

Eltex.ACS.GUI

Operation Manual, version 1.1 (13 December 2013)

Autoconfiguration system

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Version 1.1	13 December 2013	Second issue
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NOTES AND WARNINGS



Notes contain important information, tips or recommendations on device operation and setup.



Warnings are used to inform the user about situations harmful for the device and the user alike, which could cause malfunction or data loss.

HARDWARE AND SOFTWARE REQUIREMENTS:

Minimum system requirements for operator station:

- CPU Pentium E5700 3.0GHz;
- 2GB RAM;
- 80GB HDD;
- Ethernet 100/1000Mbit/s network adapter;
- 1366x768 or higher-resolution display;
- MS Windows /XP/2000/Vista/7 or Linux operating system;
 - Java JRE VM (SUN JRE 6.18 or later);
 - Web browser with java plugin support.

Minimum system requirements for server:

- CPU Intel Core 2 Duo E7500 3GHz;
- 4GB RAM;
- 500GB HDD;
- Ethernet 100/1000Mbit/s network adapter;
- Ubuntu or Debian operating system.

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1 ABSTRACT

This manual describes monitoring, firmware update, configuration management and diagnostics of subscriber terminals (CPE), registered on Eltex.ACS server.

2 DESCRIPTION

Eltex.ACS system was designed for establishing a unified subscriber terminal (CPE) configuration and monitoring system. The system is equipped with the graphical user interface (GUI) and allows to facilitate the following equipment operations:

- Activation and reconfiguration of any network devices that support TR-069.
- Subscriber device status monitoring.
- Troubleshooting.
- User configuration backup.
- Centrally-controlled firmware update.



3 INSTALLATION AND CONFIGURATION

Eltex.ACS.GUI system employs 'client-server' architecture. Access server can be represented by any computer that have sufficient performance to process multiple requests (server requirements depend on the quantity of network devices and the number of workstations for technical personnel). The system uses Linux operating system. Server operates on Java virtual machine.

MySQL database serves as a storage, thus no license purchase is required. Web access to system functions is provided via Apache Tomcat also without any licensing.

To create a workstation (in order to launch the graphic client application) you will need a PC without any special requirements. PC should come with pre-installed up-to-date Windows OS (Windows 2000, XP, Vista, 7, 8) or Linux OS with graphics subsystem. Java virtual machine (SUN JRE 6.18 or later) and a web browser with java plugin support are mandatory. IE, Firefox, Opera, Google Chrome.

We recommend to install the server part on the multiprocessor computer running Linux OS. In this case, you will be able to install ACS core, ACS.GUI, and MySQL on a single PC. For installation manual, see 'Eltex.ACS Operation Manual'.

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4 CONSOLE APPLICATION APPEARANCE AND FEATURES

User interface window is divided into three parts.

Eltex.EMS <admin:5< th=""><th>Superl</th><th>Sea B E B Set C Set Set Set</th><th>Events Utilities Ad arch for subscriber's tor of embedded scri ting common script ting xml-templates of ting xml-templates of</th><th>pts (JavaScript) of all classes If device options</th><th>Control panel</th></admin:5<>	Superl	Sea B E B Set C Set Set Set	Events Utilities Ad arch for subscriber's tor of embedded scri ting common script ting xml-templates of ting xml-templates of	pts (JavaScript) of all classes If device options	Control panel
			T ONT ACS	Events Utilities Administration Information	
Synchronize OC	MT c	aarch I	Savo de App		A
Synchronize w c	ANT SE		Save 🔶 Appl	y	P
Description Host	monitor	ring CPF	management Inve	ntory Access	
1		ing CPL	management inve	Access	
Common Classes		Change fie	lds 🥰 Reload 😳 0	create Remove	
Types	Inde	x Name	Manufacturer	Device number [config,auto,unauth]	Activity statistic [active,inactive,long time inactive,not deter]
Firmware versions	0	UNKNO	Unknown	0 (0, 0, 0)	0, 0, 0, 0
Hardware versions	1	NTP	Eltex	0 (0, 0, 0)	0, 0, 0, 0
Profiles	2	NTE1400		0 (0, 0, 0)	0, 0, 0, 0
	3	TAU	Eltex	0 (0, 0, 0)	0, 0, 0, 0
	4	TC	Eltex	2 (1, 1, 0)	1, 0, 1, 0
	4	RG			
		1 1.111	Eltex	0 (0, 0, 0)	0, 0, 0, 0
	6	NTE1400		0 (0, 0, 0)	0, 0, 0, 0
	7	NTU	Eltex	0 (0, 0, 0)	0, 0, 0, 0
	8	STB	Eltex	1 (0, 1, 0)	0, 0, 1, 0
	10	TR098	Unknown	0 (0, 0, 0)	0, 0, 0, 0
	11	TR106	Unknown	0 (0, 0, 0)	0, 0, 0, 0
	12	TR135	Unknown	0 (0, 0, 0)	0, 0, 0, 0
	13	TR104	Unknown	0 (0, 0, 0)	0, 0, 0, 0
	14	TR104D	Unknown	0 (0, 0, 0)	0, 0, 0, 0
	l				
Taska					
Tasks	2		1		
	Proces	is name	User Us	er IP Start date Finish date Status	Progress Message Interrupt
			Task fie	ld Settings	field

Fig. 1. ACS.GUI user interface window

- 1. **Control panel and control menu** administration toolbar.
- 2. Settings field allows you to view and edit CPE and ACS server settings. Settings field contains tabs that are used as selectors for different groups of editable parameters. Some parameters are read-only, others are editable. If the user has sufficient rights for editing of current parameters, '*Edit*' button will become active. Otherwise, the button will be inactive, and the action is unavailable.
- 3. Task field allows you to view the 'group edit' command status.

5 OPERATIONS WITH ACS

5.1. DESCRIPTION

This window contains general device parameters.

Name	ACS
Туре	ACS
Lock	-
IP address	192.168.16.43
Availability status	Unknown
Access time	19.11.2014 12:10:30
Power, V	220
Communication protocol	ТСР/ІР

- Name device name, specified during the object creation.
- *Type* device type, specified during the object creation.
- Lock identifies that the object is already being configured by another user. The name of the user, that has locked the object, will be shown in the field.
- IP address ACS server IP address.
- Availability status not used.
- Access time not used.
- Power, V ACS server power supply voltage. ACS server should be powered by the 220V AC electrical network.
- *Communication protocol* communication protocol type.

The windows contains input field that you can use for adding the object description.

5.2. HOST MONITORING

The host monitoring menu contains the data collected during the ACS server polling.

5.2.1. SERVER

Descriptio	N Host monitoring CPE management Inventory RRD statistics Access											
Server	Reload											
System												
Network	Version:											
Disk	1.6.502 13:37 30-09-2014											
	Statistic:											
	Currently active sessions: 0											
	Average session time: 3.700 seconds											
	Success sessions:											
	last minute: 0											
	last hour: 0											
	overall: 28											
	Error sessions:											
	last minute: 0											
	last hour: 0											
	overall: 0											
	Timed out sessions:											
	last minute: 0											
	last hour: 0											
	overall: 0											
	Refused sessions:											
	last minute: 0											
	last hour: 0											
	overall: 0											
	Downloads:											
	in queue: 0											
	success: 0											
	failed: 0											

- Version information on the ACS server firmware version and build date. Statistics:
- Currently active sessions number of currently active sessions between the server and CPE.
- Average session time quantity-weighted average time from the session initialization to the session end for each CPE.

Number of sessions for the last minute/hour/total:

- Success sessions successful sessions.
- Error sessions error sessions.
- Timed out sessions sessions ended with a timeout.
- *Refused sessions* refused sessions (may occur during the intensive load).
- Downloads file downloads (firmware, configuration files) from the server to CPE (queued/successful/total).
- Acsd licensed CPEs number of CPEs in a system, allowed by the license.
- *License description* license parameters.
- *Memory usage* used memory volume.
- *Cpu time (user mode)* CPU utilization time in user mode.
- Acsd process running for acsd process running time.
- System information system information.
- Number of records in DB tables:
 - Informs informs
 - Hosts hosts
 - Command queue command queues
 - IP ping echo tests

5.2.2. SYSTEM

Description	Host monitoring CPE	management Inventory RRD	statistics Access							
Server System	Seload									
Network Disk	Hostname E-Linux									
	Description	Linux E-Linux 3.2.0-60-generic #91	-Ubuntu SMP Wed Feb 19 03:55:18 UTC 2014 i686							
	Location	Unknown (configure /etc/snmp/snr	npd.conf)							
	Contact info	Root <root@localhost> (configure</root@localhost>	(etc/snmp/snmpd.conf)							
	Average CPU load (1 min)	0.00	×							
	Average CPU load (5 min)	0.03	×							
	Average CPU load (15 min)	0.05	×							
	RAM, available	126956	×							
	RAM, total	2051144	×							
	Swap RAM, available	783388	×							
	Swap RAM, total	1253372	×							
	Host. Uptime	7 days, 23:56:41.29								

You can view these settings in the control panel — 'Information/System components information/System' menu.

- server network name.
- Description server operating system information.
- Location server location information.
- *Contact info* server operator contact information.
- Average CPU load 1 min/5 min/15 min CPU load in percentage for the last minute/5 minutes/15 minutes.
- *RAM, available* free RAM volume, KB.
- RAM, total total RAM volume, KB.
- Swap RAM, available free volume in the RAM swap file, KB.
- Swap RAM, total total volume of the RAM swap file, KB.
- Host. Uptime device operation time since the last reboot.

Click button to proceed to *RRD Statistics* tab, to add new parameter monitoring task or to view the statistics for the previously assigned task (for detailed information, see chapter **5.5 RRD statistics**).

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5.2.3. NETWORK

This tab shows the statistics of packet transmission through interfaces.

You can view these settings in the control panel — 'Information/System components information/Network' menu.

Description	Host monitoring CPE mana	agement Inventory	RRD statistics	Access
Server System	C Reload Network interface Io	•		
Network Disk	Incoming data, bytes	2506871720	×	
	Outgoing data, bytes	2506871720	×	
	Incoming packages 'Broadcast'	0	×	
	Outgoing 'Broadcast' packages	0	×	
	Incoming packages with errors	0	×	
	Outgoing packages with errors		×	
		0	×	
		0	×	
	Incoming 'Unicast' packages	22479857	×	
	Outgoing 'Unicast' packages	22479857	×	
	ifAdminStatus ifAlias	Up		
	ifDescr	lo		
	ifOperStatus	Up		
	ifPhysAddress			

To select the interface, use the 'Network interface' drop-down menu.

- Incoming data, bytes amount of data received to the interface, in bytes.
- Outgoing data, bytes amount of data sent via the interface, in bytes.
- Incoming Broadcast packages amount of broadcast packets received to the interface.
- Outgoing Broadcast packages amount of broadcast packets sent from the interface.
- Incoming packages with errors amount of received packets with errors.
- Outgoing packages with errors amount of sent packets with errors.
- Incoming Multicast packages amount of multicast packets received to the interface.
- *Outgoing Multicast packages* amount of multicast packets sent from the interface.
- Incoming Unicast packages amount of unicast packets received to the interface.
- Outgoing Unicast packages amount of unicast packets sent via the interface.
- *ifAdminStatus* interface administrative status.
- *ifAlias* name of the interface.
- *ifDescr* description of the interface.
- ifOperStatus interface status (up/down).
- *if PhysAddress* interface physical address.

Click button to proceed to *RRD Statistics* tab, to add new parameter monitoring task or to view the statistics for the previously assigned task (for detailed information, see chapter **5.5 RRD statistics**).

5.2.4. DISK

This tab contains the basic information on used disk space for a server.

Description	Host monitoring	CPE management	Inventory	RRD statistics	Access							
Server System	neload											
Network	1											
Disk	used, %	69.571	×									
	used, bytes	19,655,311,360 of 28,2	51,992,064									
	/sys/fs/fuse/connections											
	used, %	0.000	×									
	used, bytes	0 of 0										
	/dev											
	used, %	0.000	×									
	used, bytes	4,096 of 1,039,736,832										
	/home/e	gor/.gvfs										
	used, %	0.000	×									
	used, bytes	0 of 0										

You can view these settings in the control panel — 'Information/System components information/Disks' menu.

Click button to proceed to *RRD Statistics* tab, to add new parameter monitoring task or to view the statistics for the previously assigned task (for detailed information, see chapter **5.5 RRD statistics**).

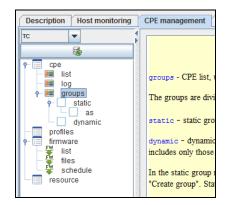
5.3. DEVICE OPERATIONS

5.3.1. SELECT OPERATION CLASS

Class (NTE1400, NTP, TAU, etc.) — group of devices that conform to the following conditions: OUI (manufacturer identifier) and ProductClass (device model identifier). Devices with unregistered OUI+ProductClass link (section **5.4.2 Classes**) will appear under the UNKNOWN class.

Description	μ	lost mo	onitoring C	PE man	agement	Invento	ory RRE	
NTP	-							
NTP	-		0 🚸 🤇	3 ALL	-	Filter b	y table field	
NTE1400			🗖 🥃 F	ilter by p	orivate options	: name	- of all -	
тс		00000	Device		Туре		Profile	
RG NTE1400REVB		s s	S S	454C545806	001B	NTP-RG-14)2G	NSK
NTU	Ŀ	00000	454C54581A	002E	NTP-RG-14)2G	noname1	
STB	ce	00000	454C54580F	0000	NTP-RG-14	02GC	noname1	
		100	eltx00001111		NTP-2		1	

5.3.2. SECTION TREE



Navigation for each device class is performed using the navigation tree with the following structure:

- *cpe list of client devices* (CPE (Customer Premises Equipment) is equipment located at the customer's premises). The list contains the following subsections:
 - list table that lists all devices located in this class.
 - journal list of messages that contains CPE references to the server (informs), CPE parameter setting errors, and commands from the operator to CPE and the respective replies.
 - groups operations with CPE logical groups:
 - static static groups. List of CPEs in a group is edited by the operator and cannot be changed in his absence. The static group may have several nesting levels. To create the nested group, right-click the specific group and select the 'Create group' menu item. Parent static group includes CPE devices from child static groups.
 - dynamic dynamic groups. List of CPEs in a group depends on the group formation rules. In each moment of time, the group includes only those devices that conform to the rules.
- profiles configure lists of CPE configuration rules.
- *firmware* this tab controls the subscriber device firmware update process and contains three sections:
 - list deals with CPE firmware update rules. Here you can specify the file for firmware update rules and link the rule to CPE profiles and models.
 - files contains the list of firmware files registered in the system and allows to perform 'add' and 'remove' operations.

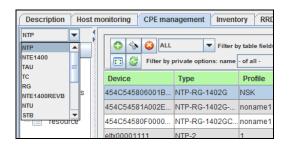
- schedule deals with the firmware update schedule configuration. By default, the 'Global for all' record is enabled for all rules. You can create an individual schedule for each update rule, if necessary.
- resource¹ contains the list of other files registered in the system and allows to perform 'add' and 'remove' operations.

5.3.3. CPE — DEVICE OPERATIONS

5.3.3.1. CPE-LIST. DEVICE LIST

List of the current class devices is shown in the 'Device operations' tab located in the 'cpe/list' tree branch.

Devices with the data in 'Connect time' column highlighted green have connected to the server recently and are available at the moment (highlighted yellow — connected a long time ago, red — a long while ago). You can configure time intervals for state transitions in the 'Administration/Server configuration/System modules' menu.



	LL 🔽 Filter b	y table fields			Record	ls count: 28 L	inewrap 📃		
	by private options: name	- of all -		Value	0 🗳	\$			
Device	Туре	Profile	Connect time	Address	Firmw	Hardware	Subscriber	Aut	Static gro
ups 454C545806001E	8 NTP-RG-1402G	NSK	2014-10-09 13:03:47	http://192.168.212.11:300	3.20.1	1v4		Θ	
454C54581A002E	NTP-RG-1402G	noname1	2014-11-05 09:41:21	http://192.168.212.24:300	3.20.2	1v8	тестер	Θ	
ce 454C54580F0000	NTP-RG-1402GC	noname1	2014-10-23 12:04:25	http://192.168.212.25:300	3.20.2	3v0:B+20		0	
eltx00001111	NTP-2	1	n/a						
454C5458080000	01 NTP-RG-1400G	noname	n/a						
etlx92929213132	NTP-RG-1400G-W	noname	n/a					\bigcirc	
etlx575637567	NTP-RG-1400G-W	noname	n/a						
ELTX1A002E98	NTP-RG-1402G	0	2014-09-26 10:59:34	http://192.168.212.16:300	2.10.2	1v8		Θ	
454C54581A0000	NTP-RG-1402G	NSK	2014-10-24 09:59:42	http://192.168.212.20:300	3.20.1	1v7		0	
454C5458060025	NTP-RG-1402G	noname1	2014-11-05 09:41:01	http://192.168.212.27:300	3.20.2	1v4		Θ	
454C5458080000	00 NTP-RG-1402G-W	noname1	2014-11-05 09:40:54	http://192.168.212.23:300	3.20.2	:B+10		0	
454C54581A0017	82 NTP-RG-1402G	noname1#	2014-11-05 09:40:40	http://192.168.212.22:300	3.20.2	1v8		Θ	
454C54581D0000) NTP-RG-1402GC	noname1#	2014-11-05 09:40:55	http://192.168.212.26:300	3.20.2	2v8		0	
ELTX02000A6F	NTP-2	NTP-2TEST	2014-10-17 11:33:12	http://192.168.212.29:300	2.12.1	1v2:B+10		Θ	
454C545802000A	6F NTP-2	NTP2_MC	2014-10-23 17:47:13	http://192.168.212.29:300	3.20.2	1v2:B+10		0	
fsad	NTP-2	0	n/a					\bigcirc	
eltx00000000	NTP-2	0	n/a						

¹ Only for TC class

5.3.3.1.1. OPERATIONS WITH THE LIST CPE

Select the 'Linewrap' checkbox to show the full information in the 'Address', 'Subscriber', 'Static groups' columns regardless of their width.

CPE authorization status

- authorization is not defined.
- authorization success.
- 👱 🛛 authorization error.

CPE table search operating principles

- Table record is reproduced as a string depending on the visibility of fields (columns).
- The search is conducted in the search field by words delimited with spaces.
- The filter is not case-sensitive.
- Criteria are joined according to the logical 'AND' principle; records that satisfy all criteria will be shown in search results.
- Other special characters (except for the space) will not be used when entered in the search field.

To change the columns displayed in the table, click the 💷 ('Change table fields') button.

Click the right mouse button on the CPE row in the general list to show the device control menu:

TP 💌											_
5	🗘 🥎 🙆 ALL	Filter b	y table fields			Records count: 28 Linewrap					
- 📃 cpe	🔲 🚭 Filter by p	private options: name	- of all -		▼ value	0 🗳	\$				
- 🛤 list	Device	Туре	Profile	Connect time 💌	Address	Firmw	Hardware	Subscriber	Aut	Static gro	
💁 📧 groups	454C54581A011773	NTP-RG-1402G	N9 ¹²	0044 44 40 00.54.05		3.20.2	1v10		0		
profiles firmware	ELTX1A013361	NTP-RG-1402G	2G 0 Ret passwords	p://192.168.212.41:300	2.10.2	1v10		Θ			
resource	454C54581A002E	NTP-RG-1402G			p://192.168.212.24:300	3.20.2	1v8	тестер	0		1
	454C5458060025	NTP-RG-1402G		p://192.168.212.27:300	3.20.2	1v4		Θ			
	454C54581D0000	NTP-RG-1402GC	no 뚝 Upda	ite firmware	p://192.168.212.26:300	3.20.2	2v8		0		1
10000	454C54580800000	NTP-RG-1402G-W	no 📾 IpPin	gDiagnostics	p://192.168.212.23:300	3.20.2	:B+10		Θ		1=
	454C54581A001782	NTP-RG-1402G	no 🏺 Oper	ation download/upload	p://192.168.212.22:300	3.20.2	1v8		Θ		1
	ELTX1A0084B0	NTP-RG-1402G	NS Request of TR069		p://192.168.212.32:300	2.12.2	1v10		Θ		
	454C54581A0000	NTP-RG-1402G			p://192.168.212.20:300	3.20.1	1v7		Θ		1
00000	454C545802000A6F	NTP-2	NT	to static group ng access passwords	p://192.168.212.29:300	3.20.2	1v2:B+10		Θ		
	454C54580F0000	NTP-RG-1402GC	no	ng TR069 options	p://192.168.212.25:300	3.20.2	3v0:B+20		Θ		Η
	454C545806002673	NTP-RG-1402G	NIC	9 tree options	p://192.168.212.34:300	3.20.1	1v3		Θ		
00000	ELTX06002673	NTP-RG-1402G	0	of exchange	p://192.168.212.34:300	2.12.2	1v3		Θ		1
	454C54581A0084	NTP-RG-1402G		-	p://192.168.212.32:300	3.20.2	1v10		Θ		1
	454C54580F0000	NTP-RG-1402GC			p://192.168.212.33:300	3.20.2	3v0		0		1
	ELTX0F0000FB	NTP-RG-1402GC	0	2014-10-17 17:21:48	http://192.168.212.33:300	2.8.5786	3v0		Θ		
	454C545802000833	NTP-2	2x	2014-10-17 15:17:21	http://192.168.212.31:300	3.20.2	1v2		0		1.
	Active: 0; inactive: 0;	long time inactive: ?	I. Not determi	ined: 7.		1			-		

- Apply options CPE options synchronization command, common operation that should be performed after implementing any changes to CPE settings on the server. New settings will be applied during the next periodic session or may be applied with the current command.
- Set passwords¹ command allows you to set CPE passwords. If you change passwords for services (PPP, SIP, etc.), execute the command to apply them for CPE.
- *Reboot* reboot the CPE.
- Reset to default settings reset the terminal to factory settings.

¹ Command is used in the *safe* server operation mode.

In the *unsafe* server operation mode (set by default), this button is not used.

For detailed description, see chapter 14. Frequently asked questions of the Eltex.ACS

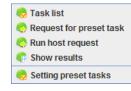


- Update firmware:
 - Update firmware according to setting of update rules update CPE firmware immediately (using the firmware update rule assigned to the

profile or individual update rule (always has a higher priority) while ignoring 'Firmware downgrade' and 'Update on restart only' checkboxes, and firmware update schedule.

Update firmware according to setting of update rules Update firmware by local file

- Vpdate firmware by file from remote server
- Update firmware by local file update firmware from the local firmware file located in this class (firmware-list).
- Update firmware by file from remote server update firmware from the firmware file located on the remote server, full path to the file should be provided.
- *IPPingDiagnostics* function that performs echo test from CPE to the arbitrary LAN/WAN host:
 - Task list view and edit the list of IPPing diagnostics tasks that has been executed from CPE by the operator during the current session.
 - Request for preset task execute IPPing diagnostics using the preset task.



- Run host request request IPPing by specifying only the host address for the echo test. The interface used for the test will be selected automatically by CPE from the route table.
- Show results show all IPPing diagnostics results for CPE textually.
- Setting preset tasks configure tasks that will be executed with 'Request for preset task' command.

Common IP ping diagnostic options												
Change field	s 🥰 Update 🗘 /	Add 🔪 Edit 😂 Re	emove									
ID	Interface Host Repetitions Timeout Block Size DSCP Resu											
1	22	192.168.12.16	6	1000	100	0						
Edit object												
	Interface		22									
	Host		192.168.12.10	,								
	nost		132.100.12.10	2								
	Repetitions		6	6								
	Timeout		1000	1000								
	Block Size		100	100								
	DSCP		0									
			V Accept	X Cancel								
	∠ Close											

- Interface — device interface that will be used by a test. If the parameter is not specified, the test should be performed through the interface selected from the route table on the device.

- *Host* echo test server domain or IP address.
- *Replications* number of ping queries in the test.

- Timeout — query response time that will invalidate the query, if exceeded.

- Block size data block size for a single query.
- *DSCP* corresponding field in the query.
- Download/upload operations manage device log and configuration file download/upload operations:

 Upload configuration file to server — upload the configuration from CPE to the server as a single file. CPE configuration file will be created

in the following directory: /root catalog/config/<class>/<serial number>/ name in YYYY-MM-DD_HH-MM-SS format.

- Download configuration file to CPE download
 Display logs of work
 CPE configuration to the server as a single file. File list from the directory /root catalog/config/<class>/<serial number>/ is shown.
- *Refresh graphics resources*¹ execute the command to refresh the graphics resources
 logo, boot screen.
- Upload log file execute the command to upload CPE log file to the server.
- **System utilities** contains the bundle of utilities:
 - ping echo test (sends the simple 'ping' command) from the server to device.
 - Wake on LAN^1 power on the device via WOL protocol.
 - telnet² connect to device via Telnet protocol.
 - ssh² connect to device via SSH protocol.
- *Request TR069 parameters* commands that allow to receive the data:
 - Templates request monitoring parameters from CPE using the preconfigured template. You can flexibly adapt these templates to any class by editing the system files.

View CPE options '454C5	45808000000' - from templates
NTP	Software Version
TR098-DeviceInfo ont_sip_line_1	Internet (PPP)
ont_sip_line_1	PPP addr
services_status	PPP error
	Voice (WAN.IP) status
	Voice (WAN.IP) mode
	Voice (WAN.IP) addr
	IPTV status
	IPTV addr
	STB status
	FXS0 SIP status
	FXS0
	FXS0 CallState
	FXS1 SIP status
	FXS1
	FXS1 CallState
	Survey log
	V Perform K Close

 Random request — request parameters from CPE by defining the full parameter name in the request.

¹ Only f	or TC c	lass
---------------------	---------	------



Opposite the server with th

Download configuration file to CPE

Upload log of work

E Templates
🊨 Random request
🊨 Execute random xml

² Not supported in the current firmware version.

View CPE options - manual mode Request	J
InternetGatewayDevice.	
Response	
Perform the request Close	

- Add to static group add the current device into the existing static group.
- Configure access passwords configure access passwords from the server to CPE and from CPE to the server.
- TR069 parameter configuration configure and view TR-069 parameters, set the profile and checkboxes.
- TR069 parameter tree configure and view TR-069 parameters as a tree. Tree operations are
 performed in the real time, all changes implemented by the operator into the CPE configuration
 will not be saved in the server database.

🔅 CPE : A8F94B / TC-20-W / TC04000261 H	ittp://192.168.254.106:9998				×
Request selected CPE branch	De	evice.ManagementServer	.ConnectionRequestPass	word	
P Device Devicelnfo	🗔 Change fields 🦉 Reloa	ud data 🔪 Save changes			
	Name	New value	Current value	Notification	
e IP	ConnectionRequestPassword	admin	admin	Off	
ManagementServer	ConnectionRequestURL	[read only]	[unknown]	Off	
P Routing	ConnectionRequestUsername	admin	admin	Off	-
- GRouter	DownloadProgressURL		[unknown]	Off	
ViFi	EnableCWMP		[unknown]	Off	
EndPoint	KickURL	[read only]	[unknown]	Off	
X_ELTEX_RU_DisplaySettings	ManageableDeviceNotificatio		[unknown]	Off	
X_ELTEX_RU_Programs Firefox	ManageableDeviceNumberOf	[read only]	[unknown]	Off	-
SSH Telnetd VNC TELTEX_RU_TerminalSession	Settings Operations Sea	Check conne	ect		
- Telnetd					
VNC S	Settings Operations Searc	h Tabs			
★	Reboot Reset to defa	ult settings			

To request the parameter value (parameter branch) from the device, click the 'Request selected CPE branch' button.

Click the '*Reload data*' button to display the parameter values stored in the server cache.

Commands sent to CPE during tree operations are displayed in the 'Commands' field. To change the parameter value, enter a new value into the 'New value' column and click 'Save changes' button. To add and remove objects, right-click the specific object in a tree.

🕹 ELTEX

You can search for the parameter by its name:

🔅 CPE : A8F94B / TC-20-W / TC04000261 I	nttp://192.168.254.106:9998				x
Request selected CPE branch		Device.ManagementSe	erver.ConnectionReq	uestURL	
P Device	🖸 Change fields 🥰 Reloa	nd data 📏 Save changes			
P DNS	Name	New value	Current value	Notification	
	ConnectionRequestPassword	admin	admin	Off	_
Interface ManagementServer	ConnectionRequestURL	[read only]	[unknown]	Off	=
ManagementServer Routing	ConnectionRequestUsername	admin	admin	Off	
E Router	DownloadProgressURL		[unknown]	Off	
- Users •- ₩ WiFi	EnableCWMP		[unknown]	Off	
EndPoint	KickURL	[read only]	[unknown]	Off	
SSID SSID X_ELTEX_RU_DisplaySettings	ManageableDeviceNotificatio		[unknown]	Off	
X_ELTEX_RU_Programs Firefox	ManageableDeviceNumberOf	[read only]	[unknown]	Off	-
SSH Telnetd	Settings Operations Sea	rch Tabs			
←	pass			•	
	Device.ManagementServer Device Users				
	Device.Users Device.WiFi.EndPoint.1.Pr Device.X_ELTEX_RU_Termina	-			

Also, you can add the bookmark for any branch, so you can quickly navigate to it at a later time.

Settings Operations Search Tabs
Add bookmark
Device.ManagementServer Device.X_ELTEX_RU_DisplaySettings
Device.X_ELTEX_RU_Programs.SSH

- Exchange log — go to operation log filtered by the serial number of the current CPE.

5.3.3.1.2. ADDING DEVICES

New devices appear in the list automatically. Also, you can create a device that is not yet connected to the server.

To add such a device, click the button and enter its serial number ('SerialNumber'), specify the manufacturer's identifier ('OUI'), model ('ProductClass'), and click 'Create' or 'Authorization settings' button.

💡 Add new CPE of class NTP	×
SerialNumber	
oui	A8F94B
ProductClass	NTP-2
Subscriber	
✓ Create	Authorization settings Cancel

If you click the 'Create' button, the password configuration window will not be shown, and you will be taken to the private CPE options page.

Click the 'Authorization settings' button to open the password configuration window.

🙏 ецтех

💡 Add new CPE of class NTP				×
OUI : A8F94B Product Class : NTP-2 Serial : ELTX0003	888			🥑 Help
Personal UserName		Personal Password		
ConReq UserName	admin	ConReg Password	admin	
Subscriber				
		Accept X Cancel		

'Personal UserName' and 'Personal Password' — login and password that will be used by CPE for establishing connection to the server. Login, if it is used, should be unique for each CPE.

If these fields are empty, use the general login and password, defined on the server. For CPE, these parameters are configured manually or using DHCP Option 43.

'ConReq UserName' and 'ConReq Password' — login and password that will be used by the server for establishing connection to CPE.

These fields are mandatory. If parameter values does not match on the server and CPE, you will not be able to send any commands to CPE.

'Subscriber' — subscriber description.

If you click the 'Accept' button, you will be taken to the private CPE options page.

To import the devices from the CSV file, use the '*Devices/Import from CSV file*' main menu or click button in the device list window.

To export the device list, click 🚺 button.

A ELTEX

5.3.3.1.3. ASSIGNING PRIVATE CPE OPTIONS

In the general list, double click the row with CPE to show the private options menu.

💡 Edit private CPE options	X
OUI : A8F94B	
Product Class : NTP-2	
Serial : eltx00000000	
Comments:	Common settings and rules to update firmware
Comments:	Options 🥑 Help
Profile Personal	update rule Upd.Fw only on restart Allow dwgd.FW version No setup data
NIP-ZIESI	
	List of short options
PPP	
Login	✓ test15
Password	▶ password
VLAN ID	
Разрешить настройку РРР пользовате	елю 🔲 Disabled 🔻
VOIP	
SIP proxy	192.168.101.2
Port #1 enable	Enabled V
Port #1 number	6058
Port #1 password	₩ 4321
Port #2 enable	Enabled V
Port #2 number	6358
Port #2 password	1234
Allow user to setting VOIP	Disabled V
A	List of extra options
T T	
	Accept Cancel

General list of options is extracted from the profile (the figure shows SZT-WF profile).

To configure private options, use 'List of short options' and/or 'List of extra options' sections.

- *Personal update rule* set the personal update rule for the current CPE. This rule has a higher priority than the rule assigned to the 'Profile'.
- 'Upd. only on restart' and 'Allow dwgd. FW version' duplicate the firmware update rule checkboxes, but have a higher priority.
- No setup data if the flag is set, there are no profile rules or private parameters for this CPE.
- *'Full configuration'* click this button to access the resulting list of rules that will be applied to CPE.
- Request options from CPE click this button to request options from the short options list, results will be displayed in the corresponding list fields.

A ELTEX

5.3.3.1.4. TRANSFERRING CPE CONFIGURATION

If you are planning to replace the CPE, you may transfer its configuration (profile, flags, and private options) to another CPE; by doing so, the configuration source CPE will be removed from the server as non-relevant.

To access the transfer menu, click the 🔛 button.

Transferring configuration		X
Transfer configuration from the CPE: 454C54580F0000E5	on the CPE:	
V Accept	X Cancel 🕕 Information	

Click the 'Information' button to show the brief information on CPE configuration, subject to transfer.

454C545808000001		etlx575637567	etix575637567	
Hardware version Firmware version Connect time	: HE NEBECTHO : no connect	Profile Subscriber Hardware version Firmware version Connect time	: не известно : no connect	
Address	:	Address	:	

5.3.3.2. CPE-LOG. CPE DATA EXCHANGE LOG

Show the list of messages and errors, that were received during the CPE operation: list of messages that contains CPE references to the server (informs), CPE parameter setting errors, and commands from the operator to CPE and the respective replies.

	lost mo	onitoring	CPE manage	ment Inve	entory RR	D statistics	Access							
NTP <		🗖 😂 I)evice:		Тур	e All	Level	All 🔻	Linewrap	Records co	ount: 10000			
γ− 🔲 cpe		Index	Туре	Technolo	Level	Doer	Manufact	OUI	Device ty	Device	User	Time	Short inf	Full infor
- 🛤 list		192758	Command	NTP	Error	undef	Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	connectio	Connectio
🗠 📧 group	s	192757	Command	NTP	Error	undef	Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	connectio	Connectio
► profiles ► firmware		192755	Command	NTP	Error	undef	Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	connectio	Connectio
resource		192754	Command	NTP	Error	undef	Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	connectio	Connectio
		192752	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]
		192751	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]
		192750	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]
		192749	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]
		192748	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]
		192747	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]
	1000	192746	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]
		192745	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]
		192744	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]
		192743	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]
		192742	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]
		192741	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]
	1000	192740	Inform	NTP	ок		Eltex	A8F94B	NTP-RG-1	454C545		2014-11-1	2 PERIOD	[DeviceID]

Data highlighted in red calls for special attention, they represent errors in the CPE configuration or authentication process on the server. Double-click the record to open its detailed description.

5.3.3.3. CPE-GROUPS. CPE GROUPS

5.3.3.1. STATIC

List of CPEs in a static group is edited by the operator and cannot be changed in his absence. It may have several nesting levels. To create the nested group, right-click the specific group and select the 'Create group' menu item. Parent static group includes CPE devices from child static groups. To add CPE into the static group, use the 'Add to static menu' context menu command in the general CPE list.

Description Host monitoring CPE manage	ment Inventory	RRD statistics	Access							
					Records	count: 3 🥑 Linewr	ap 🗌 💰			
	Device	Туре	Profile	Connect time	Address	Firmware version	Hardware version	Subscriber	Authorization	Static groups
- 📧 list - 📧 log	454C54580F000	NTP-RG-1402GC	noname1	2014-10-23 12:0	http://192.168.21	3.20.2.469	3v0:B+20		9	128
P− M groups	454C545806002	NTP-RG-1402G	noname1	2014-11-05 09:4	http://192.168.21	3.20.2.469	1v4		•	128
• static 128	454C545802000	NTP-2	2x	2014-10-17 15:1	http://192.168.21	3.20.2.472	1v2		9	128
• ⊂pe ist ist ist ist ist • or static • or dynamic • or 11 • ettx ettx • profiles firmware • resource ist	Active: 0; inactive: 0	; long time inactive:	3. Not determined: 0.							

Click the right mouse button on the CPE row in the general list to show the device control menu.

To get help with the context menu commands, see Paragraph **5.3.3.1.1 Operations with the list CPE 5.3.3.1 CPE-list. Device list.**

5.3.3.3.2. DYNAMIC

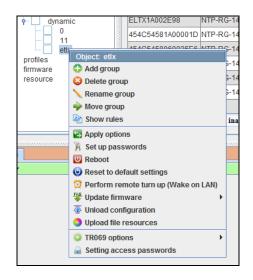
List of CPEs in a dynamic group depends on the group formation rules. In each moment of time, the group includes only those devices that conform to the rules.

Description Host monitoring CPE manage	ement Inventory	RRD statistics	Access								
NTP V	🖬 🛃 ALL				Records cou	nt: 21 🥑 Linewrap	□ ਭ				
P-□ cpe	Device	Туре	Profile	Connect time	Address	Firmware version	Hardware version	Subscriber	Authorization	Static groups	
- 💷 list - 🕮 log	454C545806001	NTP-RG-1402G	NSK	2014-10-09 13:0	http://192.168.21	3.20.1.6073	1v4		9		-
🕈 📴 groups	454C54581A002	NTP-RG-1402G	noname1	2014-11-05 09:4	http://192.168.21	3.20.2.471	1v8	тестер	•		
• static	454C54580F000	NTP-RG-1402GC	noname1	2014-10-23 12:0	http://192.168.21	3.20.2.469	3v0:B+20		•		
	ELTX1A002E98	NTP-RG-1402G	0	2014-09-26 10:5	http://192.168.21	2.10.2.2068	1v8		•		
0	454C54581A000	NTP-RG-1402G	NSK	2014-10-24 09:5	http://192.168.21	3.20.1.6075	1v7		•		
11 etix	454C545806002	NTP-RG-1402G	noname1	2014-11-05 09:4	http://192.168.21	3.20.2.469	1v4)		
profiles firmware	454C545808000	NTP-RG-1402G-W	noname1	2014-11-05 09:4	http://192.168.21	3.20.2.469	:B+10		•		
resource	454C54581A001	NTP-RG-1402G	noname1#	2014-11-05 09:4	http://192.168.21	3.20.2.471	1v8		e		
	454C54581D000	NTP-RG-1402GC	noname1#	2014-11-05 09:4	http://192.168.21	3.20.2.470	2v8		•		
	ELTX02000A6F	NTP-2	NTP-2TEST	2014-10-17 11:3	http://192.168.21	2.12.1.323	1v2:B+10		•		-
	Active: 0; inactive: 0	; long time inactive:	21. Not determined:	0.							
J 8											

Click the right mouse button on the CPE row in the general list to show the device control menu.

To get help with the context menu commands, see Paragraph **5.3.3.1.1 Operations with the list CPE 5.3.3.1 CPE-list. Device list.**

For dynamic groups, you may edit filtering rules that define CPE inherence to the group.



To show the editor, use the context menu by right-clicking the group name in a tree.

Group options 'etlx'			×
	n you should change this and only this fie ption, for top - the second, by necessity be		constructor: to specify bottom time
		🥰 Upda	te CPE list
		Rules list	
- Regular expression -		url = *212.*	
Rules constructor			
Serial (Device)	Wildcard (mask)	•	
- Option 1 -	- Option 2 -		
🕑 Help	X Cancel O Add		
		Edit	😮 Delete
		🔀 Close	



1. Multiple regular expressions are joined together according to '**OR**' principle.

Permitted expression formats:

- param = value, in this case, 'value' is a number.
- param = 'value' (equal to 'like' in sql), in this case, 'value' is a string mask.
- **param = 'value'** (equal to 'regexp' in sql), in this case, 'value' is a regular expression.
- 2. You may define multiple constructions in a single expression, for example:

param1 = value1 or param1 = value2 and param2~'value3'.

- 3. String parameter values (including the date) should be enclosed in the single quotes 'value'.
- 4. Numeric parameter value should be defined in expression without quotes.
- 5. You may use the following special characters during the creation of the 'value' (param = 'value') mask:
 - ? any character.
 - * any characters.

5.3.3.3.4. RULE CONSTRUCTOR OPERATIONS

- 1. Constructor rule of the same type are joined together according to '**OR**' principle.
- 2. Constructor rule of different types are joined together according to 'AND' principle.
- 3. Wildcard comparison type is used for Serial, Product Class, Profile, URL, Version, Hardware, Username, Customer ID, Conrequser, Config name, Subscriber parameters.
- 4. Special characters during the Wildcard rule creation are used in the same way as for (param = value) regular expression mask.
- 5. Value comparison type is used for the Editor parameter only, permitted values are listed in the tooltip.
- 6. **Datetime** and **Current** comparison types are used for *Last contact, Config* update *time, Software update time* parameters.
- 7. For the **Datetime** comparison type, you should specify the time in 'YYYY-MM-DD hh:mm' format.
- 8. For the **Current** comparison type, you should specify the time in minutes.

5.3.4. PROFILES. CONFIGURATION PROFILES

This section allows you to create profiles to be assigned to CPE afterwards.

Profile is the set of configuration rules (property) that is common for the array of devices.

		8								
сре	Index	Profile name	Inform interval, sec	Base profile	Description	Firmware update	CPE types	Excpt. by versions	Rules number	Script name
profiles firmware resource	4	0	3600		Default NTP-RG				3	
resource	29	1	3600						44	
	54	2x	3600					2*	96	
	40	NSK	3600					3*	70	
	55	NSK1	3600					3*	64	
	53	NTP-2TEST	3600			1		3*	23	
	56	NTP2_MC	3600					3*	32	
	45	non1	3600						0	
	37	noname	60			noname11			72	
	38	noname1	60			noname		3*	57	
	47	noname1#	60			noname		3*	76	
	52	noname12345	3600			test		3*	56	
	39	noname2	60	noname1	123		A8F94B:NTP-RG-1		75	123.js
	49	noname4	3600	noname1				2.*	0	
	50	ntp2	3600					3*	23	
	51	test	3600	noname1	test_description		A8F94B:NTP-2	2.*	0	test-reboot.js
	43	test1	600	noname1	descr-test1		A8F94B:NTP-RG-1	2.2.2.22	0	123.js

To add a new profile, click the 🚺 button.

Profile name	🧮 Add new profile	x
Inform interval, sec Script name Base profile Links with update firmware rules Restrictions by models Restrictions by firmware versions	Profile name 🖌	noname
Script name Base profile Inconame Links with update firmware rules Restrictions by models Restrictions by firmware versions Restrictions by firmware versions	Description	
Base profile Incomane Links with update firmware rules Incomane11 Noname11 noname11 Nonamedfg Restrictions by models Restrictions by models Image: State S	Inform interval, sec 🦙	3600
Incomane Links with update firmware rules Image: State of the	Script name	
Links with update firmware rules Incomame Incomam Incomam	Base profile	
Restrictions by models Restrictions by firmware versions	Links with update firmware rules	noname test no noname11 nonamedfg
Accept Cancel		A8F94B:NTP-RG-1400CC-W A8F94B:NTP-2 A8F94B:NTP-RG-1400G A8F94B:NTP-RG-1400G-W A8F94B:NTP-RG-1400G-W A8F94B:NTP-RG-1402C-W: A8F94B:NTP-RG-1402C-W A8F94B:NTP-RG-1402CC-W A8F94B:NTP-RG-1402CC-W
		✓ Accept X Cancel

- *Profile name* name of the profile.
- Description arbitrary text description.
- Inform interval, sec time which should pass before CPE will establish access to the server for data synchronization.
- Script name .js script which will be used for the current profile (8 Operation with scripts);
- Base profile select the base profile from the drop-down list.
- *Links with update firmware rules* specify the update rule for profile. Select rules to be used in the current profile from the right list and move them to the left list.
- Restrictions by models no restrictions are applied by default (when the left list is empty). When you
 move the record from the general list on the right to the left list, selected restriction will be applied. If
 the profile with this restriction is assigned to CPE which model is absent from the left list, this profile
 will not work for such CPE.
- Restrictions by firmware versions no restrictions are applied by default (empty field). You can specify a restriction using the mask, where '*' represents any quantity of any characters, and '?' represents any single character. Example: "5.3.*; 6.?.??" If CPE firmware version falls outside the scope of the selected masks, the profile will not work for such CPE.

1	Edit profile 'noname1' options	x	
	Seload S Add S Remove Insert Parameters Records: 57		
	Name	Value	
	InternetGatewayDevice.LANDevice.1.LANHostConfigManagement.DHCPServerEnable	TRUE	
	InternetGatewayDevice.LANDevice.1.LANHostConfigManagement.IPInterface.1.Enable	TRUE	
	InternetGatewayDevice.LANDevice.1.LANHostConfigManagement.IPInterface.1.IPInterfaceIPAddress	192.168.1.1	
	InternetGatewayDevice.Layer2Bridging.Bridge.1.BridgeEnable	TRUE	
	InternetGatewayDevice.Layer2Bridging.Bridge.1.BridgeName	INT	
Description Host monitoring CPE management Inventory R	InternetGatewayDevice.Layer2Bridging.Bridge.2.BridgeEnable	TRUE	
NTP V	InternetGatewayDevice.Layer2Bridging.Bridge.2.BridgeName	STB	
	InternetGatewayDevice.Layer2Bridging.Bridge.3.BridgeEnable	TRUE	
	InternetGatewayDevice.Layer2Bridging.Bridge.3.BridgeName	MULT	
Profile nan	InternetGatewayDevice.Layer2Bridging.Filter.1.FilterBridgeReference	0	
← profiles firmware	InternetGatewayDevice.Layer2Bridging.Filter.1.FilterEnable	TRUE	
resource 29	InternetGatewayDevice.Layer2Bridging.Filter.1.FilterInterface	1	
54 Edit profile	InternetGatewayDevice.Layer2Bridging.Filter.2.FilterBridgeReference	0	
40 Folie's options Profile's configurator	√ Accept	X Cancel	

5.3.5. FIRMWARE. FIRMWARE UPDATE RULES

List of the firmware update rules for the current class is shown in the '*Device operations*' tab located in the '*firmware/list*' tree branch.

Adding new firmware update rule

To create the firmware update rule, click the button. In the opened window, select the file in the '*File*' field from the list of uploaded files in the '*firmware-files*' tree branch, define the name and version, and click '*Apply*' button.

舅 Add new Firmware	x
Name	noname
Enable the rule	2
Update firmware only on restart	
Allow reduce of firmware versions	
URL	
Version	0.0.0
File name	url
Accept	X Cancel

Detailed configuration window will open:

🏺 Set update firmw	set update firmware rulestådt new Firmware										
	Options										
Enable the rule	v		File name		url 🔽						
Update firmware only o	n restart		URL								
Allow reduce of firmwa	re versions		Version		0.0.0						
				Linked	profiles						
Records coun	it: 1 😳 🔁										
Index	Profile name	Inform interval, sec	Base profile	Description	Firmware update rul	CPE types	Excpt. by versions	Rules number	S	cript name	
55	NSK1	3600					3*	64			
	List of equipment types										
Records coun				List of equ	ripment types						
		-									
id 11	OUI A8F94B		roductClass P-RG-1400G-W	manufacturer Elter	hwcl	d	version	a	lefaultProfi	e	
9	A8F94B	NT		Eltex	1			0			
10	A8F94B		P-RG-1400G	Eltex	1		_	0			
		L.									
				with personalized	hanned an abia and	1-1- fi					
			LIST OF GEVICES A	with personalized	bound to this up	uate IIIMWare rul	3				
Records coun							[[1	
Device	Туре	Profile	Connect time	Add	ress	Firmware v.	. Hardware version	Subscriber	Author	Static groups	
				V Accept	🔀 Cancel						

You should specify links to the required profiles and CPE types. To do this, use buttons to add records from the drop-down lists in the respective sections.

😻 Add p	rofile	x
Profiles	NTP-2TE ST	•
✓ A	ccept	Cancel

Profile list defines profiles for options that the current firmware update rule will be linked to.

Equipment type list defines device models that the update will be applied to.

'Enable the rule' checkbox — enables/disable the selected update rule.

'Update firmware only on restart' checkbox — when selected, firmware will be updated on the next device reboot (on the inform with the BOOT event).

'Allow reduce of firmware versions' checkbox — when unselected, firmware on CPE will be updated only when the firmware version on server is higher than the actual device firmware version. When the checkbox is selected, this restriction will be lifted.

In the 'cpe list' list you will find the list of devices that have the current update rule assigned as a personal rule.

Firmware update schedule configuration

The firmware update schedule list is shown in the 'Device operations' tab located in the 'firmware/schedule' tree branch.

By default, the 'Global for all' record is enabled for all records. You can create daily/weekly periodic schedule for each update rule, if necessary.

CCPC Profiles firmware Schedule resource Start date End data	Star	rt date -10-01 s (Add new rule - Period 2014-11:		Hou
cpe profiles firmware ist resource start date	Star	-10-01 s (Add new rule Period	2012-10-01 •)	×
firmware ist ifies schedule resource Start date		s (Add new rule Period	:)	×
resource Start date	firmware rule	Period		
End data				
		2014-12-3	20	
Hour (start) Hour (finish)		Clock 01:15 06:45]
Week day (start) Week day (finish)	N	leek days 1 7		
1 (3.20.1.6076)	vp	date rule-		
	✓ Acce	pt 🛛 💥 Ca	ncel	

5.3.6. RESOURCE. THE LIST OF REGISTERED FILES¹

The list of other files (except for the firmware files) registered in the system is shown in the 'Device operations' tab located in the 'resource' tree branch. Also, you can perform 'add' and 'remove' operations in this tab.

Description Host monitoring CF	PE management Inventory	RRD statistics Access	
	🔲 🥃 Records count: 0 🧯		
← cpe profiles	Name	Description	Version
firmware Wist files fw schedule resource			

¹ Only for TC class

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5.4. INVENTORY

Use the 'Inventory' tab to view the general statistics for devices on the server sorted by different criteria.

5.4.1. COMMON

Description Host n	nonitoring CPE management Inventory RRD statistics Access	
Common Classes Types Firmware versions Hardware versions Profiles	Total device number: 43 are configured : 31 - be added automatically : 12 - not authorized : 0	
	Activity statistic : - active : 0 - inactive : 3 - long inactive : 30 - not determined : 10	

- Total device number total device quantity in the system.
- of them particular configuration statistics:
 - are configured CPE parameters has been edited by the operator.
 - be added automatically.
 - not authorized not authorized on server.
- Activity statistics particular activity statistics:
- active.
- inactive.
- long inactive.
- not determined.

5.4.2. CLASSES

Description Host m	nonitorin	ng CPE n	nanagement In	ventory RRD statistics Access	
Common		hange field	s 🕃 Reload 🙆	Create Remove	
Classes		-			
Types	Index	Name	Manufacturer	Device number [config,auto,unauth]	Activity statistic [active,inactive,long time i
Firmware versions	0	UNKNO	Unknown	0 (0, 0, 0)	0, 0, 0, 0
Hardware versions Profiles	1	NTP	Eltex	28 (22, 6, 0)	0, 0, 21, 7
FIGHES	2	NTE1400	Eltex	5 (5, 0, 0)	0, 0, 2, 3
	3	TAU	Eltex	0 (0, 0, 0)	0, 0, 0, 0
	4	тс	Eltex	2 (0, 2, 0)	0, 2, 0, 0
	5	RG	Eltex	0 (0, 0, 0)	0, 0, 0, 0
	6	NTE140	Eltex	2 (1, 1, 0)	0, 0, 2, 0
	7	NTU	Eltex	4 (2, 2, 0)	0, 0, 4, 0
	8	STB	Eltex	1 (0, 1, 0)	0, 1, 0, 0
	10	TR098	Unknown	0 (0, 0, 0)	0, 0, 0, 0
	11	TR106	Unknown	0 (0, 0, 0)	0, 0, 0, 0
	12	TR135	Unknown	0 (0, 0, 0)	0, 0, 0, 0
	13	TR104	Unknown	0 (0, 0, 0)	0, 0, 0, 0
	14	TR104D	Unknown	0 (0, 0, 0)	0, 0, 0, 0
	1002	HUAWEI	HUAWEI	1 (1, 0, 0)	0, 0, 1, 0

Use this tab to view the list of the existing device classes, manufacturer information, number of devices of each class and activity statistics.

Right-click the table row to access the class operations menu.

				14	TR104D	Unknown	0 (0, 0, 0)	0, 0, 0, 0
—			1	1002	HUAWEI	HUAWEI	1 (1, 0, 0)	0, 0, 1, 0
2	NTE1400	Eltex	5 (5, 0. 0) 0. 0, 2					A Show as text
3	TAU	Eltex	0 (0, 🔄 Show as text 0					Nename
4	тс	Eltex	2 (0, OUI list, ProductClasses, Mapped OUI					OUI list, ProductClasses, Mapped OUI
5	RG	Eltex	0 (0, View datamodel , 0 ce	ess na	. User	User IP	Start date F	View datamodel

 Show as text — show device class statistics in the simplified text view (also, you can access the menu by double-clicking the table row).

Index	: 5						
Name	: RG						
Manufacturer	: Elte	x					
Total device numbe:	r: 0						
of them - are conf:	igured			:	0		
- be added a	automat	tica	ally	:	0		
- not autho:	rized			:	0		
Activity statistic							
- active			0				
- inactive		:	0				
- long inac	tive		0				
- not deter	nined	:	0				

- Rename rename the class. This operation is available only to those classes that has been created manually by the operator.
- OUI list, ProductClasses, Mapped OUI view and edit (for classes that has been created manually by the operator) class contents.

Class composition RG (Eltex)	x
Class name: RG	Manufacture: Eltex
OUI list A8F94B	Product classes RG-1402G RG-1402GF RG-1402GF RG-1402GF RG-1402GF RG-1404GW RG-1404GW RG-1404GW RG-1404GW RG-1404GW RG-1404G RG-1404G RG-1404GW Agf94B
	X Close

To create/edit parameters of a manually created class, click the respective buttons and enter *OUI* and *ProductClass* delimited by spaces in the opened window.

Class composition HUAWEI (HUAWEI)	
Class name: HUAWEI	Manufacture: HUAWEI
OUI list	Product classes
00259E	HG8245T
O Add O Remove	Change Cancel
🔀 Clo	se editor

 View datamodel — view and edit (for classes that has been created manually by the operator) datamodel.

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Change	fields Search		Line	ewrap						
Name	Туре	Min	Max	Length	Version	Defaultvalue	Writable	TR name	Flag	
nternetGate	object	0	0	0	1.0	-		-	0	
InternetGat	object	0	0	0	1.0	-		-	0	
ConfigFile	string	0	0	32	1.0	-	~	-	0	
Persisten	string	0	0	256	1.0	-	2	-	0	
InternetGat	object	0	0	0	1.0	-		-	0	
Additional	string	0	0	64	1.0	-	V	-	0	
Additional	string	0	0	64	1.0	-	V	-	0	
Description	string	0	0	256	1.0	-	V	-	0	
DeviceLog	string	0	0	32	1.0	-	V	-	0	
EnabledO	string	0	0	1024	1.0	-	2	-	0	
FirstUse	dateTime	0	0	0	1.0	-	V	-	0	
Hardware	string	0	0	64	1.0	-	V	-	0	
Manufact	string	0	0	64	1.0	-	V	-	0	
Manufact	string	0	0	6	1.0	-	V	-	0	
ModelNa	string	0	0	64	1.0	-	V	-	0	
ModemFir	string	0	0	64	1.0	-	V	-	0	
ProductCI	string	0	0	64	1.0	-	V	-	0	
Provisioni	string	0	0	64	1.0	-	V	-	0	
SerialNu	string	0	0	64	1.0	-	V	-	0	
SoftwareV	string	0	0	64	1.0	-	V	-	0	
SpecVers	string	0	0	16	1.0	1.0		-	0	
UpTime	unsignedInt	0	0	0	1.0	-	×	-	0	
Internet	object	0	0	0	1.0	-		-	0	
Date	dateTime	0	0	0	1.0	-	V	-	0	

You can edit the following parameters:

- Name parameter name.
- *Type* type.
- Min minimum value of a parameter.
- Max maximum value of a parameter.
- Length field length.
- Version version.
- *Default value* default value.
- Writable read/write.
- TR name TR parameter name.
- Flag flag.

👮 Add new object.	<u> </u>
Name	
Туре	
Min	0
Max	0
Length	0
Version	
Defaultvalue	
Writable	
TR name	
Flag	0
Name Type Min Max Length Version Defaultvalue Writable TR name Flag	
	V Accept X Cancel

5.4.3. TYPES

Description Host n	nonitoring CPE management Inventory RRD statistics Access
Common	C Reload
Classes	E Keload
Types	
Firmware versions	1. HUAWEI (Index=1002, HUAWEI)
Hardware versions	in database 1 CPE, of them
Profiles	HG8245T : 1
	<pre>2. NTE1400 (Index=2, Eltex) in database 5 CPE, of them NTE-RG-1402F : 4 NTE-RG-1402G-W : 1 3. NTE1400REVB (Index=6, Eltex) in database 2 CPE, of them NTE-RG-1402G-W:rev.B : 2</pre>

This tab shows the list of devices by classes and the quantity of devices of each type.

5.4.4. FIRMWARE VERSIONS

Description Host n	nonitoring CPE management Inventory RRD statistics Access
Common	Seload
Classes	Verodu Verodu
Types	
Firmware versions	
Hardware versions	4. NTP (Index=1, Eltex)
Profiles	in database 28 CPE, of them
	2.10.2.2068 : 1
	2.10.2.2091 : 1
	2.12.1.323 : 2
	2.12.2.229 : 1
	2.12.2.231 : 1
	2.8.5786 : 1
	3.20.1.6055 : 1
	3.20.1.6073 : 1
	3.20.1.6075 : 1
	3.20.2.175 : 1
	3.20.2.469 : 4

This tab lists the information on the existing firmware versions on the network and number of devices with such firmware version sorted by classes.



Description Host	monitoring CPE management Inventory RRD statistics Access
Common	Reload
Classes	
Types	
Firmware versions	3. NTE1400REVB (Index=6, Eltex)
Hardware versions	in database 2 CPE, of them
Profiles	$-2v^2:1$
	2v7:1
	4. NTP (Index=1, Eltex)
	in database 28 CPE, of them
	1v10 : 4
	1v2 : 2
	1v2:B+10 : 2
	1v3 : 2
	1v4 : 2
	1v7 : 1

This tab lists the information on the existing hardware versions and number of devices with such hardware version sorted by classes.

5.4.6. PROFILES

Description Host n	nonitoring CPE management Inventory RRD statistics Access
Common	Seload
Classes	
Types	
	1. HUAWEI (Index=1002, HUAWEI)
Hardware versions	in database 1 CPE, of them
Profiles	3p:1
	2. NTE1400 (Index=2, Eltex)
	in database 5 CPE, of them
	0:4
	noname : 1
	3. NTE1400REVB (Index=6, Eltex)
	in database 2 CPE, of them
	0 : 1
	noname : 1
	▼

This tab lists the information on the existing profiles and number of devices with such profiles sorted by classes.

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5.5. RRD STATISTICS

This menu allows you to configure the collection of network interface load statistics. The data is output in graphics/tabular format.

Round-robin Database (RRD) is a database, where the amount of stored data remains constant over time. As the number of records remains constant, they are used in cycles when data saving is performed. As a rule, such databases are used for storing information that is rewritten in regular periods of time.

Description Host monitoring CPE management Inventory RRD statistics Access							
Change fields							
UserName	Start time	Step	Rrd file-path	Device	Parameter	Counter's type	
shan	20.11.2014 18:51:33	300	/rrd/shan_EMS/ACS/L oadAverage15min_14 16484305875		EMS/ACS/LoadAverag e15min	Gauge	
shan	20.11.2014 18:51:40	300	/rrd/shan_EMS/ACS/M emoryRealTotal_141 6484312843		EMS/ACS/MemoryRea ITotal	Gauge	

For adding monitoring tasks, use Host monitoring section, System, Network and Disk tab. Settings

available for monitoring are marked with is button located to the right of the entry field. Click this button to open Add Task dialog window or go to the record with existing task.

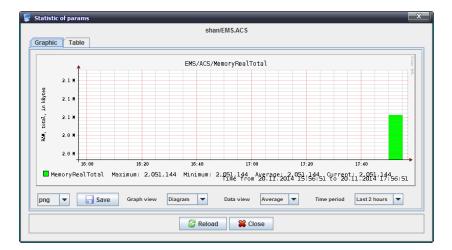
Fask	editing	is per	rformed	by clio	king	

IserName	shan			
Device	EMS.ACS			
Tab name	tabbedPane			
Index value				
Param name	EM S/AC S/MemoryRealTotal			
OID	1.3.6.1.4.1.2021.4.5.0			
Param type	INT			
Data type	Gauge	-		
Period of data getting(in seconds)	300	×		
			🖳 Edit step '300'	
To apply generation of user events.				
—	event description		Every N seconds	o
To apply generation of user events. Description Priority	event description MAJOR		Every N seconds Every N minutes	5

You can edit the following settings:

- Data type select the type of saved data: absolute or increment (difference between values).
- Period of data getting (in seconds) set the polling period in seconds. If polling values are great, you can use the additional editing menu that is available by clicking the button to the right of the entry field. There you can set the polling period in hours, minutes and seconds. For example, every 1h 30min (0 sec), every 2h (0min, 0 sec), every 2min 30sec. At that, the value entered into the field will be automatically converted to seconds.
- To apply generation of user events when checked, the following settings will become available:
 - Event description arbitrary text description.
 - *Priority* select the event priority from the drop-down list.
 - Max. value (double) maximum value of the monitored parameter; if exceeded, user event will be generated with the defined priority.

Data gathered by the task are shown by clicking



The chart explicitly shows time dependence of the measured parameter. You can adjust the chart type (diagram or line chart), data type (average or maximum), and displayed time period (from the last two hours to a week) with the corresponding drop-down lists below the chart.

The table lists measured parameter values for each point of time according to the polling period.

You can save the resulting chart into a file — just select its extension and click *Save* button.

Available extensions:

- Bmp.
- Gif.
- Jpeg.
- Jpg.
- Png.
- Wbmp.

Click Reload button to refresh the information.

5.5.1. EVENT TABLE CONFIGURATION

Click Change Fields button to configure the set of fields for the event table.

List of displayed fields:

- User Name record identifier.
- Start time record creation date.
- Step priority of the occurred event.
- *Rrd file-path* path to statistics output file.
- Device name of the device, that statistics is gathered for.
- Parameter monitored parameter.
- *Counter's type* absolute or increment.



5.6. ACCESS

This tab contains general settings for data exchange between the ACS core and GUI. Click *Edit* button to make them available for editing. All settings are editable on this tab, except for the '*Icmp Ping delay, ms*'.



The following options are essential for gaining access: *Read Community, Write Community*. These settings should be confirmed by the network administrator or checked against the SNMP agent configuration file.

Description Host monitoring	CPE management Inventory RRD statistics Access					
2 Reload Edit						
Description	Внешний ACS сервер					
IP address	192.168.16.43					
Timeout, ms	15000					
Read community / User v3	public					
Write community / Password v3	private					
SNMP version	v2c 👻					
SNMP port	161					
Traps registration	Accept					
AcsD						
AcsD port	9594					

- Description text description that facilitate identification by the user.
- IP address device IP address.
 - *Timeout, ms* timeout of data exchange with the device.



We do not recommend setting the timeout value lower than 5000ms.

- Read Community/User v3 password for read access, for SNMP v3 user login.
- Write Community/Password v3 password for write access, for SNMP v3 user password.
- SNMP version SNMP protocol version (supported versions: v2c, v3).
- SNMP port device IP port number for data exchange via SNMP.
- *Trap registration* trap registration mode:
 - Accept system will generate traps received from devices.
 - Block system will not generate or show traps.
- AcsD port web service port number.

To accept or save changes made to parameters, click the corresponding buttons — 'Accept' or 'Save'.

6 CONTROL PANEL

The control panel is located in the upper part of the interface. It allows to create and edit .js scripts, short parameter templates for CPE search and some system operations. Table 1 lists description of the control panel basic controls.

Table 1. Controls					
Designation	Button name	Description			
Shortcuts					
🍪 Synchronize	Synchronize	Menu is not used.			
ONT search	ONT search				
Save	Save				
4 Apply	Apply				
Editing object tree					
•	Add	Add object into current tree node. For detailed description, see Section 5 Operations with ACS			
\mathbf{i}	Remove	Remove current object or node.			
F	Re-read	Update the tree (the tree is completely re-read from the database)			
Applet	User application configuration				
	Authentication [locking]	Block or unblock the applet with a password			
<i>8</i> 9	Session data	Show the window with the current user session information			
Aa	Decor	Applet theme configuration			
0	View	Configure the appearance of the elements			
Pattern of utilities running		Edit startup templates for ping, ssh, web, telnet utilities			
	Save applet settings	Save current applet size and location on the screen			
*	Exit	Close the applet (terminate the current user session)			
Devices	Menu is not used.				
Management	Menu is not used.				
OLT	Menu is not used.				
ONT	Menu is not used.				
ACS	Edit scripts and search for devices in node				
٩	Search for subscriber's devices (CPE)	CPE search in the current node. For detailed description, see chapter 9 DEVICE SEARCH			
ja,	Editor of embedded scripts (Java Script)	Show the script editor			
is.	Setting common script of all classes	Configure general script for all device classes			

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r					
-	Setting xml-templates of device option	Show CPE short parameter editor			
	Setting xml-templates of device monitoring	Show CPE monitoring parameter editor			
Events	Menu is not used.				
Utilities	System utilities, duplicates the pop-up menu of the object tree				
ৰ্ণ্যন্ত	Run PING from the user's PC to the device	Perform echo test from the user's PC to Eltex.ACS server			
भूख	Run PING from the server to the device	Perform echo test from GUI to device			
Administration					
	Rights and users (Menu is	s not used.)			
	GUI behaviour (Menu is r	not used.)			
	Server configuration (Menu is not used.)				
0	SNMP traps receiving and processing	Menu is not used.			
0	Scheduled tasks (monitors)	Menu is not used.			
1	System modules settings	View and edit module parameters			
	Administrator's workstation	Go to Administrator Automated Workstation menu			
Δ	EMS server restart	Reboot the EMS server			
	Device firmware (Menu is not used.)				
Information					
	State of backup system	View the state of the reservation system			
2	Information about system components	View the EMS system state			
	User actions log	View user activity log			
	System notification of users	Send messages to all users connected to the system at the moment			
Help	HELP INFORMATION				
0	About	Information about Eltex.EMS software and supported devices			
6	License	Information about used modules and effective license restrictions			
841	Revision history	Short changelog			

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7 ADMINISTRATION RIGHTS AND USERS CONFIGURING USERS AND ROLES¹

7.1. PRINCIPLE OF USER RIGHTS' DISTRIBUTION

Role mechanism is used as a basic principle of rights' distribution. Role is a logical entity, that contains the following data:

- Role name
- Text description
- Idle time (seconds)
- List of permitted actions with objects:
 - Edit properties in a tree
 - Add an object into the tree
 - Remove an object from the tree
 - SNMP SET (modify and save)
 - SNMP RESTART (reboot device)
 - Firmware update (FW)
 - Configuration update
 - Edit privileges and roles (delegate system administrator privileges)
 - Edit ONT passwords
- List of permitted nodes and objects
- Alarm registration rights:
 - Info
 - Warning
 - Minor
 - Major
 - Critical

The system has one basic administrator role, named 'SuperUser'. This role is disabled for editing. It automatically has all rights for each object.

All other roles are configured by the administrator according to operator job duties and logical breakdown by devices or locations.

System user is a logical entity, that is designed for authorized logging into system. Each user has the following set of parameters:

- Name
- Description
- Role
- Password
- Account expiration date
- Email address
- Forwarding email messages to the user address
- User blocking

When creating a new user, you have to complete all available fields. The name and password are required for log in (authorization), the role describes the list of permitted actions, and the account expiration date defines the account lifetime and is checked upon each authorization attempt.

7.2. CONFIGURING ROLES

Configuration of roles and users is available for system users with *Edit rights and roles* rights. To add or edit roles, go to *Administration/Rights and users/User role configuration* menu item. When this menu item is

Not used in the current firmware version.

selected, the application will give show the dialog window where you will be able to edit roles (except for the SuperUser system role), and also add or remove them.

Role list	Options	EMS
guest		- ACS
Northbound	Role name: Northbound	Dima Kruppa
SuperUser	Description: System role for NBI	- LTP-8X
test_role	Idle time (sec):	— MA4000
	Allowed actions	- ma4000
	Edit privileges (0 changes)	— ma4000_205.234
	Registration on alerts	🕶 📰 Найденные
		— 📄 Новый узел #10
	Warnings	— 📄 Новый узел #11
		— 📄 Новый узел #12
	Not so important (Minor)	— 📄 Новый узел #13
	Important (Major)	— 📄 Новый узел #14
	Critical	— 📄 Новый узел #15
		— Новый узел #16
🗘 Add		— Новый узел #17
Add .		— Новый узел #18
Delete		— Новый узел #19
Edit		— Новый узел #20
		— Новый узел #21
Save		— Новый узел #22
🗙 Cancel		— Новый узел #23 — Новый узел #24
Сору		
Coby		Allow

There is a list of permissions for each role:

- -Add, remove tree objects
- Profile operations
- CPE list operations
- CPE list operations, 'Reboot', 'Reconfiguration', etc.
- -Commands to upload and download configurations from devices
- Upload and download configurations from devices, resources, log-files
- CPE group management
- -Add, remove, edit CPE
- -Access utilities: telnet, ssh, web, ping, wol
- -Actions for retrieving some data from ONT
- Configure and view IP ping diagnostics data
- -Hardware operations
- -Firmware operations
- -Firmware file operations
- -CPE search
- -ACS configuration
- Operations with tree-like CPE parameters
- -Resource file operations
- -Inventory
- -Scheduler
- -Data model operations

🖳 Edit privileges of role 'guest'.				
MA4000 MES3000L system TAU SMG ACS	•			
MES MXA PON Common MSR SBC				
GPON Common MSAN UEP VolP common Innux ServerCommon ESR				
Add, remove tree's objects Work with profiles				
Work with profile's options				
Work with CPE list. "Reboot", "Reconfiguration" and so on	=			
Work with commands for update firmware				
Upload and download configurations from devices, resources, log-files				
Add, remove, edit CPE				
Access utilities: telnet, ssh, web, ping, wol				
CODES duringes, terrine, son, wear, pring, wor Request of TR069 options from CPE.				
Configure and view data about IP ping diagnostic				
Work with Hardware				
Work with Firmware				
Work with Firmware files				
CPE Search				
Setting templates of short options, common script, edit scripts an so on				
Work with CPE options tree.				
Work with resource files				
Add, remove classes by classes.				
✓ Accept 🛛 💥 Cancel Select all Reset all				
	-			



In addition to rules defined for each role, you have to specify the scope of effect for these rules. To do this, edit the role and select '*Enable*' checkbox against the respective nodes in the right part of the role configuration dialog window. If you enable access to a node for this role, all nested nodes and objects in this node will become available automatically. To enable full access to the tree, you should give permission to access the root node *RootNode*.



The application stores previously given permissions, and they are saved when these nodes being merged with the higher level nodes. Note this, when revoking permissions. Also note, that the application will not let you to delete the role, unless it belongs at least to one user.

7.3. CONFIGURE SYSTEM USERS

You have to enter your account name and password in order to login. When user authentication is completed, you will see the dialog window with the list of permitted actions and nodes or the login error message. *You cannot operate the system without registration* Configuration of user rights is performed by the system administrator (admin) or another user with the respective rights.

🕎 Form to edit the list of users					
User List	Name:	admin			
admin					
avp	Description:	admin			
dima	Role:	SuperUser			
Ivan					
northbound	Data:	12-12-2099			
sanek	E-mail:				
shan					
test ti1	Traps:	Do not send traps to e-mail			
	Logs:	Do not send logs to e-mail			
O Add	ONT Problems:	Do not send ONT problems to e-mail			
	Multiuser:				
Delete					
🔪 Edit	Block user:	User unlocked			
Close					

To add or edit users, go to *Administration/Rights and users/System users configuration* menu item. If you choose this menu item, the application will show the user edit dialog window. System user **admin** cannot be deleted or renamed. Also, you can't change its expiration date or password. You can define the following parameters for other users:

舅 Edit user	
Name:	test
Description:	
Role:	SuperUser 🗸
Password:	Change
Data:	22-10-2015
E-mail:	
Traps to e-mail:	
Log archive to e-mail:	
ONT problems to e-mail	:
Block user:	
Multiuser:	2
	Accept X Cancel

- Name arbitrary name, up to 32 characters
- Description arbitrary description, up to 64 characters
- Role role, that defines access rights
- Password arbitrary alphanumeric password
- *Date* user account expiration date
- E-mail e-mail address for sending alarm messages
- Send traps by e-mail when checked, send e-mail messages to the defined address, otherwise — do not send.

 Send logs by e-mail — when checked, send e-mail messages to the defined address, otherwise — do not send.

 Multiuser — mode, that allows authorization of multiple users with the single login In this mode you can define approved IP addresses for the user. If user performs authorization from one of these addresses, the password will not be prompted. Addresses should be delimited with space or comma. Validation of addresses is not performed. Field size limit — 255 characters.



If the address list database doesn't exist, this mode considered to be disabled.



Password is stored encrypted in the database, thus the system administrator will not be able to acces this information.



'Edit' checkbox next to 'Password' field allows you to change passwords. If you need to change the password (or to define it for the first time), select this checkbox and fill in the 'Password' field. Otherwise, if you edit other parameters with this checkbox unselected, the password will not be changed. This feature allows the system administrator to avoid entering user password while changing other parameters of the account. Default password for 'admin' account — empty field.



After the user account expires, the access to the system with this name will be blocked. System administrator can modify the expiration date or delete the account.

8 OPERATION WITH SCRIPTS

8.1. SCRIPTS

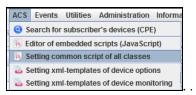
ACS server may be configured with scripts written in JavaScript. To configure CPE using the script, you have to assign it to:

– Profile:							
Description Host m	nonitoring CPE	management	1				
NTP	🗈 😂 👁	V 🕹 🖪	1				
Iist Iog profiles firmware	4 29 54	0 1 2x	3 3 3				
resource	40 55	NSK NSK1	3	Edit profile 0			x
	53 56 Edit p	NTD OTEST	6	Profile name Description Inform interval, sec Script name	*	0 Default NTP-RG 3600 NTU-PPP.js	

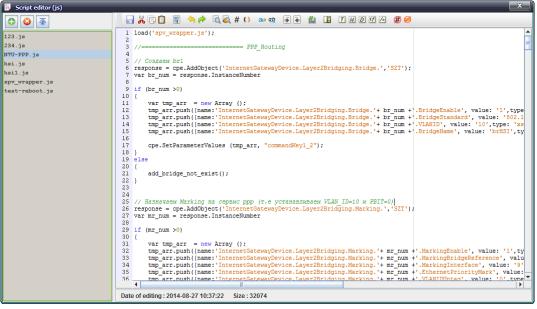
– Class:



- All devices on server:



To proceed to script creation and editing, use the 'ACS/Editor of embedded scripts (JavaScript)' menu in the control panel.



A ELTEX

8.2. FUNCTIONS

8.2.1. LOGGER(LOG)

logger(log) function allows to record informational messages into the acsd log.

```
logger ('My message');
                                 // Message "My message" will be recorded into the
log.
logger ('info', 'Info message'); // Message "info message" will be recorded into
                                    the log with the info logging level.
```

8.2.2. EXEC

Exec function allows to execute an additional script from the current script. Both scripts should be in <datadir>/scripts/ directory. exec('db.js');

//execute script db.js

8.3. OBJECTS

8.3.1. DB

db — an object, that enables access to the server database. Query() method allows to perform SELECT statement, Update() method — INSERT/UPDATE/DELETE statements.

```
var profile id = 34
var query1 = "select id from deviceprofilebean where name=" + profile id
var result = db.Query(query1);
var prop name = `InternetGatewayDevice.X ELTEX Config.pbx.fxs1.phone'
var prop value = '12345678'
var ont id = 10
var query2 = "INSERT INTO hostpropertybean (name,value,hostid) VALUES ('" +
                                    prop name + "', '" + prop value + "', " +
                                    ont id + ");";
var result = db.Update(query2);
```

CPEFLAGS 8.3.2.

cpeflags — an object, that enables access to the 'acsmain.hostflagbean' database flag table. Object *cpeflags.<name>* represent the flag and contains one or all of the following properties: *int value*, str_value, tr_name

> getAt(index) — return object flag by its array index setAt(index, object) — set the flag using the specific index

Flags used by acsd:

- fw_personal_id personal firmware update rule identifier, int_value integer;
- fw boot only enable firmware update on startup only, int value boolen;
- fw downgrade enable firmware downgrade, int value boolen;
- noautoconfig disable configuration of the following rules: property, int value boolen.

Examples:

```
if (!cpeflags.autoconfig.hasOwnProperty('int value')) { //hasOwnProperty
method allows to determine the availability of the selected property for the
object; in fact, this method indicates flag presence/absence.
   cpeflags.autoconfig.int value = 1; //if the flag is absent, it will be
created with int value=1
}
else if (cpeflags.autoconfig.int value == 1) // if int value=1, specify
other values
{
   cpeflags.autoconfig.int value = 2;
   cpeflags.autoconfig.str value = 'zero';
   cpeflags.autoconfig.tr name =
'InternetGatewayDevice.ManagementServer.PeriodicInformInterval';
}
```

```
A ELTEX
```

```
log("cpeflags.autoconfig = " + cpeflags.autoconfig + ", int value = " +
cpeflags.autoconfig.int value +
   ", str value = " + cpeflags.autoconfig. + ", tr name = " +
cpeflags.autoconfig.tr name);
try {
   var flag0 = cpeflags.autoconfig.getAt(0); // assign object flag
cpeflags.autoconfig to the variable flag0.
   log('autoconfig[0]: name = ' + flag0.name + ', int value = ' +
flag0.int value + ', str value = ' + flag0.str value + ', tr name = ' +
flag0.tr name);
} catch (e) {
   log('error', 'error on reading flag with index: ' + e.message);
}
var tmp = cpeflags.autoconfig.getAt(1); // assign the first object flag
cpeflags.autoconfig to the variable tmp.
if (tmp != null) { // if there are some data present in tmp, show the log
   log('aquired autoconfig[1]: int value = ' + tmp.int value + ', str value =
' + tmp.str value + ', tr name = ' + tmp.tr name);
   exit();
// else assign autoconfig flag with the index 1
try {
   var flag1 = \{\};
   flag1.int value = 4;
   flag1.str value = 'sample';
   flag1.tr name = 'noname';
   cpeflags.autoconfig.setAt(1, flag1);
} catch (e) {
   log('error aquiring flag at index 1: ' + e.message);
```

8.3.3. CPE

cpe — an object that enables access to all inform structures and RPC methods, defined in the TR-069 protocol description.

cpe object methods (for description of properties' parameters, see the TR -069 protocol description):

GetRPCMethods () — return the array of methods supported by CPE.

```
// this block returns the list of supported methods into the server log.
var methods = cpe.GetRPCMethods ();
for (i = 0; i < methods.length; i++) {
    logger ('Method: '+methods[i]);
}</pre>
```

Download (object_of_parameter) — file download command (configuration, firmware) Object parameters have the following properties: *CommandKey, FileType, URL, Username, Password, FileSize, TargetFileName, DelaySeconds, SuccessURL, FailureURL.*

Returns an object with the following properties: Status, StartTime and CompleteTime.

```
var dlcmd = {};
dlcmd.CommandKey = 'acsd-js-dl';
dlcmd.FileType = '3 Vendor Configuration File';
dlcmd.URL = 'http://10.255.240.200/test/config.txt';
dlcmd.Username = 'testuser';
dlcmd.Password = 'testpass';
dlcmd.FileSize = 0;
dlcmd.TargetFileName = ' config.txt';
dlcmd.DelaySeconds = 0;
dlcmd.SuccessURL = 'http://ya.ru';
```

🕹 ELTEX

```
dlcmd.FailureURL = 'http://yandex.ru';
cpe.Download(dlcmd);
log('Download response: Status ' + response.Status + ', StartTime ' +
response.StartTime + '; CompleteTime ' + response.CompleteTime);
```

Upload (object_of_parameters) — upload a file from CPE. Object parameters have the following properties: *CommandKey, FileType, URL, Username, Password, DelaySeconds.*

Returns an object with the following properties: Status, StartTime and CompleteTime.

```
var array parameters = {};
array_parameters.CommandKey = 'acsd-js-dl';
array_parameters.FileType = '3 Vendor Configuration File';
array_parameters.URL = 'http://10.255.240.200/test/config.txt';
array_parameters.Username = 'testuser';
array_parameters.Password = 'testpass';
array_parameters.DelaySeconds = 0;
cpe.Download(array_parameters);
log('Upload response: Status ' + response.Status + ', StartTime ' +
response.StartTime + '; CompleteTime ' + response.CompleteTime);
```

GetParameterValues (object_of_parameters_names) — get the parameter list from CPE. Returns an object with the following properties: *Name* and *Value*.

```
var arr = new Array ();
arr [0] = 'InternetGatewayDevice.DeviceSummary';
var response = cpe.GetParameterValues (arr);
logger (response[0].Name+'='+response[0].Value);
```

SetParameterValues (object_of_parameters) — parameter setting method. The object list with Name and Value properties is used as method parameters.

If error occurs during the method execution, the exception will be thrown. Exception will not be thrown when method has been successfully executed. Method returns no result.

```
var parameters = new Array ();
parameters[0] = {Name: 'InternetGatewayDevice.IPPingDiagnostics.Host', Value:
'192.168.0.1'};
parameters[1] = {Name:
'InternetGatewayDevice.IPPingDiagnostics.NumberOfRepetitions', Value: '2'};
parameters[2] = {Name:
'InternetGatewayDevice.IPPingDiagnostics.NumberOfRepetitions', Value: '2'};
cpe.SetParameterValues (parameters, "commandKey");
```

AddObject (tree_object_name, parameterKey) — add object.

Returns an object with the following properties: InstanceNumber and Status.

```
var response = cpe.AddObject
('InternetGatewayDevice.Services.VoiceService.1.VoiceProfile.1.Line.', 'acsd-
js-addobj')
logger(' Instance new obj = ' + response.InstanceNumber + ', ' +
response.Status);
```

DeleteObject (object_name, parameterKey) — delete object. Returns an object with the following property: *Status.*

```
var response = cpe.DeleteObject
('InternetGatewayDevice.Services.VoiceService.1.VoiceProfile.1.Line.3.',
'acsd-js-delobj')
logger(' del obj result = ' + response.Status);
```



SetParameterAttributes (array_of_parameters) — set parameter attributes. Returns no result.

```
var parameters = new Array();
parameters[0] = {};
parameters[0].Name = '
InternetGatewayDevice.ManagementServer.PeriodicInformInterval'
parameters[0].Notification = 1;
parameters[0].NotificationChange = true;
parameters[0].AccessListChange = true;
parameters[0].AccessList = [ 'subscriber' ];
cpe.SetParameterAttributes (parameters);
```

SetParameterAttributes (array_of_parameters) — get parameter attributes. Returns an object with the following properties: *Name, Notification* and *AccessList.*

```
var arr=new Array();
arr [0]='InternetGatewayDevice.ManagementServer.PeriodicInformEnable';
var arr = cpe.GetParameterAttributes (arr);
logger(responce[0].Name + ' notify = ' + responce[0].Notification + ' Access
= ' + responce[0].AccessList)
```

GetParameterNames (parameter_names_array, NextLevel) — get writeable parameter field. Returns an object with the following properties: *Name* and *Writable*.

```
var response = cpe.GetParameterNames('InternetGatewayDevice.', false);
for (var y = 0; y < response.length; y++)
log('Name = ' + response[y].Name + ' writable = ' + response[y].Writable)
```

Reboot (commandKey) — CPE reboot command.

```
cpe.Reboot ("commandKey");
```

FactoryReset — command will reset CPE configuration to factory defaults.

cpe.FactoryReset ();

Script example

test.js:

```
* sample acsd script */
log('javascript from CPE session');
logger('openacs-like log function');
logger('soap', 'soap level message, turn ed off by default');
log('info', 'info level message');
var cond = cpe.Inform.CurrentTime instanceof Date;
log('curtime instanceof Date: ' + cond);
/* traverse cpe */
log('cpe.Inform.MaxEnvelopes type is ' + typeof cpe.Inform.MaxEnvelopes);
log('cpe.Inform.CurrentTime type is ' + typeof cpe.Inform.CurrentTime);
var d = 'Inform:\n';
for (let prop in cpe.Inform) {
   if (typeof cpe.Inform[prop] == "number" || cpe.Inform[prop] instanceof Date)
       d += prop + ' = ' + cpe.Inform[prop] + '\n';
}
d += '\nDeviceId:\n';
for (let prop in cpe.Inform.DeviceId)
  d += prop + ' = ' + cpe.Inform.DeviceId[prop] + '\n';
d += 'Prototype: ' + cpe.Inform.DeviceId. proto
                                                  + '\n';
```

```
var SESSION TRANSFER COMPLETE = false;
var SESSION BOOT = false;
d += '\nEvents:\n';
for (let i = 0; i < cpe.Inform.Event.length; i++) {</pre>
   d += cpe.Inform.Event[i].EventCode + ' ' + cpe.Inform.Event[i].CommandKey + '\n';
   if (cpe.Inform.Event[i].EventCode.search('Download') != -1 ||
       cpe.Inform.Event[i].EventCode.search('7 TRANSFER COMPLETE') != -1)
      SESSION TRANSFER COMPLETE = true;
   if (cpe.Inform.Event[i].EventCode.search('1 BOOT') != -1)
       SESSION BOOT = true;
d += '\nParameters:\n';
for (let i = 0; i < cpe.Inform.ParameterList.length; i++)</pre>
   d += ' ' + cpe.Inform.ParameterList[i].Name + ' = ' +
cpe.Inform.ParameterList[i].Value + '\n';
d += '\nCPE-supported RPC methods:\n';
var meth = cpe.GetRPCMethods();
for (let m in meth)
   d += ' ' + meth[m] + '\n';
log(d);
d = 'GPN: \n';
try {
   /* if there is nothing contained in path, null will be returned ^{\prime}
   /* var names = cpe.GetParameterNames('InternetGatewayDevice.DeviceInfo.', false); */
   var names =
cpe.GetParameterNames('InternetGatewayDevice.Services.VoiceService.1.VoiceProfile.1.Line.
 , true);
   for (let i = 0; names && i < names.length; i++)</pre>
      d += names[i].Name + ' : ' + names[i].Writable + '\n';
   log(d);
} catch (e) {
   log('error', 'error on GPN: ' + e.message);
d = 'GPV: \n';
try {
   let values = [ 'InternetGatewayDevice.DeviceInfo.ModelName',
                'InternetGatewayDevice.DeviceInfo.Description',
                'InternetGatewayDevice.DeviceInfo.UpTime' ];
   let response = cpe.GetParameterValues(values);
   for (let i = 0; i < response.length; i++)</pre>
      d += response[i].Name + ' = ' + response[i].Value + '\n';
   log(d);
} catch (e) {
   log('error', 'error on GPV: ' + e.message);
}
d = 'SPV: ';
try {
   let values = [ { Name:
'InternetGatewayDevice.ManagementServer.PeriodicInformInterval',
                 Value: '1600' } ];
   let response = cpe.SetParameterValues(values, 'acsd-js-paramkey');
   d += response;
   log(d);
} catch (e) {
   log('error', 'error on SPV: ' + e.message);
}
d = 'GPA: \n';
try {
   let names = [ 'InternetGatewayDevice.ManagementServer.PeriodicInformInterval',
               'InternetGatewayDevice.DeviceInfo.ModelName',
                'InternetGatewayDevice.DeviceInfo.Description',
                'InternetGatewayDevice.DeviceInfo.UpTime' ];
```

```
let response = cpe.GetParameterAttributes(names);
   for (let i = 0; i < response.length; i++) {</pre>
      d += response[i].Name + ' notify ' + response[i].Notification;
      if (response[i].hasOwnProperty('AccessList')) /* access list might be undefined */
         d += ', access list ' + response[i].AccessList;
      d += '\n';
   log(d);
} catch (e) {
   log('error', 'error on GPA: ' + e.message);
try {
   let names = [];
   names[0] = \{\};
   names[0].Name = 'InternetGatewayDevice.ManagementServer.PeriodicInformInterval';
  names[0].NotificationChange = true;
  names[0].Notification = 1;
  names[0].AccessListChange = true;
   names[0].AccessList = [ 'subscriber' ];
  cpe.SetParameterAttributes(names);
  log('SPA done');
} catch (e) {
  log('error', 'error on SPA: ' + e.message);
try {
   let dlcmd = \{\};
   dlcmd.CommandKey = 'acsd-js-dl';
   dlcmd.FileType = '3 Vendor Configuration File';
   dlcmd.URL = 'http://eltex.loc/acsd-ntp.conf';
   dlcmd.Username = 'testuser';
   dlcmd.Password = 'testpass';
   dlcmd.FileSize = 1334;
   dlcmd.TargetFileName = 'shit';
   dlcmd.DelaySeconds = 2;
   dlcmd.SuccessURL = 'http://ya.ru';
   dlcmd.FailureURL = 'http://yandex.ru';
   let response;
   log('BOOT flag ' + SESSION BOOT + ', Transfer Complete flag ' +
SESSION TRANSFER COMPLETE);
   if (!SESSION TRANSFER COMPLETE || SESSION BOOT) {
       response = cpe.Download(dlcmd);
      log('Download response: Status ' + response.Status + ', StartTime ' +
response.StartTime + '; CompleteTime ' + response.CompleteTime);
   }
   if (SESSION TRANSFER COMPLETE && cpe.Fault.Code != 0) {
      let tc error = 'error on transfer complete: code ' + cpe.Fault.Code;
      if (cpe.Fault.String.length)
          tc error += ': ' + cpe.Fault.String;
      log('error', tc error);
  }
} catch (e) {
   log('error', 'error on Download: ' + e.message);
exit();
```

9 DEVICE SEARCH

 ACS
 Events
 Utilities
 Administration
 Information

 Image: Search for subscriber's devices (CPE)
 Image: Search for subscriber's devices (CPE)
 Image: Search for subscriber's devices (CPE)

 Image: Search for subscriber's devices (CPE)
 Image: Search for subscriber's devices (CPE)
 Image: Search for subscriber's devices (CPE)

 Image: Search for subscriber's devices (CPE)
 Image: Search for subscriber's device options
 Image: Search for subscriber's device options

 Image: Search for subscriber for subscript subscript for subscript subscri

If you don't know which class the device belongs to, you may search for it by the serial number or IP address.

CPE Search	X			
The initial value is taken from the clipboard. Search by serial number will be performed according to the of Search by address will be performed according to the condit				
Address 192.168.212.29 Search	Class : NTP OUI : A8F94B ProductClass : NTP-2 Serial : 454C545802000A6F URL : http://192.168.212.29:30005/ Class : NTP OUI : A8F94B ProductClass : NTP-2 Serial : ELTX02000A6F Move to CPE			
X Cancel				

The result will contain CPE list matching the specified criteria accompanied by the short description. To go to CPE, double-click its records or click the '*Move to CPE*' button.

TECHNICAL SUPPORT

For technical assistance in issues related to handling of EltexAlatau Ltd. equipment please address to Service Centre of the company:

9 Ibragimova street, Almaty, Republic of Kazakhstan, 050032, Phone: +7(727) 320-18-40 +7(727) 320-18-38 E-mail: <u>info@eltexalatau.kz</u>

In official website of the EltexAlatau Ltd. you can find technical documentation and software for products, refer to knowledge base, consult with engineers of Service center:

http://www.eltexalatau.kz/en