v1.18_Wi-Fi

	1.4
	17.12.2019

-
-
  -
  -
    - "" (! WEP-2 1.19)
  -
  - MAC
  - - MAC
  - MAC - MAC Hot-WiFi
  - Hot-Wifi ()
    - JSON
      - MAC
      - ap_name (radar_id)
-
  - ""
  -
    -
    -

MAC- , , "".

Hot-WiFi. () , , Hot-WiFi.

"" WEP-2ac , .

"" ( ), (, Wi-Fi).

(. Wi-Fi): GRE ESR, (management). Data-tunnel .

, , .. MAC- . , (AP Loacation). (AP Location) SNMP . . , 'radar_id', MAC , 'ap_id'. .

, , (.).

, MAC Hot-WiFi, . NAT ( ) VPN ( ).

1. Wi-Fi.
2. ESR.
3. SoftWLC v1.15 , .

:

- ;
- probe-request- ( ): MAC-, ;
- : . , , ;
- HTTP(S), POST, - JSON;
- 'put if absent' - . MAC+Channel, (rssi_min, rssi_max) . RSSI .
- MAC+Channel RSSI;
- MAC+Channel ;
- MAC+Channel (. 'Mode');
- : BSS MAC ( ), SSID (Probe Request,);

MAC 1 1. . 1 n - .

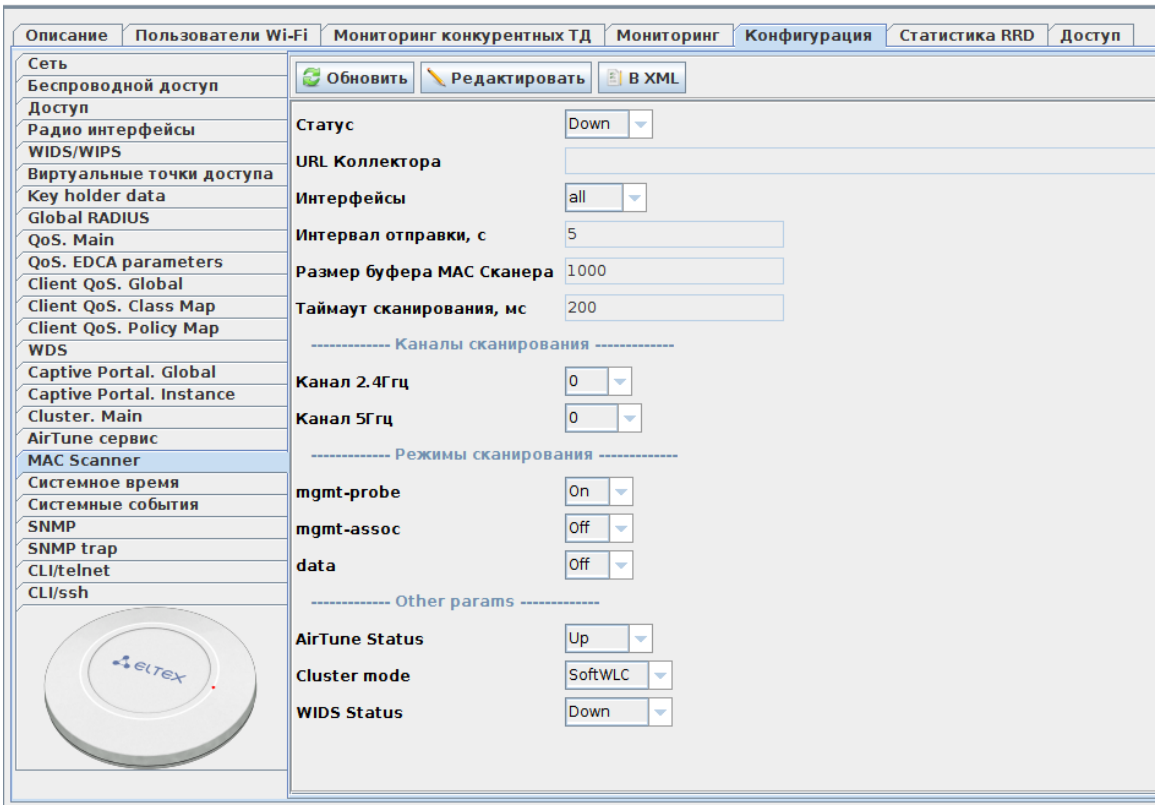
. MAC

"" (! WEP-2 1.19)

status	up | down		down	"". "", SSID ( ). "" Airtune/WIDS/Cluster ("")
interfaces	all | 2.4G | 5G		all	, ""
Collector URL	https://host:port/service			URL
Send Interval	1 ... 3600		5	
MAC list size	255 ... 65535		1000	.
Scan timeout	100...60000		200	
Scan 5g channel	0 | 1..13		0	5, 0
Scan 2g channel	0 | 36..165		0	2.4, 0
Mode	, .			. , . .
mgmt-probe	on/off		on	probe request.
mgmt-assoc	on/off		off	assoc/disassoc, auth/deauth
data	on/off		off	. , Probe Request.

CLI radar ("*get/set radar*").

GUI EMS "-MAC- Scanner":



, SNMP TRAP Eltex.EMS. ( ) , 300 . .

```
ELTEX_RADAR_NOT_AVAILABLE          1 //
ELTEX_RADAR_NOT_ANSVER             2 //     200
ELTEX_RADAR_CONNECTION_ERROR       3 //
ELTEX_RADAR_OVERFLOW               4 //
ELTEX_RADAR_NOT_HOST               5 //
```

ELTEX_RADAR_CONNECTION_ERROR:

```
    * Diagnostic strings that may be returned include
    *
    *         "getaddrinfo (ipv6) failed"
    *         "unknown address family"
    *         "getaddrinfo (ipv4) failed"
    *         "set socket opts failed"
    *         "insert wsi failed"
    *         "lws_ssl_client_connect1 failed"
    *         "lws_ssl_client_connect2 failed"
    *         "Peer hung up"
    *         "read failed"
    *         "HS: URI missing"
    *         "HS: Redirect code but no Location"
    *         "HS: URI did not parse"
    *         "HS: Redirect failed"
    *         "HS: Server did not return 200"
    *         "HS: OOM"
    *         "HS: disallowed by client filter"
    *         "HS: disallowed at ESTABLISHED"
    *         "HS: ACCEPT missing"
    *         "HS: ws upgrade response not 101"
    *         "HS: UPGRADE missing"
    *         "HS: Upgrade to something other than websocket"
    *         "HS: CONNECTION missing"
    *         "HS: UPGRADE malformed"
    *         "HS: PROTOCOL malformed"
    *         "HS: Cannot match protocol"
    *         "HS: EXT: list too big"
    *         "HS: EXT: failed setting defaults"
    *         "HS: EXT: failed parsing defaults"
    *         "HS: EXT: failed parsing options"
    *         "HS: EXT: Rejects server options"
    *         "HS: EXT: unknown ext"
    *         "HS: Accept hash wrong"
    *         "HS: Rejected by filter cb"
    *         "HS: OOM"
    *         "HS: SO_SNDBUF failed"
    *         "HS: Rejected at CLIENT_ESTABLISHED"
```

SNMP TRAP , , .

MAC

, WiFi, . .

:

1) HTTP(S);

2) ( ), ;

3) MAC Hot-WiFi HTTPS;

: , () , Proxy Server (nginx).

- MAC

HTTP(S), POST, JSON.

MAC - MAC Hot-WiFi

Hot-WiFi HTTPS, HTTP POST, JSON.

Hot-Wifi ()

JSON

```
{ap_id: '000456F83326', 'version': u'1.0', 'ap_name': ‘{radar_id}’, 'probe_requests':
  [
  {'ch': 11, ‘dbi’: -42, 'mac': 'A44E315F6D2C', ’rssi_min’: -76, 'packet_count': 12, 'type_bitmask': 1,
'timestamp': '1571390378', 'bss_mac': '', 'ssid': 'WIFI-guest' },
  {'ch': 40, ‘dbi’: -78, 'mac': '483B3825C8E2', ’rssi_min’: -81, 'packet_count': 17, 'type_bitmask': 3,
'timestamp': '1571390388', 'bss_mac': 'A012315F6D2C', 'ssid': 'WIFI-guest' }
  ]
}
```

JSON

ap_id	, MAC (.)	1A-2B-3C-4D-5E-6F
version		u'1.0'
ap_name	, . - 'AP Location', ; Hot-WiFi - 'radar_id'.	XXXX-9090_2y_Uzhnoportoviy_pr_12.Sberbank.MRF_Center.Center.Ap.root
probe_requests	, , - ( ). MAC+Channel.	-
ch	,	11
dbi	, dBm. (rssi_max) MAC+Channel.	-63
mac	MAC . ch .	1A-2B-3C-4D-5E-6F
rssi_min	, dBm. MAC+Channel	-82
packet_count	, MAC+Channel	432
type_bitmask	: () 'mgmt-probe', 'mgmt-assoc', 'data'. , 2 (010) , 'mgmt-assoc'.	2
timestamp	, UTC timeticks ( )	1571390378
bss_mac	**!** MAC , . 'data' (.. data-).	1A-2B-3C-4D-5E-6F
ssid	**!** SSID, . 'mgmt-probe'.	WIFI-guest

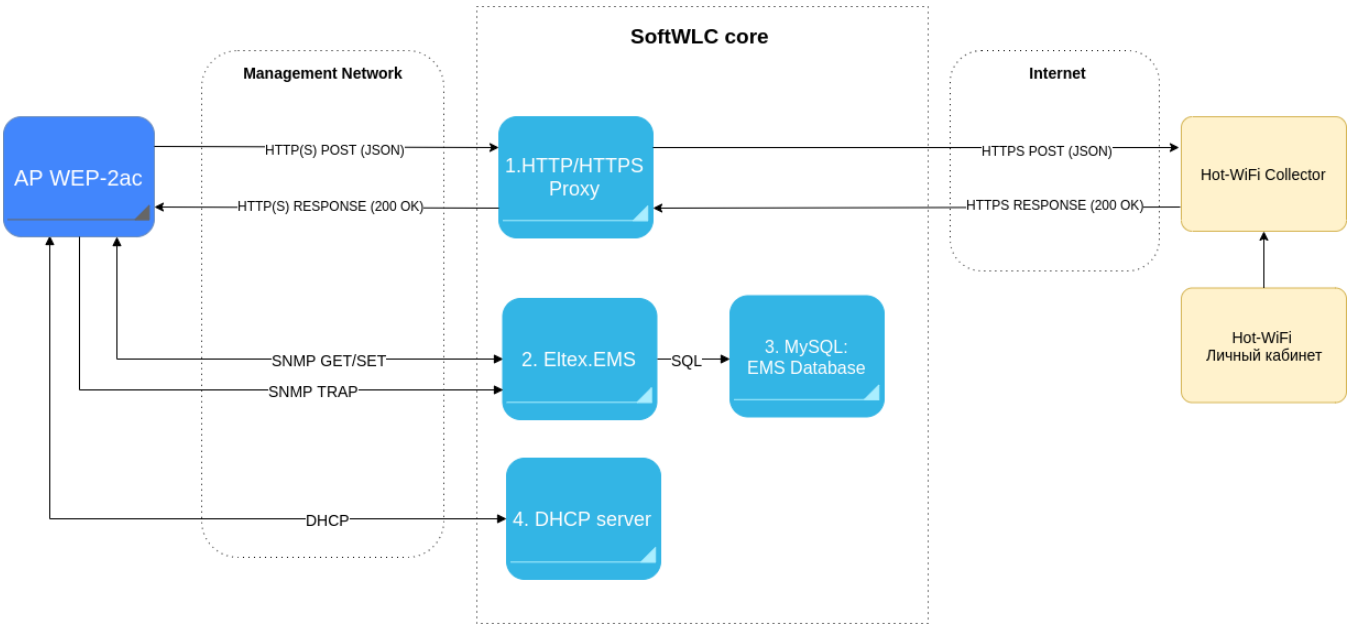
MAC

- , : 1A-2B-3C-4D-5E-6F;
- : '', 0x2d;
- (upper case);

ap_name (radar_id)

- , . - , (0x2e);
- 255 ;

- - ;
- , , , ;
- : **XXXX-9090_2y_Uzhnoportoviy_pr_12.Sberbank.MRF_Center.Center.Ap.root**;



ESR GRE .

""

"" . . 10 . .

: **Linux Ubuntu Server 16.04 LTS x64**.

: **MySQL Server 5.7**.

DHCP server: **isc-dhcp-server 4.3.3** ( )

: **nginx 1.10.3** ( )

	vCPU,	**RAM,**	**HDD,**		
1.HTTP(s) Proxy	8	16	20	nginx	
2. Eltex.EMS	2	32	60	openjdk-8-jdk tomcat7 eltex-ems eltex-oui-list	
3. MySQL server	2	8	120	mysql-server-5.7 eltex-radius-db eltex-ems-db	

4. DHCP server	1	4	20	isc-dhcp-server	

1 "HTTP(s) Proxy" 10 1 . , . , .

(eltex-ems) " Wi-Fi". () . .

, Wi-Fi. "/ / ()" "MANUAL" :

1. ssid_apb_check;
2. nas_treeobj_fitness;
3. ssid_link_check;
4. ssid_sheduler;
5. wifi_alien_monitor;
6. wifi_loss_communication;
7. ott_overdue;
8. ssid_pwd_change_notifier;

(API), , Wi-Fi. "/ / " :

1. pcrf;
2. softwlc.nbi;
3. wirelessCommon/ ;
4. wirelessCommon/ (Jerry);