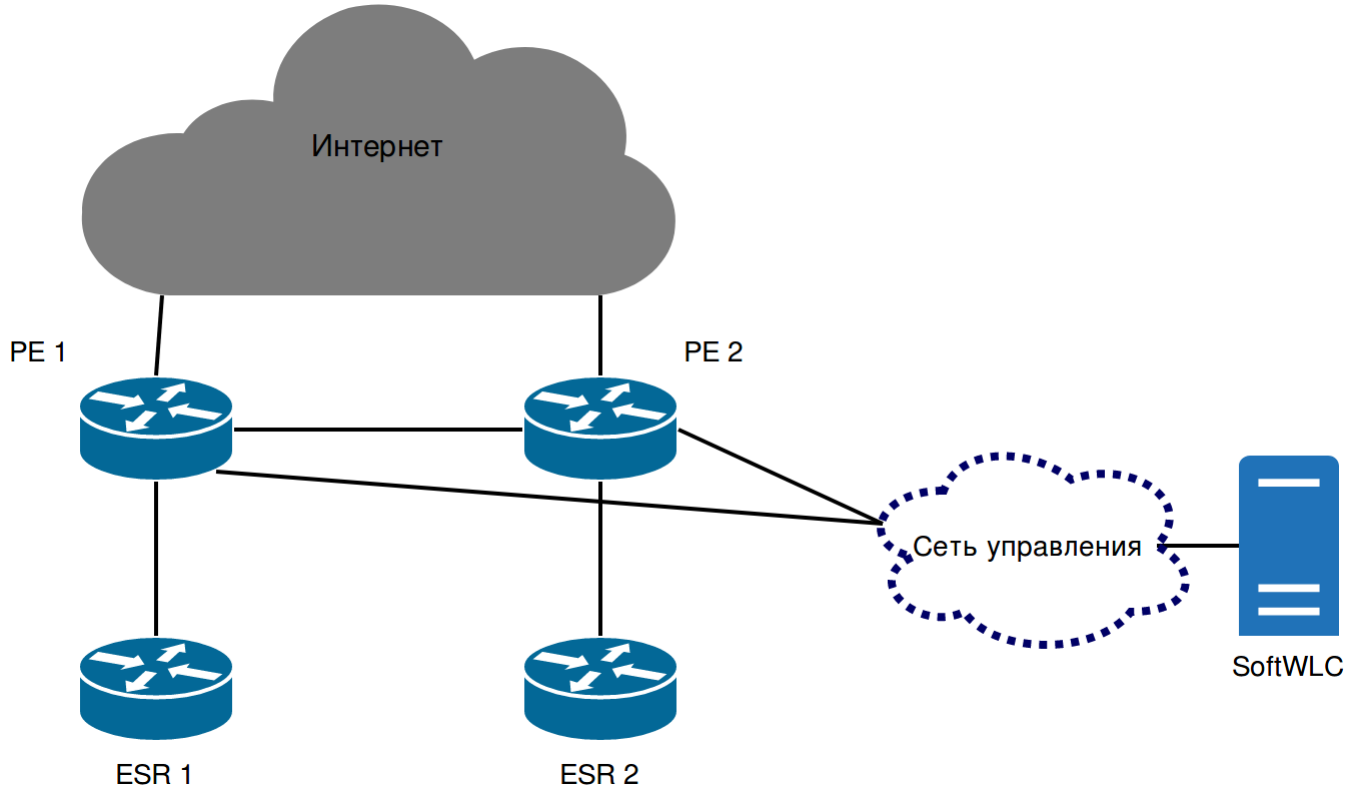
ESR -, C- ESR , . ESR ESR, - . ESR, .. ESR . ESR. , ESR . OTT ESR. ESR - , ESR. , ESR , . ESR OTT IPsec, , .. - IPsec, ESR, .

ESR



1. .
2. bridge1. .
3. IPsec bridge 1.
4. IPsec bridge 1. GRE- bridge 2.
5. GRE VLAN bridge 6.
6. bridge 7 route-map , .

ESR



1. ESR 1 ESR 2, IPsec, PE 1, PE 2.
2. ESR 1, ESR 2 , , IPsec-, BGP, PE 1 PE 2 .
3. PE 1, PE 2 , , SoftWLC.
4. ESR . , , IPsec , -, ESR . ESR.
5. ESR IP WiFi.

ESR 3.

-, IPsec IPsec-. , HTTPs, , , -. URL -, . :

1) , , "Provider-ID", URL -, . , URL . , - URL . - . - "Provider-ID", - , , – . , , , .

2) , Provider-ID, Provider-ID = "eltex" URL -. URL - , – OTT . URL - CLI WEB- . -. - Provider-ID = "eltex". Provider-ID - , URL. , , "" . "" .

MAC- . - MAC, MAC . , - . MAC.

> , . . , , . , , .

> (URL -), IP- DHCP 43 DHCP, . .

ESR-1000 - :

(GRE_ping_counter x 10) + waite_timer,

GRE_ping_counter – , waite_timer – -.

310 + 180 = 210 .

1) Eltex , . URL - . - SoftWLC. IP- , DNS .

2) IP- DHCP, . DHCP 43, , IPsec . 43 . 43, .

3) HTTPs - :

-
- MAC-
-
- HW
- Provider-ID ( )
- MAC- ( )

4) -, , Provider-ID MAC handshake, NBI EMS, .

5) :

- MAC- , : .
- OTT , EMS "" . -, .
- OTT, , , MAC, OTT - .
- , "".

6) IPsec-, EMS MAC-. .
OTT , , . EMS - OTT . , .

7) EMS, , :

- , ESR-1000. , EMS ESR-1000 IP-.
- EMS - IPsec- (MongoDB ott.xauth).
- -, EMS : IP- ESR, (x-auth), (ESR-1000 , IPsec-), IPsec ESR.
- - .

8) , IPsec- ESR-1000. IPsec- ESR-1000 PCRF SoftWLC. PCRF ott , , . , RADIUS access-accept.

IPsec IP- IPsec- . IP- EoGRE (Management Data) ESR-1000 IPsec .

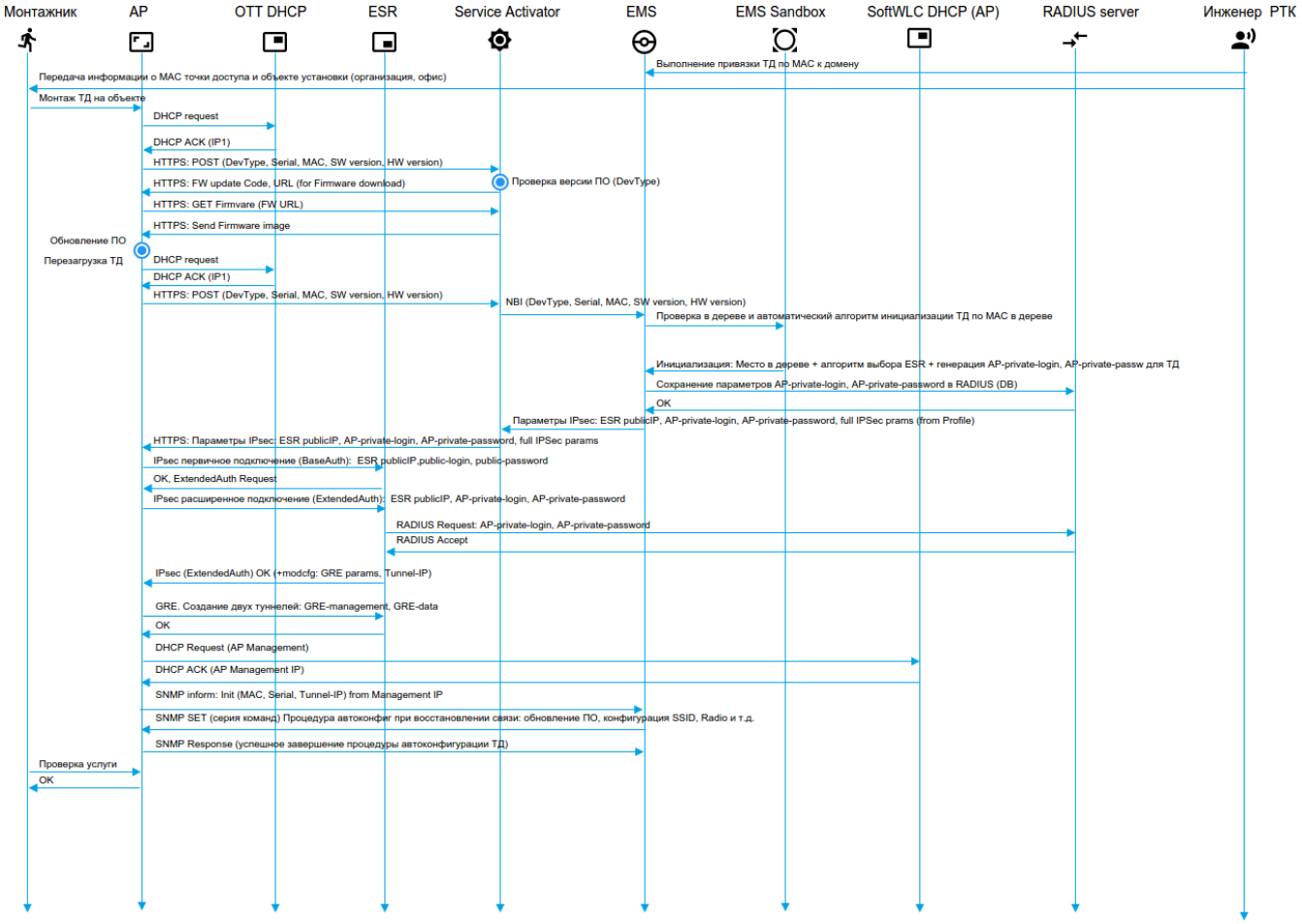
, RADIUS :

```
root@vagrant-ubuntu-trusty-64:/home/vagrant# mongo
> show databases;
local    0.078125GB
notification-gw    0.203125GB
ott    0.203125GB
pcrf    0.453125GB
wifi-customer-cab    0.203125GB
> use ott

> show tables

system.indexes

xauth

> db.xauth.find()

{ "_id" : ObjectId("5a6816b4e14c08c4d9c0854d"), "ipsec_login" : "login1", "ipsec_pass" : "password1" }

{ "_id" : ObjectId("5a6816b4e14c08c4d9c0854e"), "ipsec_login" : "login2", "ipsec_pass" : "password2" }

{ "_id" : ObjectId("5a6816b4e14c08c4d9c0854f"), "ipsec_login" : "login3", "ipsec_pass" : "password3" }
```

9) SoftWLC SNMP Management GRE , .

10) Data GRE ESR-1000 NAT.

Инициализация ТД Элтекс в сетях сторонних оперторов (OTT). Сценарий предконфигурации



▪

, OTT, *ott.root* EMS.

ott (Wireless/ /). *ott* . SNMP TCP.

Правило инициализации ТД

Главное

Тип устройства: WEP-12ac

Имя правила: ott

Домен правила: ott.root

Описание:

RADIUS

Добавить ТД в RADIUS: ☑

Ключ: eltex

Обновление ПО

Обновить на актуальный файл ПО: ☐

Протокол загрузки ПО: TFTP

Конфигурация

Восстановить конфигурацию по умолчанию: ☐

Шаблон конфигурации: <Пусто>

Доступ

SNMP транспорт: TCP

SNMP Community (только чтение): public

SNMP Community (чтение/запись): private

Принять | Отменить

ott_default, *ott* *ott.root.*

Редактирование объекта

Имя устройства: WEP-12ac

Ключ: ott_default

Имя правила: ott

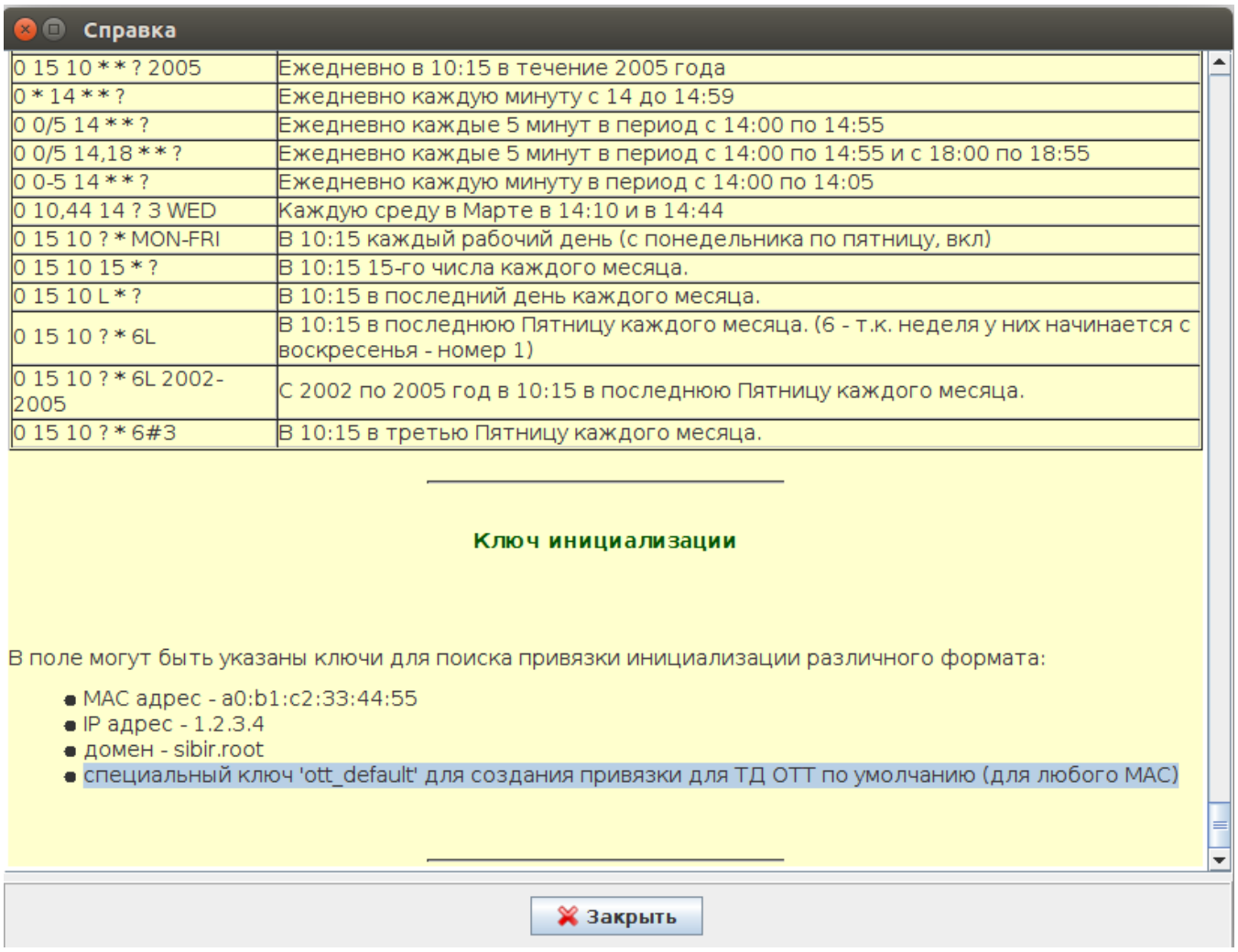
Домен правила: ott.root

Домен узла: root

OTT (Over-the-top): ☑

Принять | Отменить

ott_default , ?



Справка

0 15 10 * * ? 2005	Ежедневно в 10:15 в течение 2005 года
0 * 14 * * ?	Ежедневно каждую минуту с 14 до 14:59
0 0/5 14 * * ?	Ежедневно каждые 5 минут в период с 14:00 по 14:55
0 0/5 14,18 * * ?	Ежедневно каждые 5 минут в период с 14:00 по 14:55 и с 18:00 по 18:55
0 0-5 14 * * ?	Ежедневно каждую минуту в период с 14:00 по 14:05
0 10,44 14 ? 3 WED	Каждую среду в Марте в 14:10 и в 14:44
0 15 10 ? * MON-FRI	В 10:15 каждый рабочий день (с понедельника по пятницу, вкл)
0 15 10 15 * ?	В 10:15 15-го числа каждого месяца.
0 15 10 L * ?	В 10:15 в последний день каждого месяца.
0 15 10 ? * 6L	В 10:15 в последнюю Пятницу каждого месяца. (6 - т.к. неделя у них начинается с воскресенья - номер 1)
0 15 10 ? * 6L 2002-2005	С 2002 по 2005 год в 10:15 в последнюю Пятницу каждого месяца.
0 15 10 ? * 6#3	В 10:15 в третью Пятницу каждого месяца.

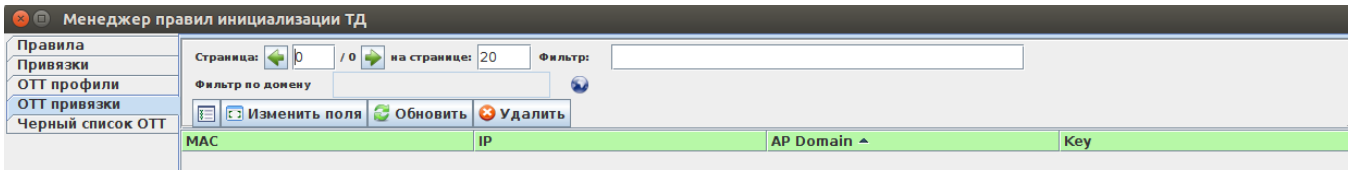
Ключ инициализации

В поле могут быть указаны ключи для поиска привязки инициализации различного формата:

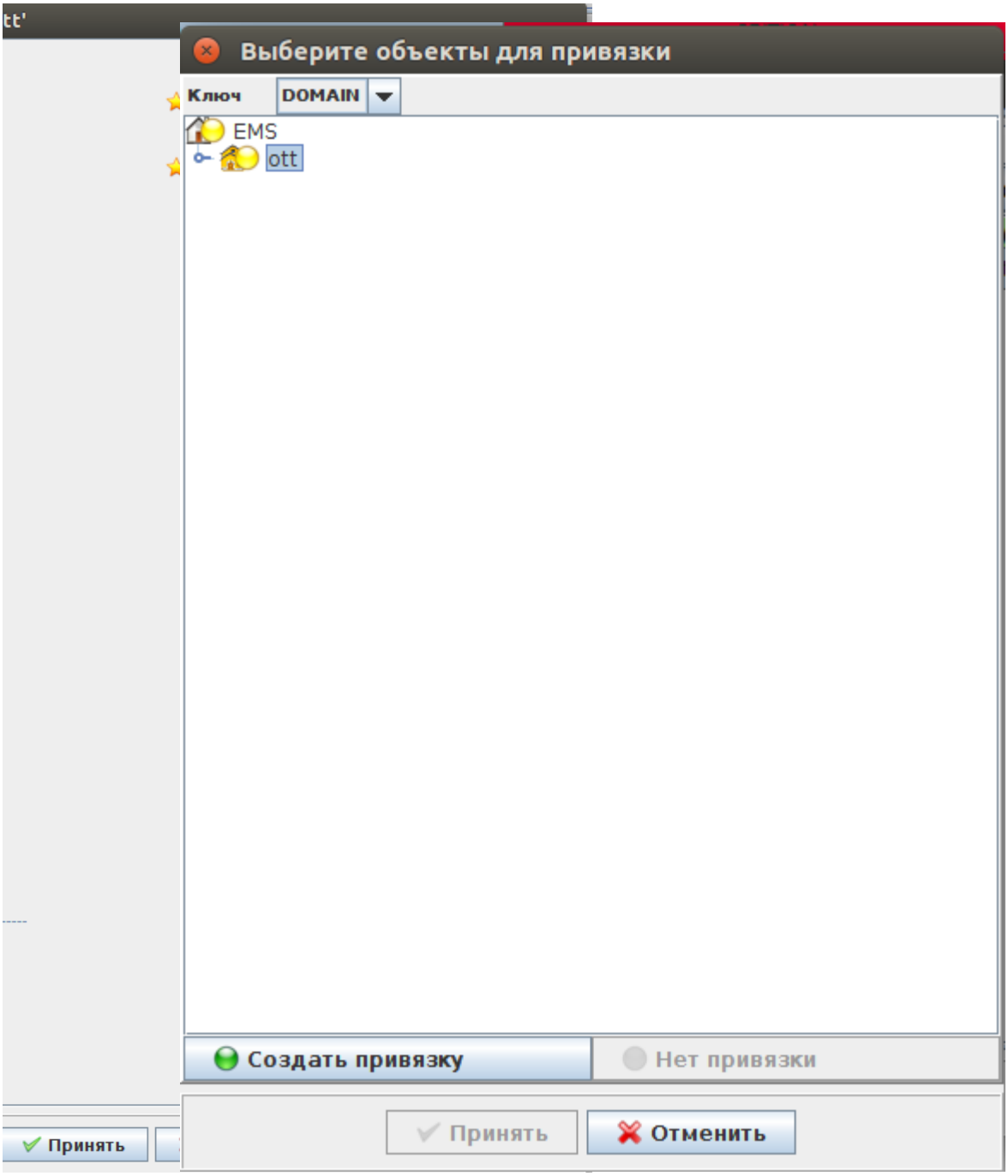
- MAC адрес - a0:b1:c2:33:44:55
- IP адрес - 1.2.3.4
- домен - sibir.root
- специальный ключ 'ott_default' для создания привязки для ТД OTT по умолчанию (для любого MAC)

Закрыть

, , Wireless/ .

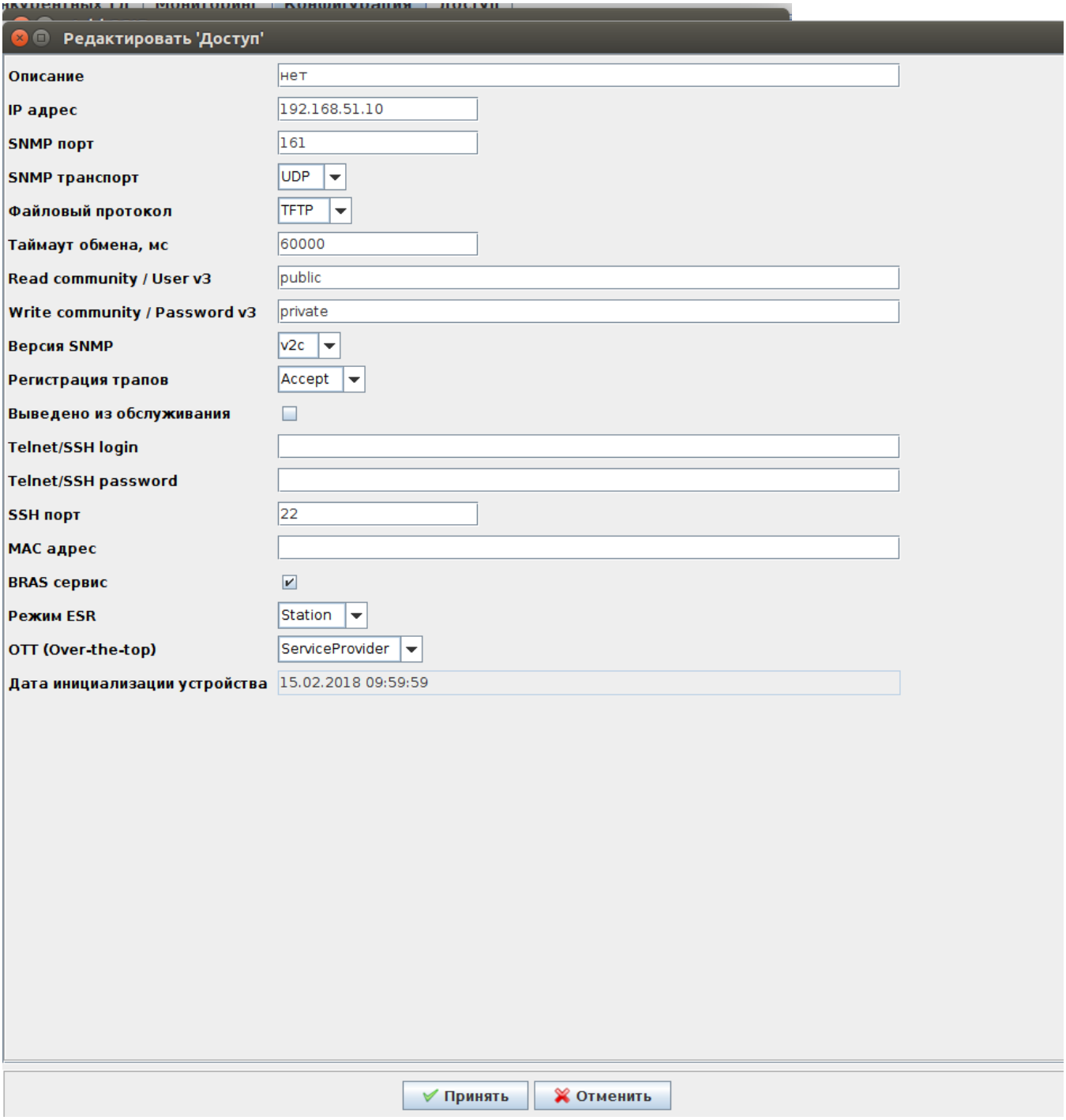


SSID ott.root (Wireless/ SSID). *Bridge, Location* location, bridge ESR.

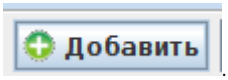


ESR OTT

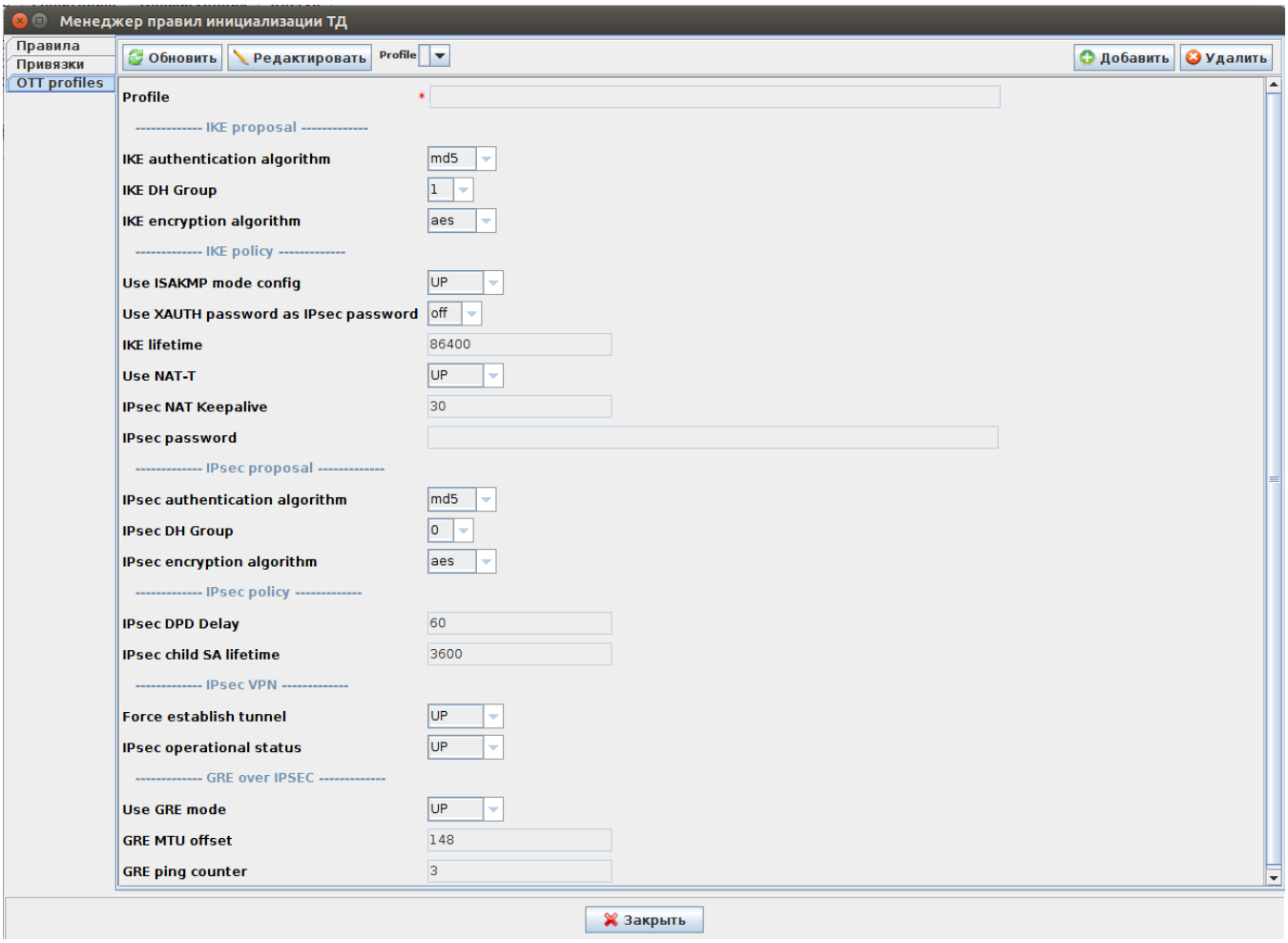
: *ServiceProvider* BRAS, *BRAS* ESR, .



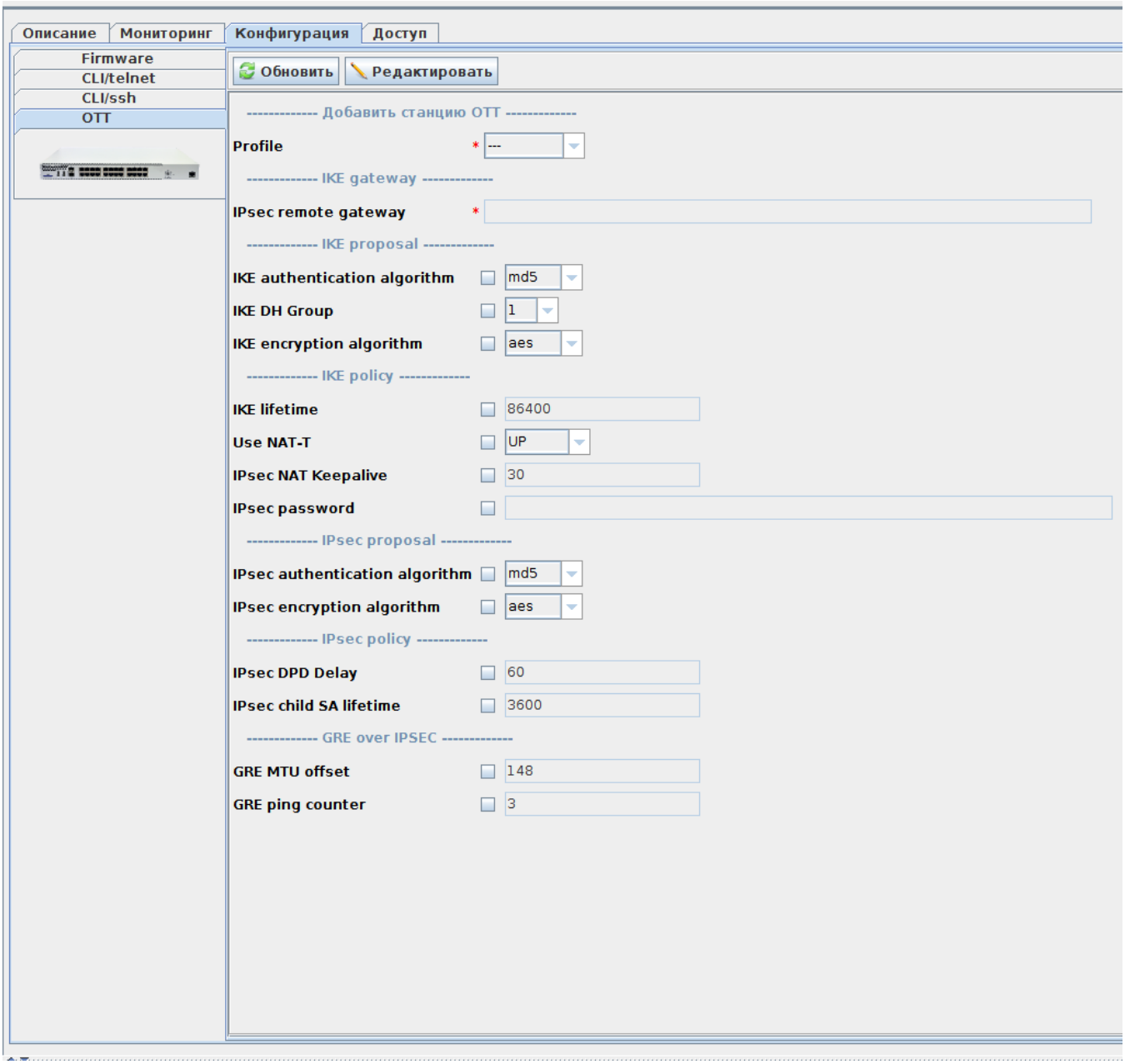
IPsec ESR. ESR.

, *Wireless/ OTT profiles.* , 

.


Менеджер правил инициализации ТД
Правила
Привязки
OTT profiles
Обновить
Редактировать
Profile
Добавить
Удалить
Profile
---------- IKE proposal ----------
IKE authentication algorithm
md5
IKE DH Group
1
IKE encryption algorithm
aes
---------- IKE policy ----------
Use ISAKMP mode config
UP
Use XAUTH password as IPsec password
off
IKE lifetime
86400
Use NAT-T
UP
IPsec NAT Keepalive
30
IPsec password
---------- IPsec proposal ----------
IPsec authentication algorithm
md5
IPsec DH Group
0
IPsec encryption algorithm
aes
---------- IPsec policy ----------
IPsec DPD Delay
60
IPsec child SA lifetime
3600
---------- IPsec VPN ----------
Force establish tunnel
UP
IPsec operational status
UP
---------- GRE over IPSEC ----------
Use GRE mode
UP
GRE MTU offset
148
GRE ping counter
3
Закрыть

, , ESR. EMS ESR .



, . , IP- ESR. IPsec remote gateway , . ESR .

Редактировать 'OTT'

Profile * ott

---------- IKE gateway ----------

IPsec remote gateway * 192.168.51.10

---------- IKE proposal ----------

IKE authentication algorithm md5

IKE DH Group 1

IKE encryption algorithm aes

---------- IKE policy ----------

IKE lifetime 86400

Use NAT-T UP

IPsec NAT Keepalive 30

IPsec password

---------- IPsec proposal ----------

IPsec authentication algorithm md5

IPsec encryption algorithm aes

---------- IPsec policy ----------

IPsec DPD Delay 60

IPsec child SA lifetime 3600

---------- GRE over IPSEC ----------

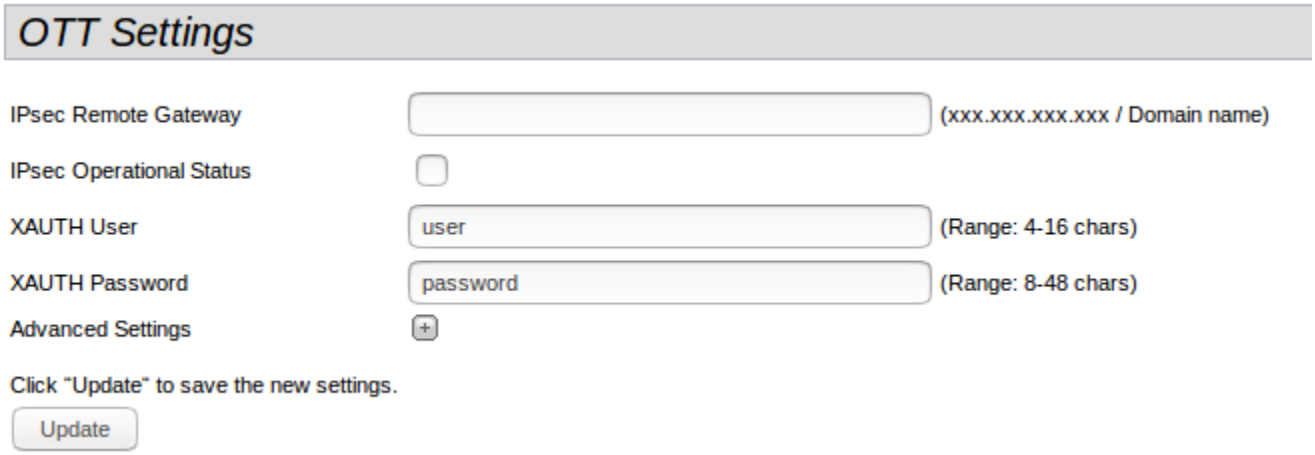
GRE MTU offset 148

GRE ping counter 3

Принять Отменить

IPsec , -

WEB- , Manage/OTT Settings



IPsec, XAUTH (, XAUTH IPsec).

Use XAUTH Password, XAUTH IPsec. IPsec Password .

Advanced Settings, IPsec

IPsec Remote Gateway		(xxx.xxx.xxx.xxx / Domain name)
IPsec Operational Status	☐	
XAUTH User	user	(Range: 4-16 chars)
XAUTH Password	password	(Range: 8-48 chars)
Advanced Settings	⊖	

IKE Proposal

IKE Authentication Algorithm	md5	
IKE DH Group	1	
IKE Encryption Algorithm	aes	

IKE Policy

Use ISAKMP Mode Config	◉ On ○ Off	
IKE Lifetime	86400	(Sec, Range: 180-86400)
Use NAT-T	☑	
IPsec NAT Keepalive	180	(Sec, Range: 1-300)
IPsec Password	password	(Range: 8-48 chars)
	☑ Use XAUTH Password	

IPsec Proposal

IPsec Authentication Algorithm	md5	
IPsec DH Group	0	
IPsec Encryption Algorithm	aes	

IPsec Policy

IPsec DPD Delay	180	(Sec, Range: 5-600)
IPsec Chaild SA Lifetime	3600	(Sec, Range: 180-86400)

IPsec VPN

Force Establish Tunnel	☑	

GRE Over IPsec

Use GRE Mode	◉ On ○ Off	
GRE Over IPsec Mgmt	192.168.3.2	(xxx.xxx.xxx.xxx)
GRE Over IPsec Data	192.168.3.3	(xxx.xxx.xxx.xxx)
GRE MTU Offset	148	(Range: 0-220)
GRE Ping Counter	3	(Range: 3-60)

Click "Update" to save the new settings.

Update

Use ISAKMP Mode Config On, GRE Over IPsec Mgmt GRE Over IPsec Data . Use ISAKMP Mode Config Off, IKE Gateway GRE Over IPsec Mgmt GRE Over IPsec Data.

IPsec Remote Gateway (xxx.xxx.xxx.xxx / Domain name)

IPsec Operational Status

Advanced Settings

IKE Proposal

IKE Authentication Algorithm md5

IKE DH Group 1

IKE Encryption Algorithm aes

IKE Policy

Use ISAKMP Mode Config On Off

IKE Lifetime 86400 (Sec, Range: 180-86400)

Use NAT-T

IPsec NAT Keepalive 180 (Sec, Range: 1-300)

IPsec Password password (Range: 8-48 chars)

IKE Gateway

IPsec Local Address 192.168.2.10 (xxx.xxx.xxx.xxx)

IPsec Remote Network 192.168.3.0 (xxx.xxx.xxx.xxx)

IPsec Remote Mask 255.255.255.0 (xxx.xxx.xxx.xxx)

IPsec Proposal

IPsec Authentication Algorithm md5

IPsec DH Group 0

IPsec Encryption Algorithm aes

IPsec Policy

IPsec DPD Delay 180 (Sec, Range: 5-600)

IPsec Chaild SA Lifetime 3600 (Sec, Range: 180-86400)

IPsec VPN

Force Establish Tunnel

GRE Over IPsec

Use GRE Mode On Off

GRE Over IPsec Mgmt 192.168.3.2 (xxx.xxx.xxx.xxx)

GRE Over IPsec Data 192.168.3.3 (xxx.xxx.xxx.xxx)

GRE MTU Offset 148 (Range: 0-220)

GRE Ping Counter 3 (Range: 3-60)

Click "Update" to save the new settings.

Update

:

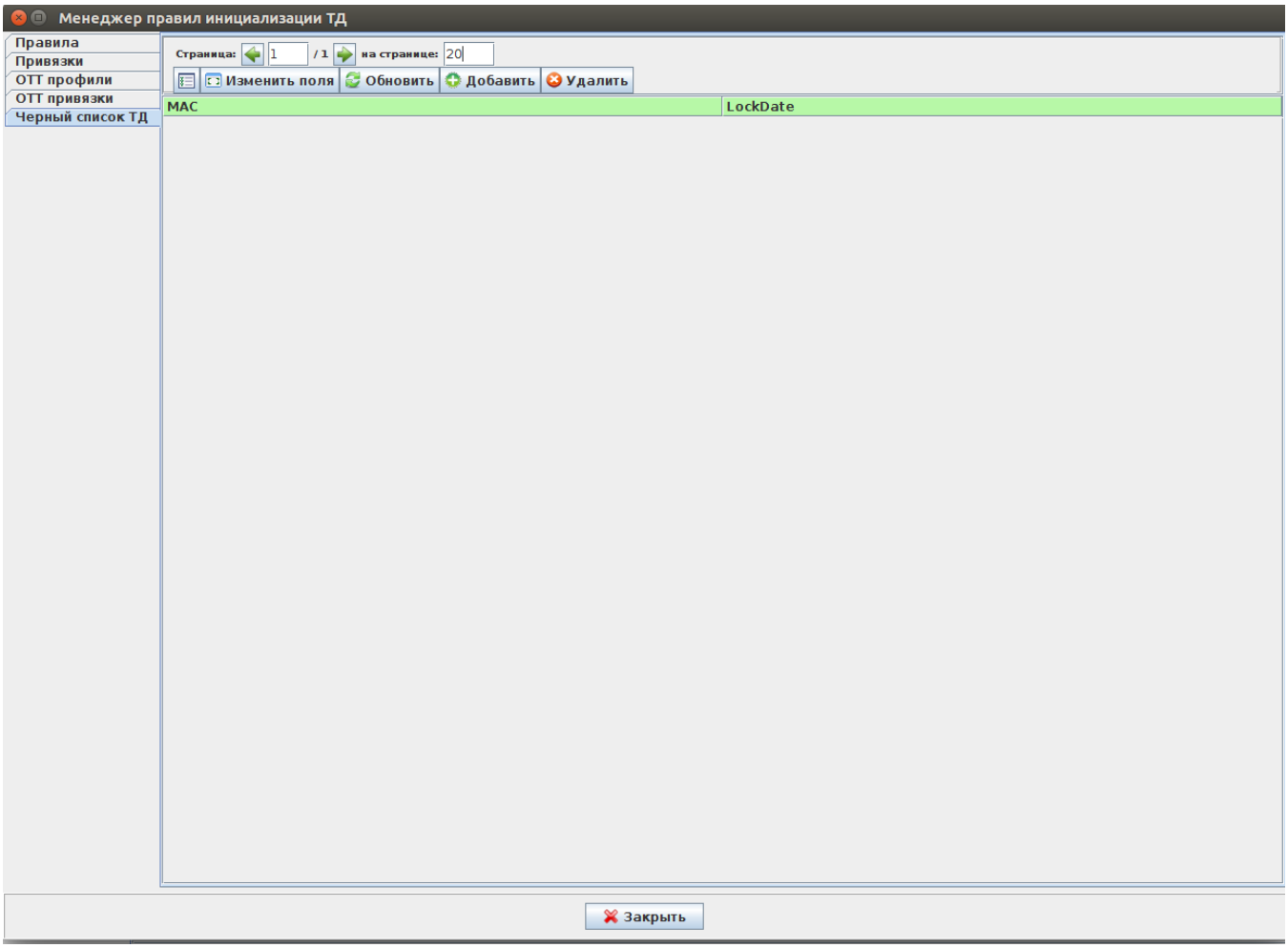
- **IPsec Remote Gateway –** IP- (xxx.xxx.xxx.xxx /).
- **IPsec Operational Status –** IPsec.

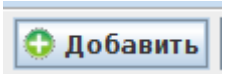
- **XAUTH User –** XAUTH, "Use ISAKMP Mode Config On" (: 4-16).
- **XAUTH Password –** XAUTH, "Use ISAKMP Mode Config On" (: 4-16).
- **IKE Authentication Algorithm –** , (md5, sha1).
- **IKE DH Group –** -, (1,2,5).
- **IKE Encryption Algorithm –** 1 IPsec (AES128, DES, 3DES).
- **Use ISAKMP Mode Config –** «On» – «GRE Over IPsec Mgmt», «GRE Over IPsec Data», « IPsec», « IPsec», « IPsec Remote Mask».
- **IKE Lifetime –** IKE SA (1) . IKE/IPsec (, : 180–86400).
- **Use NAT-T –** , NAT.
- **IPsec NAT Keepalive –** keepalive NAT (Sec, Range: 1-300).
- **IPsec Password –** IKE/ISPEC (: 8-48).
- **IPsec Local Address –** , IKE 255.255.255.255 (/ 32). , « ISAKMP Config On» (xxx.xxx.xxx.xxx).
- **IPsec Remote Network –** IKE. , « ISAKMP Config On» (xxx.xxx.xxx.xxx).
- **IPsec Remote Mask –** IKE . , « ISAKMP Config On» (xxx.xxx.xxx.xxx).
- **IPsec Authentication Algorithm –** , (md5, sha1).
- **IPsec DH Group –** - . 0 IKE (0,1,2,5)**.**
- **IPsec Encryption Algorithm –** 1 IPsec (AES128, DES, 3DES).
- **IPsec DPD Delay –** ESR , (: 5-600)
- **IPsec Child SA Lifetime –** IPsec VPN SA (2) . IKE/IPsec. , IKE Lifetime (Sec, Range: 180-86400).
- **Force Establish Tunnel –** GRE IPsec. IP- GRE IPsec.
- **GRE Over IPsec Mgmt –** IP- GRE (xxx.xxx.xxx.xxx).
- **GRE Over IPsec Data –** IP- GRE (xxx.xxx.xxx.xxx).
- **GRE MTU Offset –** MTU . MTU - GRE MTU Offset.
- **GRE Ping Counter –** gre-managment-ip, IPsec- . 10 . 3 60. 3.

> IPsec child SA lifetime IKE lifetime. . IKE lifetime 86400 (), IPsec child SA lifetime 3600 (). IPsec 24 , IKE .

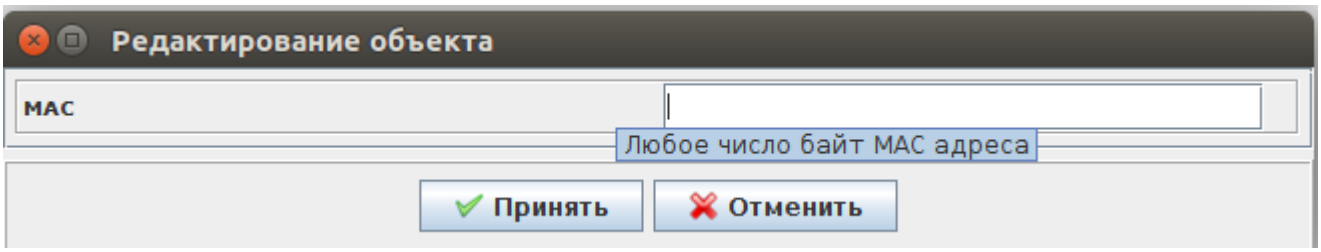
GUI EMS.

Wireless/ /





-. MAC- .



-. MAC-, .

, aa:bb:01, aa:bb:01:02:03:04 " aa:bb:01". , "".

OTT link

, OTT link:

- EMS
- EMS OTT,
- ESR EMS
- IP ESR EMS
- ESR EMS station
- ESR OTT

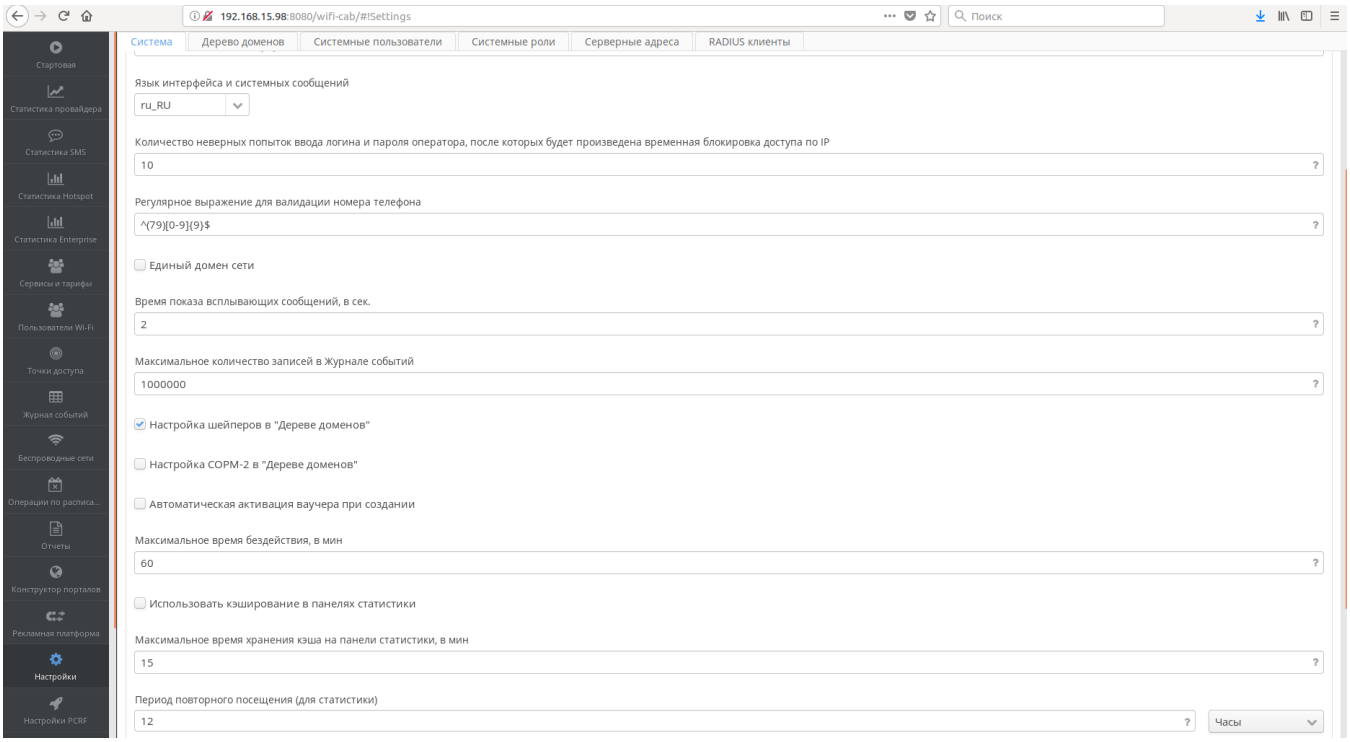
OTT :

```
$ mongo
> use ott;
> db.station.find({esr_ip: '<ip  esr>'}).pretty();
```

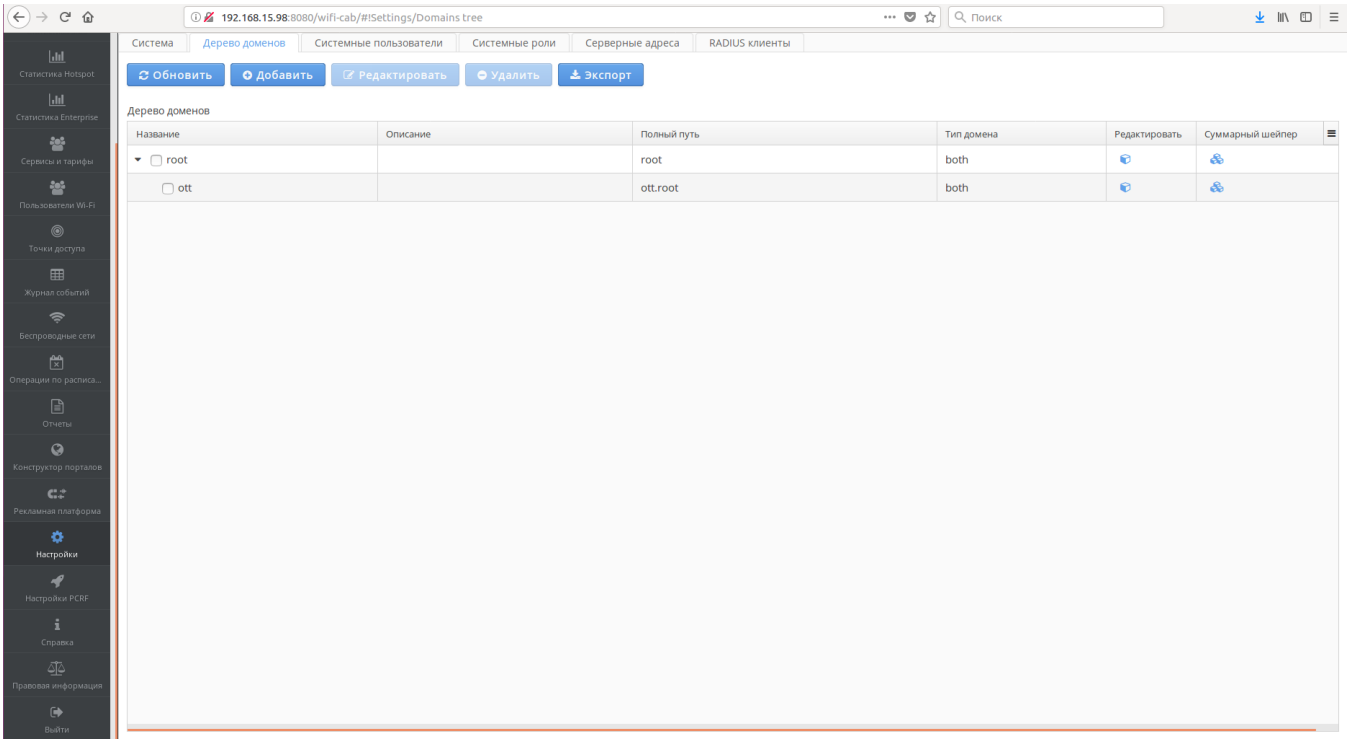
OTT :

```
$ mongo
> use ott;
> db.xauth.find({esr_ip: '<ip  esr>'}).pretty();
> db.xauth.find({mac: '<mac  >'}).pretty();
```

"" " ", .


192.168.15.98:8080/wifi-cab/#!Settings
Система
Дерево доменов
Системные пользователи
Системные роли
Серверные адреса
RADIUS клиенты
Язык интерфейса и системных сообщений
ru_RU
Количество неверных попыток ввода логина и пароля оператора, после которых будет произведена временная блокировка доступа по IP
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 СОРМ-2 в "Дереве доменов"
Автоматическая активация ваучера при создании
Максимальное время бездействия, в мин
60
Использовать кэширование в панелях статистики
Максимальное время хранения кэша на панели статистики, в мин
15
Период повторного посещения (для статистики)
12
Часы
Стартовая
Статистика провайдера
Статистика SMS
Статистика Hotspot
Статистика Enterprise
Сервисы и тарифы
Пользователи Wi-Fi
Точки доступа
Журнал событий
Беспроводные сети
Операции по расписа...
Отчеты
Конструктор порталов
Рекламная платформа
Настройки
Настройки PCRF

" " SSID.


192.168.15.98:8080/wifi-cab/#!Settings/Domains tree
Система
Дерево доменов
Системные пользователи
Системные роли
Серверные адреса
RADIUS клиенты
Обновить
Добавить
Редактировать
Удалить
Экспорт
Дерево доменов
Название
Описание
Полный путь
Тип домена
Редактировать
Суммарный шейпер
root
root
both
ott
ott.root
both
Статистика Hotspot
Статистика Enterprise
Сервисы и тарифы
Пользователи Wi-Fi
Точки доступа
Журнал событий
Беспроводные сети
Операции по расписа...
Отчеты
Конструктор порталов
Рекламная платформа
Настройки
Настройки PCRF
Справка
Правовая информация
Выйти

" " SSID.

Суммарный shaper для 'ott.root'

Домен shaper'a

ott.root

Average upstream bandwidth, Kbps

?

Peak upstream bandwidth, Kbps

?

Average downstream bandwidth, Kbps

?

Peak downstream bandwidth, Kbps

?

Shaper'a на SSID

SSID	SSID domain	Average up, Kbps	Peak up, Kbps	Average down, Kbps	Peak down, Kbps
hotspot_ott	ott.root				

Отменить

NBI OTT

OTT NBI.

eltex-radius-nbi. http://localhost:8080/eltex-radius-nbi/asciidoc/

WSDL- http://localhost:8080/axis2/services/RadiusNbiService?wsdl

(localhost IP- nbi)

Описание команд NBI XML/SOAP

Система SoftWLC

Версия 1.9-105
Дата публикации 26-01-2018 18:14:15

1. IPsec

```
Description IKE authentication algorithm (md5, sha1), md5 by default
Name ipsec.auth-alg
Regex (md5|sha1)

Description IKE DH Group (1, 2, 5), 1 by default
Name ipsec.dh-group
Regex (1|2|5)

Description IPSEC DPD Delay (5..600), 60 by default
Name ipsec.dpd-delay
Regex ([5-9]|[1-9][0-9]|10[0-9]|1[1-9][0-9]|[2-5][0-9][0-9]|600)

Description IKE encryption algorithm (aes, des, 3des), aes by default
Name ipsec.encrypt-alg
Regex (aes|des|3des)

Description Force establish tunnel (UP, DOWN), UP by default
Name ipsec.force-establish
```

```
Regex (UP|DOWN)

Description Use GRE mode (UP, DOWN), UP by default
Name ipsec.gre-mode
Regex (UP|DOWN)

Description GRE mtu offset (0..220), 148 by default
Name ipsec.gre-mtu-offset
Regex ([0-9]|[1-9][0-9]|10[0-9]|1[1-9][0-9]|220|2[0-1][0-9])

Description IKE lifetime (180..86400), 86400 by default
Name ipsec.lifetime
Regex (18[0-9]|19[0-9]|[2-9][0-9][0-9]|[1-9][0-9][0-9][0-9]|1000[0-9]|100[1-9][0-9]|10[1-9][0-9][0-9]|1[1-9][0-
9][0-9][0-9]|[2-7][0-9][0-9][0-9][0-9]|86400|86[0-3][0-9][0-9]|8[0-5][0-9][0-9][0-9])

Description Use ISAKMP mode config (UP, DOWN), UP by default
Name ipsec.mode-cfg
Regex (UP|DOWN)

Description Use NAT-T (UP, DOWN), UP by default
Name ipsec.nat
Regex (UP|DOWN)

Description IPSEC NAT Keepalive (1..300), 30 by default
Name ipsec.nat-keepalive
Regex ([1-9]|[1-9][0-9]|10[0-9]|1[1-9][0-9]|2[0-9][0-9]|300)

Description IPSEC password (8-48 chars)
Name ipsec.password
Regex ([A-Za-z0-9]{8,48})

Description IPSEC DH Group (0, 1, 2, 5), 0 by default
Name ipsec.pfs-group
Regex (0|1|2|5)

Description IPSEC authentication algorithm (md5, sha1), md5 by default
Name ipsec.sa-auth-alg
Regex (md5|sha1)

Description IPSEC encryption algorithm (aes, des, 3des), aes by default
Name ipsec.sa-encrypt-alg
Regex (aes|des|3des)

Description IPSEC child SA lifetime (180..86400), 3600 by default
Name ipsec.sa-lifetime
Regex (18[0-9]|19[0-9]|[2-9][0-9][0-9]|[1-9][0-9][0-9][0-9]|1000[0-9]|100[1-9][0-9]|10[1-9][0-9][0-9]|1[1-9][0-
9][0-9][0-9]|[2-7][0-9][0-9][0-9][0-9]|86400|86[0-3][0-9][0-9]|8[0-5][0-9][0-9][0-9])

Description IPSEC operational status (UP, DOWN), UP by default
Name ipsec.status
Regex (UP|DOWN)

Description Use XAUTH password as IPSEC password (on/off) default off
Name ipsec.use-xauth-passwd
Regex (on|off)

Description XAUTH password (8-48 chars)
Name ipsec.xauth-password
Regex ([A-Za-z0-9]{8,48})

Description XAUTH user (4-16 chars)
Name ipsec.xauth-user
Regex ([A-Za-z0-9]{4,16})

Description IPSEC remote gateway (IP or URL)
Name ipsec.remote-gateway
<ax273:valueRegex xsi:nil="true"/>
```

2. , -

Message	
Connection refused	- 8042
"code":4022, "msg":"No init link found"	
"code":1,"msg":"In request by key 'domain' value is empty or null"	, , ESR OTT (OTT "")
"code":4024, "msg":"No OTT station configured"	ESR, OTT IP- ESR OTT, ESR, .
"code":4023	NB
"code": 4025, "msg": "/ott/upgrade/WOP-12ac-LR-RevB.tar.gz"	.

3. ESR

ESR .

1

1.6.2, BGP, ESR, EoGRE . :

1) gi1/0/1.4092: 10.12.20.4/28 - , , IPsec;

2) gi1/0/1.212: 100.64.0.66/30 - , VRF backbone SoftWLC, DHCP DNS ;

3) gi1/0/1.213: 100.64.0.70/30 - , VRF nat ;

4) bridge 1: 192.168.200.49/28 192.168.200.50/28 - EoGRE , ;

5) bridge 3: 192.168.128.0/22 - . 192.168.128.1 ESR SoftWLC;

6) bridge 10: 198.18.160.0/22 - . - 198.18.160.1, DNS 100.123.0.2;

7) 172.31.252.0/22 - , mode config, EoGRE ;

8) 100.110.123.0/24 - . 100.123.0.2 - SoftWLC, DHCP, DNS.

. . gi1/0/1.4092, gi1/0/1.213 PBR, ESR "users_map".

```
hostname esr-ipsec

object-group service dhcp_server
  port-range 67
exit
object-group service dhcp_client
  port-range 68
exit
object-group service ipsec_ports
  port-range 500
  port-range 4500
exit
object-group service dns
  port-range 53
exit

object-group network SoftWLC
  ip prefix 100.123.0.0/24
exit
object-group network ipsec_remote_address
  ip prefix 10.100.0.0/16
  ip prefix 172.31.252.0/22
exit
object-group network gre_termination
  ip prefix 192.168.200.48/28
exit
object-group network AP_mgmt
```

```
  ip prefix 192.168.128.0/22
  ip prefix 198.18.160.0/22
exit
object-group network AP_users
  ip prefix 198.18.160.0/22
exit

syslog console none

radius-server timeout 10
radius-server retransmit 5
radius-server host 100.123.0.2
  key ascii-text encrypted 88B11079B9014FAAF7B9
  timeout 11
  priority 20
  source-address 192.168.128.1
  auth-port 31812
  acct-port 31813
  retransmit 10
  dead-interval 10
exit
aaa radius-profile PCRF
  radius-server host 100.123.0.2
exit
das-server COA
  key ascii-text encrypted 88B11079B9014FAAF7B9
  port 3799
  clients object-group SoftWLC
exit
aaa das-profile COA
  das-server COA
exit

tech-support login enable
root login enable

vlan 3
  force-up
exit
vlan 10
  force-up
exit

security zone trusted
exit
security zone untrusted
exit
security zone ipsec
exit
security zone gre
exit
security zone users
exit

ip access-list extended users_pbr
  rule 10
    action deny
    match protocol udp
    match source-port 68
    match destination-port 67
    enable
  exit
  rule 11
    action deny
    match protocol udp
    match destination-port 53
    enable
  exit
  rule 20
    action permit
    enable
```

```
  exit
exit

route-map out_BGP_AP
  rule 10
    match ip address object-group AP_mgmt
    action permit
  exit
exit
route-map out_BGP_NAT
  rule 10
    match ip address object-group AP_users
    action permit
  exit
exit
route-map users_map
  rule 10
    match ip access-group users_pbr
    action set ip next-hop verify-availability 100.64.0.69 10
    action permit
  exit
exit
router bgp 64604
  address-family ipv4
    router-id 198.18.156.1
    redistribute connected
    neighbor 100.64.0.65
      remote-as 65001
      route-map out_BGP_AP out
      update-source 100.64.0.66
      enable
    exit
    neighbor 100.64.0.69
      remote-as 65001
      route-map out_BGP_NAT out
      update-source 100.64.0.70
      enable
    exit
    enable
  exit
exit

snmp-server
snmp-server system-shutdown
snmp-server community "private1" rw
snmp-server community "public11" ro

snmp-server host 100.123.0.2
exit

snmp-server enable traps
snmp-server enable traps config
snmp-server enable traps config commit
snmp-server enable traps config confirm
snmp-server enable traps environment
snmp-server enable traps environment fan
snmp-server enable traps environment fan-speed-changed
snmp-server enable traps environment fan-speed-high
snmp-server enable traps environment memory-flash-critical-low
snmp-server enable traps environment memory-flash-low
snmp-server enable traps environment memory-ram-critical-low
snmp-server enable traps environment memory-ram-low
snmp-server enable traps environment cpu-load
snmp-server enable traps environment cpu-critical-temp
snmp-server enable traps environment cpu-overheat-temp
snmp-server enable traps environment cpu-supercooling-temp
snmp-server enable traps environment board-overheat-temp
snmp-server enable traps environment board-supercooling-temp
snmp-server enable traps wifi
snmp-server enable traps wifi wifi-tunnels-number-in-bridge-high
snmp-server enable traps file-operations
```

```
snmp-server enable traps file-operations successful
snmp-server enable traps file-operations failed
snmp-server enable traps file-operations canceled
snmp-server enable traps interfaces
snmp-server enable traps interfaces rx-utilization-high
snmp-server enable traps interfaces tx-utilization-high
snmp-server enable traps interfaces number-high
snmp-server enable traps bras
snmp-server enable traps bras sessions-number-high
snmp-server enable traps screen
snmp-server enable traps screen dest-limit
snmp-server enable traps screen source-limit
snmp-server enable traps screen icmp-threshold
snmp-server enable traps screen udp-threshold
snmp-server enable traps screen syn-flood
snmp-server enable traps screen land
snmp-server enable traps screen winnuke
snmp-server enable traps screen icmp-frag
snmp-server enable traps screen udp-frag
snmp-server enable traps screen icmp-large
snmp-server enable traps screen syn-frag
snmp-server enable traps screen unknown-proto
snmp-server enable traps screen ip-frag
snmp-server enable traps screen port-scan
snmp-server enable traps screen ip-sweep
snmp-server enable traps screen syn-fin
snmp-server enable traps screen fin-no-ack
snmp-server enable traps screen no-flag
snmp-server enable traps screen spoofing
snmp-server enable traps screen reserved
snmp-server enable traps screen quench
snmp-server enable traps screen echo-request
snmp-server enable traps screen time-exceeded
snmp-server enable traps screen unreachable
snmp-server enable traps screen tcp-all-flags
snmp-server enable traps entity
snmp-server enable traps entity config-change
snmp-server enable traps entity-sensor
snmp-server enable traps entity-sensor threshold
snmp-server enable traps envmon
snmp-server enable traps envmon fan
snmp-server enable traps envmon shutdown
snmp-server enable traps envmon temperature
snmp-server enable traps flash
snmp-server enable traps flash insertion
snmp-server enable traps flash removal
snmp-server enable traps snmp
snmp-server enable traps snmp authentication
snmp-server enable traps snmp coldstart
snmp-server enable traps snmp linkdown
snmp-server enable traps snmp linkup
snmp-server enable traps syslog

bridge 1
  description "gre_termination"
  vlan 1
  security-zone gre
  ip address 192.168.200.49/28
  ip address 192.168.200.50/28
  enable
exit
bridge 3
  description "AP_mgmt"
  vlan 3
  security-zone trusted
  ip address 192.168.128.1/22
  ip helper-address 100.123.0.2
  ip tcp adjust-mss 1312
  enable
exit
bridge 10
```

```
  description "Users"
  vlan 10
  security-zone users
  ip address 198.18.160.1/22
  ip helper-address 100.123.0.2
  ip policy route-map users_map
  ip tcp adjust-mss 1312
  location data10
  enable
exit

interface gigabitethernet 1/0/1
  description "UpLink"
exit
interface gigabitethernet 1/0/1.212
  description "VRF_backbone"
  security-zone trusted
  ip address 100.64.0.66/30
  ip tcp adjust-mss 1312
exit
interface gigabitethernet 1/0/1.213
  description "VRF_nat"
  security-zone untrusted
  ip address 100.64.0.70/30
  ip tcp adjust-mss 1312
exit
interface gigabitethernet 1/0/1.1000
  description "adm_net"
  security-zone trusted
  ip address 100.110.0.133/23
exit
interface gigabitethernet 1/0/1.4092
  description "IPsec"
  security-zone ipsec
  ip address 10.12.20.4/28
exit
tunnel softgre 1
  description "mgmt"
  mode management
  local address 192.168.200.49
  default-profile
  enable
exit
tunnel softgre 1.1
  bridge-group 3
  enable
exit
tunnel softgre 2
  description "data"
  mode data
  local address 192.168.200.50
  default-profile
  enable
exit

security zone-pair trusted self
  rule 10
    action permit
    enable
  exit
exit
security zone-pair users self
  rule 10
    action permit
    match protocol udp
    match source-port dhcp_client
    match destination-port dhcp_server
    enable
  exit
exit
security zone-pair users untrusted
```

```
  rule 10
    action permit
    enable
  exit
exit
security zone-pair users trusted
  rule 10
    action permit
    match protocol udp
    match source-port dhcp_client
    match destination-port dhcp_server
    enable
  exit
  rule 20
    action permit
    match protocol udp
    match destination-port dns
    enable
  exit
exit
security zone-pair ipsec self
  rule 1
    action permit
    match protocol udp
    match destination-port ipsec_ports
    enable
  exit
  rule 2
    action permit
    match protocol esp
    enable
  exit
  rule 3
    action permit
    match protocol gre
    match source-address ipsec_remote_address
    match destination-address gre_termination
    enable
  exit
  rule 4
    action permit
    match protocol icmp
    enable
  exit
exit
security zone-pair trusted trusted
  rule 10
    action permit
    enable
  exit
exit

address-assignment pool ipsec_xauth_pool
  ip prefix 172.31.252.0/22
  data-tunnel address 192.168.200.50
  management-tunnel address 192.168.200.49
exit

security ike proposal dh1_md5_aes128
  authentication algorithm md5
  encryption algorithm aes128
exit

security ike policy psk_xauth
  lifetime seconds 86400
  pre-shared-key ascii-text testing123
  authentication method xauth-psk-key
  authentication mode radius
  proposal dh1_md5_aes128
exit
```

```
security ike gateway xauth_gw
  ike-policy psk_xauth
  local address 10.12.20.4
  local network 192.168.200.48/28
  remote address any
  remote network dynamic pool ipsec_xauth_pool
  mode policy-based
  dead-peer-detection action clear
  dead-peer-detection interval 60
  dead-peer-detection timeout 180
exit

security ipsec proposal md5_aes128_esp
  authentication algorithm md5
  encryption algorithm aes128
exit

security ipsec policy ipsec_pol
  proposal md5_aes128_esp
exit

security ipsec vpn xauth_ipsec
  mode ike
  ike establish-tunnel by-request
  ike gateway xauth_gw
  ike ipsec-policy ipsec_pol
  enable
exit

security passwords history 0
ip dhcp-relay

ip route 0.0.0.0/0 10.12.20.2

wireless-controller
  nas-ip-address 192.168.128.1
  resp-time 3
  failure-count 3
  data-tunnel configuration radius
  aaa das-profile COA
  aaa radius-profile PCRF
  enable
exit
ip telnet server
ip ssh server

clock timezone gmt +7

ntp enable
ntp server 100.123.0.2
exit
```

2

1.4.0, , ESR, EoGRE . :

1) bridge 1: 192.168.171/24 - , , IPsec;

2) bridge 2: 192.168.110.0.37/24 - , ;

2) bridge 3: 101.0.0.171/24 - SoftWLC, DHCP DNS . SoftWLC. SoftWLC 101.0.0.24;

3) bridge 5: 192.168.7.1/30 192.168.7.2.30 - EoGRE , ;

4) bridge 6: 172.31.239.1/26 - ;

5) bridge 7: 172.31.239.65/26 - ;

6) bridge 94: 10.12.12.1/30 - ;

7) 172.31.250.0/24 - , mode config, EoGRE .

. . bridge 1, bridge 94 PBR, ESR "clients_br7".

```
hostname esr-ipsec

tech-support login enable
root login enable

syslog max-files 3
syslog file-size 512

object-group service telnet
  port-range 23
exit
object-group service ssh
  port-range 22
exit
object-group service dhcp_server
  port-range 67
exit
object-group service dhcp_client
  port-range 68
exit
object-group service ntp
  port-range 123
exit
object-group service ipsec_ports
  port-range 500
  port-range 4500
exit
object-group service snmp
  port-range 161-162
exit
object-group service COA
  port-range 3799
  port-range 31812-31813
  port-range 1812-1813
exit
object-group service redirect
  port-range 3128
  port-range 3129
exit

object-group network SoftWLC
  ip address-range 101.0.0.24
exit
object-group network ipsec_remote_address
  ip prefix 172.31.250.0/24
exit
object-group network gre_termination
  ip prefix 192.168.7.0/30
exit

object-group url defaultserv
  url http://eltex-co.ru
exit

#   -,    data-  .
radius-server timeout 10
radius-server retransmit 5
radius-server host 101.0.0.24
  key ascii-text testing123
  timeout 11
  priority 20
  source-address 101.0.0.171
  auth-port 31812
  acct-port 31813
```

```
  retransmit 10
  dead-interval 10
exit
aaa radius-profile PCRF
  radius-server host 101.0.0.24
exit

# ESR,       -.
das-server COA
  key ascii-text testing123
  port 3799
  clients object-group SoftWLC
exit
aaa das-profile COA
  das-server COA
exit

vlan 2
  force-up
exit
vlan 7
  name "mgmt"
  force-up
exit
vlan 100
  name "user"
  force-up
exit
vlan 808
  name "GRE"
  force-up
exit
vlan 1001
  name "from_SoftWLC"
  force-up
exit
vlan 1108
  force-up
exit
vlan 4094
  force-up
exit

security zone trusted
exit
security zone user
exit
security zone mgmt
exit
security zone gre
exit
security zone ipsec
exit
security zone clients_inet
exit

#   ,      ,  policy-based routing.
ip access-list extended users_filter
  rule 1
    action permit
    match protocol any
    match source-address 172.31.239.64 255.255.255.192
    match destination-address any
    enable
  exit
exit

#DHCP-request          DHCP-,      ip,   SotfWLC.
ip access-list extended clients_dhcp
  rule 1
    action permit
```

```
    match protocol udp
    match source-address 172.31.239.64 255.255.255.192
    match destination-address 101.0.0.24 255.255.255.255
    match source-port 68
    match destination-port 67
    enable
  exit
exit

# route-map,  ,      .
route-map clients_br7
  rule 1 #DHCP-request     DHCP .
    match ip access-group clients_dhcp
    action set ip next-hop verify-availability 101.0.0.24 10
    action permit
  exit
  rule 2 #      ,        .
    match ip access-group users_filter
    action set ip next-hop verify-availability 10.12.12.2 10
    action permit
  exit
exit

snmp-server
snmp-server system-shutdown #  ESR  SNMP-  EMS.
snmp-server community "private1" rw
snmp-server community "public11" ro

snmp-server host 101.0.0.24
exit

#,    ,  IPSec   .
bridge 1
  vlan 1108
  security-zone ipsec
  ip address 192.168.108.171/24
  enable
exit

#   , .
bridge 2
  vlan 2
  security-zone trusted
  ip address 192.168.110.37/24
  enable
exit

#    SoftWLC.
bridge 3
  description "SoftWLC"
  vlan 1001
  security-zone mgmt
  ip address 101.0.0.171/24
  enable
exit

#  GRE   .
bridge 5
  vlan 808
  security-zone gre
  ip address 192.168.7.1/30
  ip address 192.168.7.2/30
  enable
exit

#   .
bridge 6
  vlan 7
  security-zone mgmt
  ip address 172.31.239.1/26
  ip helper-address 101.0.0.24
```

```
  ip tcp adjust-mss 1312
  protected-ports
  protected-ports exclude vlan
  enable
exit

#,   .
bridge 7
  vlan 100
  security-zone user
  ip address 172.31.239.65/26
  ip helper-address 101.0.0.24
  ip policy route-map clients_br7 # policy-based routing  .
  ip tcp adjust-mss 1312
  location testing2
  protected-ports
  protected-ports exclude vlan
  enable
exit

#,    ,        .
bridge 94
  vlan 4094
  security-zone clients_inet
  ip address 10.12.12.1/30
  ip tcp adjust-mss 1312
  enable
exit

interface port-channel 1
  switchport forbidden default-vlan
  switchport general acceptable-frame-type tagged-only
  switchport general allowed vlan add 2,1001,1108,4094 tagged
exit
interface gigabitethernet 1/0/1
  channel-group 1 mode auto
exit
interface gigabitethernet 1/0/2
  channel-group 1 mode auto
exit
interface gigabitethernet 1/0/3
  shutdown
  security-zone trusted
  ip firewall disable
exit
interface gigabitethernet 1/0/4
  shutdown
  security-zone trusted
  ip firewall disable
exit
interface tengigabitethernet 1/0/1
  shutdown
  ip firewall disable
  switchport forbidden default-vlan
exit
interface tengigabitethernet 1/0/2
  shutdown
  ip firewall disable
  switchport forbidden default-vlan
exit
exit
tunnel softgre 1
  description "mgmt"
  mode management
  local address 192.168.7.1
  default-profile
  enable
exit
tunnel softgre 1.1
  bridge-group 6
  enable
```

```
exit
tunnel softgre 2
  description "data"
  mode data
  local address 192.168.7.2
  default-profile
  enable
exit

security zone-pair trusted self
  rule 1
    action permit
    match protocol tcp
    match source-address any
    match destination-address any
    match source-port any
    match destination-port ssh
    enable
  exit
  rule 2
    action permit
    match protocol tcp
    match source-address any
    match destination-address any
    match source-port any
    match destination-port telnet
    enable
  exit
  rule 3
    action permit
    match protocol icmp
    match source-address SoftWLC
    match destination-address any
    enable
  exit
exit
security zone-pair user self
  rule 10
    action permit
    match protocol udp
    match source-address any
    match destination-address any
    match source-port dhcp_client
    match destination-port dhcp_server
    enable
  exit
  rule 20
    action permit
    match protocol tcp
    match source-address any
    match destination-address any
    match source-port any
    match destination-port redirect
    enable
  exit
exit
security zone-pair clients_inet self
  rule 10
    action permit
    match protocol any
    match source-address any
    match destination-address any
  exit
exit
security zone-pair user clients_inet
  rule 1
    action permit
    match protocol any
    match source-address any
    match destination-address any
    enable
```

```
  exit
exit
security zone-pair ipsec self
  rule 1
    action permit
    match protocol udp
    match source-address any
    match destination-address any
    match source-port ipsec_ports
    match destination-port ipsec_ports
    enable
  exit
  rule 2
    action permit
    match protocol esp
    match source-address any
    match destination-address any
    enable
  exit
  rule 3 #..  GRE   IPSec ,        ,    .
    action permit
    match protocol gre
    match source-address ipsec_remote_address
    match destination-address gre_termination
    enable
  exit
  rule 4
    action permit
    match protocol icmp
    match source-address ipsec_remote_address
    match destination-address gre_termination
    enable
  exit
exit
security zone-pair mgmt self
  rule 1
    action permit
    match protocol tcp
    match source-address any
    match destination-address any
    match source-port any
    match destination-port ssh
    enable
  exit
  rule 2
    action permit
    match protocol tcp
    match source-address any
    match destination-address any
    match source-port any
    match destination-port telnet
    enable
  exit
  rule 3
    action permit
    match protocol icmp
    match source-address SoftWLC
    match destination-address any
    enable
  exit
  rule 4
    action permit
    match protocol udp
    match source-address SoftWLC
    match destination-address any
    match source-port any
    match destination-port snmp
    enable
  exit
  rule 5
    action permit
```

```
    match protocol udp
    match source-address SoftWLC
    match destination-address any
    match source-port any
    match destination-port COA
    enable
  exit
  rule 6
    action permit
    match protocol tcp
    match source-address SoftWLC
    match destination-address any
    match source-port any
    match destination-port COA
    enable
  exit
  rule 7
    action permit
    match protocol icmp
    match source-address any
    match destination-address any
    enable
  exit
  rule 10
    action permit
    match protocol udp
    match source-address any
    match destination-address any
    match source-port dhcp_client
    match destination-port dhcp_server
    enable
  exit
  rule 11
    action permit
    match protocol udp
    match source-address any
    match destination-address any
    match source-port dhcp_server
    match destination-port dhcp_server
    enable
  exit
exit
security zone-pair mgmt mgmt
  rule 1
    action permit
    match protocol icmp
    match source-address any
    match destination-address any
    enable
  exit
  rule 10
    action permit
    match protocol udp
    match source-address any
    match destination-address any
    match source-port dhcp_client
    match destination-port dhcp_server
    enable
  exit
  rule 20
    action permit
    match protocol udp
    match source-address SoftWLC
    match destination-address any
    match source-port any
    match destination-port snmp
    enable
  exit
  rule 21
    action permit
    match protocol udp
```

```
    match source-address any
    match destination-address SoftWLC
    match source-port any
    match destination-port snmp
    enable
  exit
  rule 22
    action permit
    match protocol tcp
    match source-address SoftWLC
    match destination-address any
    match source-port any
    match destination-port snmp
    enable
  exit
  rule 23
    action permit
    match protocol tcp
    match source-address any
    match destination-address SoftWLC
    match source-port any
    match destination-port snmp
  exit
  rule 30
    action permit
    match protocol tcp
    match source-address any
    match destination-address any
    match source-port any
    match destination-port telnet
    enable
  exit
  rule 31
    action permit
    match protocol tcp
    match source-address any
    match destination-address any
    match source-port any
    match destination-port ssh
    enable
  exit
  rule 49
    action permit
    match protocol udp
    match source-address any
    match destination-address SoftWLC
    match source-port any
    match destination-port ntp
    enable
  exit
  rule 50
    action permit
    match protocol udp
    match source-address any
    match destination-address SoftWLC
    match source-port any
    match destination-port COA
    enable
  exit
exit
security zone-pair mgmt user
  rule 10
    action permit
    match protocol udp
    match source-address SoftWLC
    match destination-address any
    match source-port dhcp_server
    match destination-port dhcp_server
    enable
  exit
exit
```

```
security zone-pair gre ipsec
  rule 1
    action permit
    match protocol any
    match source-address gre_termination
    match destination-address ipsec_remote_address
    enable
  exit
exit

#  ,      mode config.
address-assignment pool ipsec_pool_1
  ip prefix 172.31.250.0/24             # ,
                                        #    ip (tunnel ip)  GRE .
                                        #      tunnel ip  EMS.
  data-tunnel address 192.168.7.2       #,       GRE data .
  management-tunnel address 192.168.7.1 #,       GRE  .
exit

# IKE :   MD5,  - DH1,   aes128.
security ike proposal dh1_md5_aes128
  authentication algorithm md5
  encryption algorithm aes128
exit

#  IKE.
security ike policy psk_xauth1
  lifetime seconds 86400               #    (     ).
  pre-shared-key ascii-text testing123 #
  authentication method xauth-psk-key  #    XAUTH.
  authentication mode radius           # -   .
  proposal dh1_md5_aes128              #   .
exit

# ,  .
security ike gateway ike1_from_inet
  ike-policy psk_xauth1                     #    IKE.
  local address 192.168.108.171             #,    IPSec .
  local network 192.168.7.0/30              # ,       IPSec .
  remote address any                        #   IPSec -     .
  remote network dynamic pool ipsec_pool_1 #       .
  mode policy-based                         #  policy-based
  dead-peer-detection action clear          #     IPSec   .
  dead-peer-detection interval 60           #  dead-peer-detection .
  dead-peer-detection interval 180          #,   ,   IPSec  ,
                                            #       DPD .
exit

#  IPSec:   MD5,   AES128,    ESP.
security ipsec proposal md5_aes128_esp
  authentication algorithm md5
  encryption algorithm aes128
exit

#  IPSec.
security ipsec policy vpn1_pol1
  lifetime seconds 3600   #  IPSec haild SA (     ).
  proposal md5_aes128_esp #  IPSec,  .
exit

# IPSec VPN,      .
security ipsec vpn for_INET_1
  mode ike                        # IKE.
  ike establish-tunnel by-request # IPSec     .
  ike gateway ike1_from_inet      #  , ,   IKE.
  ike ipsec-policy vpn1_pol1      #  IPSec,  .
  enable
exit

ip dhcp-relay
```

```
ip route 0.0.0.0/0 192.168.108.1 200

wireless-controller
  nas-ip-address 101.0.0.171
  data-tunnel configuration radius #   data-
  aaa das-profile COA
  aaa radius-profile PCRF
  enable
exit
ip telnet server
ip ssh server

clock timezone gmt +7

ntp enable
ntp server 101.0.0.24
  prefer
exit
```

ESR 1200/1700 1.4.1 - , EoGRE. : ESR OTT .

Troubleshooting

-

- **/var/log/eltex-wifi-sa/wifi-sa-server.log**. application.conf LogLevel = debug

CLI :

- :

WEP-12ac_rev_C# *get ipsec-activator*

IPsec, -:

WEP-12ac_rev_C# *get ipsec-dynamic*

URL -, :

WEP-12ac_rev_C# *sh*

/mnt/root # *cd /etc/cert/*
/etc/cert # *cat sa-host.txt*
https://126.0.10.4:8043

provider-id MAC :

WEP-12ac_rev_C# *sh*

/etc/cert # *openssl x509 -in /etc/cert/cert.pem -text -noout*
WARNING: can't open config file: /etc/pki/tls/openssl.cnf
Certificate:
Data:
Version: 3 (0x2)
Serial Number:
e0:d9:e3:70:1d:00:bc:2a:aa:28:54:ee:9f:27:5a:77
Signature Algorithm: sha256WithRSAEncryption
Issuer: CN=OTT Certification Root (Test), O=Eltex Enterprise Ltd., OU=Wi-Fi, C=RU, L=Novosibirsk
Validity
Not Before: Jan 1 00:00:00 1999 GMT
Not After : Jan 1 00:00:00 2100 GMT
Subject: CN=E0:D9:E3:70:1D:00, O=provider_eltex
Subject Public Key Info:
Public Key Algorithm: rsaEncryption
Public-Key: (2048 bit)
Modulus:
.....

e0:d9:e3:70:1d:00 - MAC ,

provider_eltex - Provider-ID

-

service-activator https://<URL ->:8043 --msg-type register --timeout 300 -C /etc/cert/cert.pem -K /etc/cert/key.pem -A /etc/cert/ca.pem -d 15

- .