NETSHe for OpenWRT

Web interface and custom firmware

User Manual

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Content

MAIN FEATURES OF NETSHe....4
GETTING STARTED....5
  Firmware Flashing....5
USING WEB INTERFACE....6
  Getting Started....6
    Setup Wizard....6
    General Web Interface Layout....10
    Start Page....11
    System Information....12
    Basic system settings....14
    Users....18
    Mount points....21
    Software....21
    Schedule....23
    Interfaces....24
    Zones....27
    Bridges....28
    Bonding....29
    Firewall....30
    Bridge filtering....32
    Bandwidth management and traffic prioritization....33
    Static routing....34
    Multipath-routing....35
    RIP-router....36
    OSPF-router....37
    BGP-router....38
    Time settings and synchronization....39
    Access concentrator....40
    Domaine name resolution....45
    DHCP settings....49
    Proxy and NAT traversal....51
    SNMP daemon....53
  Image backup and restore from image....55
    Backup settings....55
    Restore from image....57
    Factory default settings....58
    Execute command....59
    Ping host....60
    Traceroute....61
    Flash firmware....62
    Reboot system....64
    Halt system....65
  Diagnostics....66
    Brief info....66
    Processes....66
    Connections....67
    Routes....68
    ARP table....69
    Firewall tools....70
    QOS state....71
    Bridge filtering state....72
    DHCP leases....73
    Packet capture....74
    Network performance measurement server....75
    System logs....76
How to build OpenWRT based firmware with NETSHe for Ubiquity RouterStation....79

Credits

The system uses Yahoo User Interface library (http://yui.uahoo.com). The library is licensed under BSD license.
The system uses PHPMailer - PHP email transport class. Author Brent R. Matzelle.
The code is licensed under LGPL license.
The system uses some code from m0n0wall project. The code is licensed under BSD license.
The system uses some code from pfsense and from Scott Ulrich. The code is licensed under BSD license.
Some icons and images are part of Tango (Authors - Ulisse Perusin <uli.peru@gmail.com>, Steven Garrity <sgarrity@silverorange.com>, Lapo Calamandrei <calamandrei@gmail.com>, Ryan Collier <rcollier@novell.com>, Rodney Dawes <dobey@novell.com>, Andreas Nilsson <nisses.mail@home.se>, Tuomas Kuosmanen <tigert@tigert.com>, Garrett LeSage <garrett@novell.com>, Jakub Steiner <jimmac@novell.com>).
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Author David Vignoni (david@icon-king.com).
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This software is a custom image of OpenWRT (kamikaze) with Linux 2.6 kernel. Therefore, you can use the full set of software available for this version of OpenWRT and, with relevant patches, for all Linux based operating systems.

The system was developed in *sh*, *php* and *javascript*. The basic distinctive feature of NETSHe is that is has its own system configuration storage, pre-installed software and its own initialization system (start-up scripts).
All system settings and used software settings are stored in one configuration XML-file. This solution ensures an integrated space of system settings, maximum monitoring of settings and their automatic modification for all applications from single point.
For instance, if some network interface is deleted through the web interface, then this network interface will be automatically deleted from all applications, which used it. Any modification of radius-server settings will lead to automatic modification of these settings for all applications using radius-server.
It should be noted, however, that this approach is totally incompatible with UCI configuration system, which is standard for OpenWRT Kamikaze.

NETSHe start-up scripts, based on the data from XML-file, directly configure the respective system services or create configuration files for specific applications (in their “native” format) in a temporary directory immediately before starting an application.

How NETSHe gains control over the system?
During the first system boot (and after new firmware flashing) a special script is the first to gain control over the system. This script replaces kamikaze start-up scripts and configuration files (UCI files) with NETSHe files and re-boots the device.
After the second boot the device is initialized in accordance with the device default settings.

NETSHe configuration file is named *.main.conf* and is located in */etc/.ssxapp* directory.
Configuration files for some applications (e. g. for *bgp router*) are created by the system in the */tmp/etc* directory.
Besides, NETSHe creates and uses some files in */tmp* directory.
NETSHe files are located in */opt/rb* directory.

MAIN FEATURES OF NETSHe

- Network interface management (including point-to-point and wireless);
- VLAN's and aliases;
- Advanced routing (static, multipath, rule-based, RIP, OSPF, BGP);
- Zone based firewall;
- Bridges with *brouter* and filtering capability;
- Interface bonding;
- Quality of Service, bandwidth management, traffic shaping, rate control and traffic prioritization;
- L7 based (application patterns based) IP-traffic filtering and marking;
- Extended management of wireless interfaces; Access Point, Ad-Hoc, Client and Repeater mode with (or without) variable WEP encryption modes, WPA-PSK, WPA2-PSK, WPA-EAP, WPA2-EAP, 802.11X authorization and key management;
- Access concentrator for variable VPN's (PPTP, L2TP and OpenVPN);
- IPSEC support for L2TP VPN solution;
- PPPoE access concentrator;
- Hot-spot controller with external UAM-authorization; walled garden and bandwidth management;
- Authorization and accounting through external radius-server;
- Built-in IP-address assignment or assignment through external radius-server;
- DHCP server with flexible rules; dynamic IP-address assignment; static IP-address assignment; configurable black-list mode for DHCP requests from specified MAC's;
- DHCP relay;
- Network time synchronization server and client. Server integration with DHCP server.
- Built-in HTTP proxy with ability to use upstream proxy;
- Full software management; support of external software repositories; software installation and deletion;
- User management; two levels of user access: full and read-only;
- External storage management; SWAP control;
- System monitoring; chart graphing in a near real-time mode;
- System monitoring through SNMP v2 protocol;
- Configurable system backup; backup images can be moved to external devices and/or network shares;
- Files and folders restoration;
- Backup and restoration of configurations;
- Firmware flashing;
- Traffic capture and analysis;
- System halt and reboot;
- Some helpful utilities.

GETTING STARTED

Firmware Flashing

To flash new firmware into the RouterStation you would require a PC with tftp-client.
Example:
OS Linux with *atftp*.
Power on RouterStation with pressed service button. The device goes in *RedBoot* bootloader mode, assigns 192.168.1.20 with network mask 255.255.255.0 to eth0 (POE port) and waits for tftp connection to receive new firmware image.
Make sure you PC is connected to the same network as the device. Assign an IP-address from the same network to the network interface of your PC (e. g. *ifconfig eth0:1 inet 192.168.1.1 netmask 255.255.255.0 up*) and launch *atftp*.
From atftp-shell type in:

```
verbose
trace
connect 192.168.1.20
put Path_to_firmware_file_image/Firmware_file_name
```

Monitor firmware flashing process, which takes 3 to 5 minutes. Do not power of the device! In the event of any unexpected power cut-off during firmware flashing, start the whole process again from the beginning.
Firmware flashing ends up with automatic device re-boot. Wait for the second automatic device reboot, which will enable NETSHe to gain control over the system.

If firmware flashing is performed successfully, the device becomes accessible at 192.168.1.20. SSH-access at port 22, web interface at port 80.

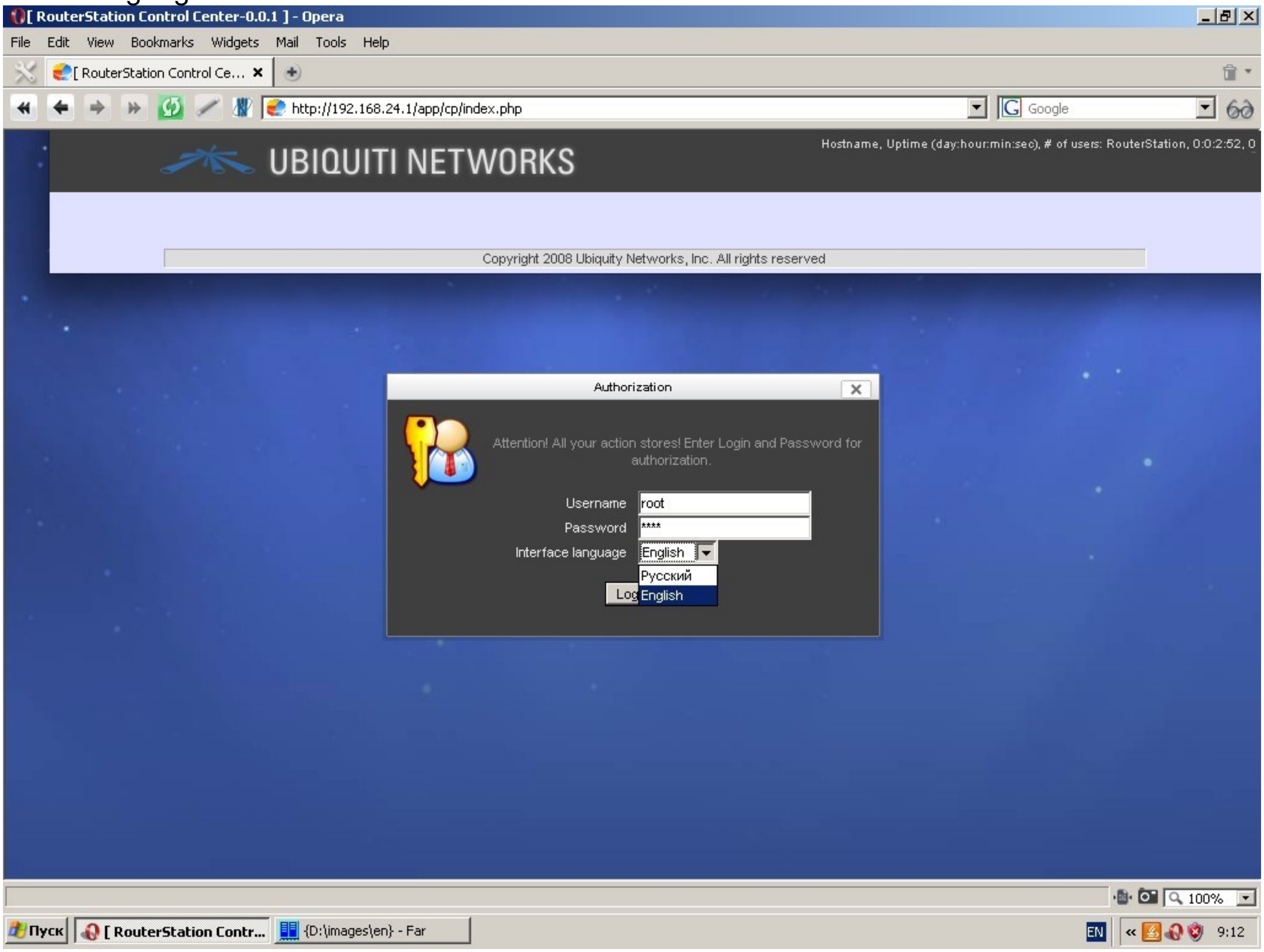
After new firmware flashing the system has only one account with login “*root*” and password “*ubnt*”.

USING WEB INTERFACE

Getting Started

Launch browser and visit *http://192.168.1.20*
It should be noted, that execution of java-scripts and cookies are to be enabled in your browser.
After you typed in the IP-address of the device and pressed “Enter” key, you get to the page, which checks settings of your browser. If execution of java-scripts is enabled in your browser, you will be automatically redirected to the login page of the web interface. Otherwise, you cannot move any further. Please check your browser settings and unable execution of java-scripts, if automatic redirection failed.

As soon as you get to the login page, the web interface will try to detect language settings of your browser and offer the login page in your native language (provided the system has been translated in your language). Otherwise, the login page will be in English. You can choose, however, from the list of available languages.



[RouterStation Control Center-0.0.1] - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php
Google
UBIQUITI NETWORKS
Authorization
Русский
English
Log
Пуск
[RouterStation Contr...
{D:\images\en} - Far
EN
9:12
100%

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:2:52, 0

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Attention! All your action stores! Enter Login and Password for authorization.

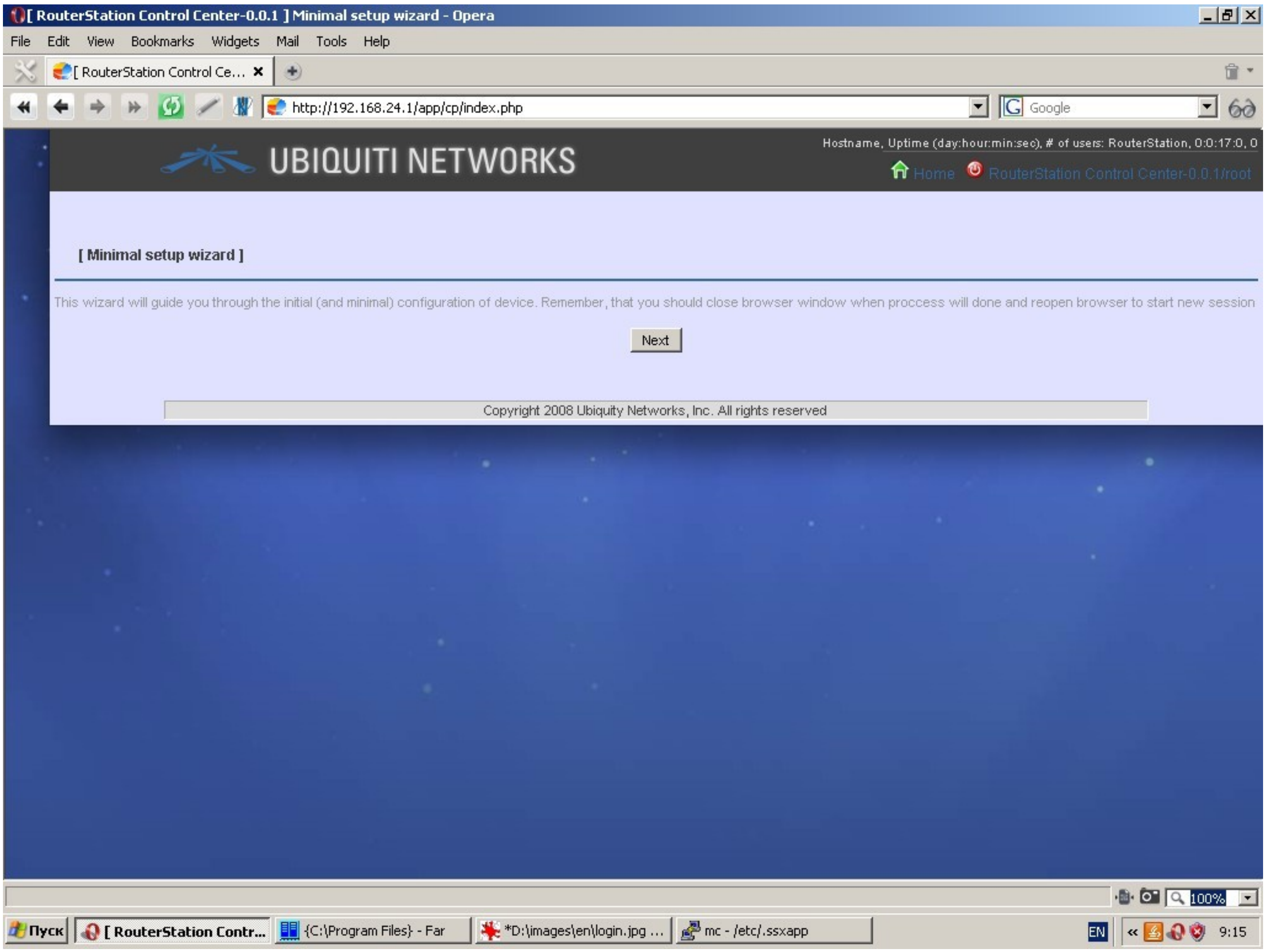
Username: root
Password: ****
Interface language: English

Type in login “*root*” and password “*ubnt*”, click “*Log in*” button.

If you still stick to this page, check if cookies are enabled in your browser. If your login and password are correct, you get to the setup wizard.

Setup Wizard.

Setup Wizard are several pages, which appear consecutively and enable you to set up the most important features of your device, such as IP-addresses of two network interfaces, hostname, time and time zone and new password for the user “*root”*.



[RouterStation Control Center-0.0.1] Minimal setup wizard - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:17:0, 0
Home
RouterStation Control Center-0.0.1/root
Next
Пуск
[RouterStation Contr...
{C:\Program Files} - Far
*D:\images\en\login.jpg ...
mc - /etc/.ssxapp
EN
9:15

[Minimal setup wizard]

This wizard will guide you through the initial (and minimal) configuration of device. Remember, that you should close browser window when proccess will done and reopen browser to start new session

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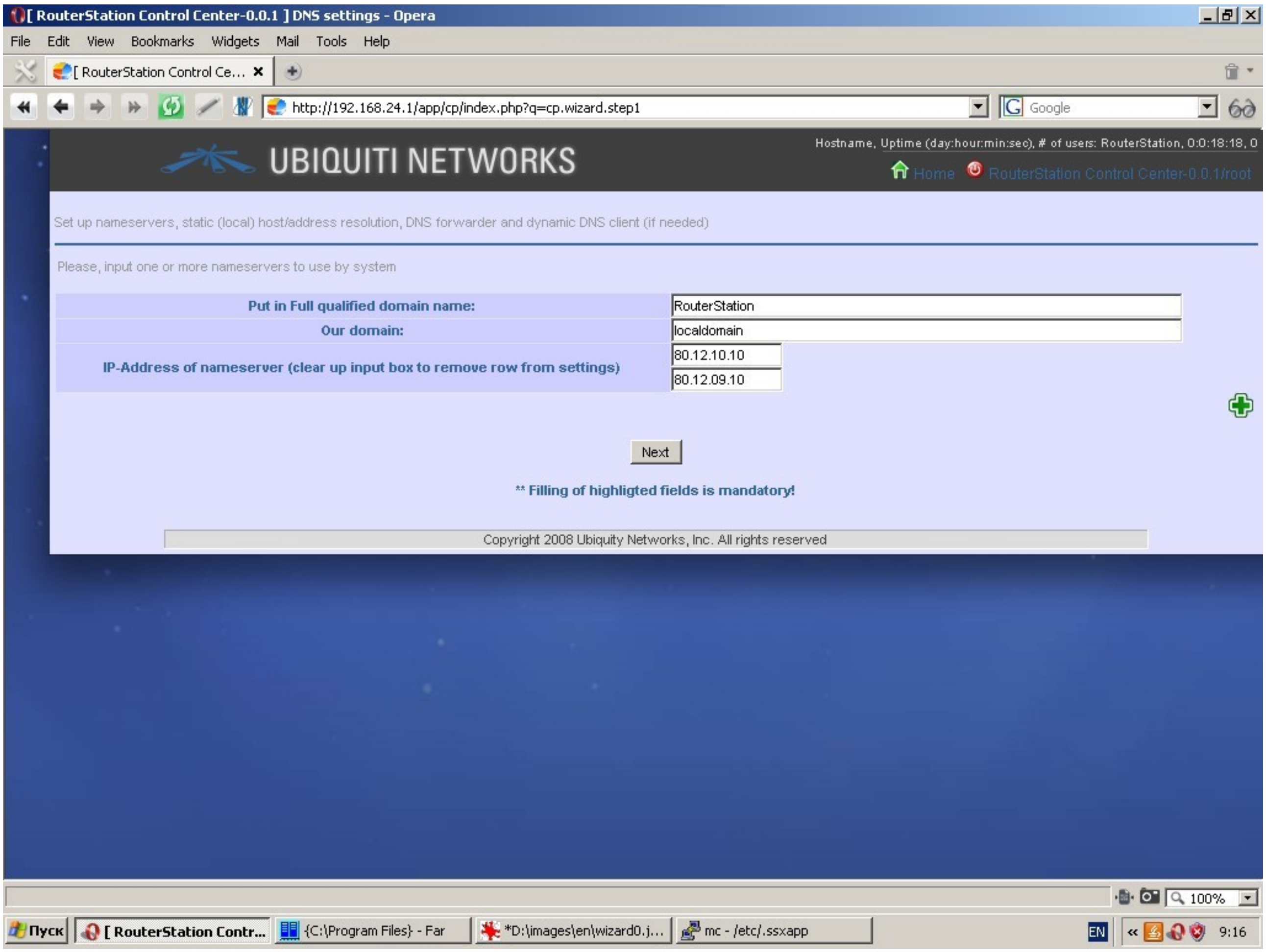
Please remember, that if you change the IP-address or netmask of *eth0*, this will drop all current connections. You will have to exit from your browser and log in at the new IP-address.
Please change the initial password for user “*root*” due to security reasons. Please use complex password for user “*root*”.



[RouterStation Control Center-0.0.1] DNS settings - Opera

http://192.168.24.1/app/cp/index.php?q=cp.wizard.step1

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:18:18, 0

Set up nameservers, static (local) host/address resolution, DNS forwarder and dynamic DNS client (if needed)

Please, input one or more nameservers to use by system

Put in Full qualified domain name:	RouterStation
Our domain:	localdomain
IP-Address of nameserver (clear up input box to remove row from settings)	80.12.10.10 80.12.09.10

** Filling of highligted fields is mandatory!

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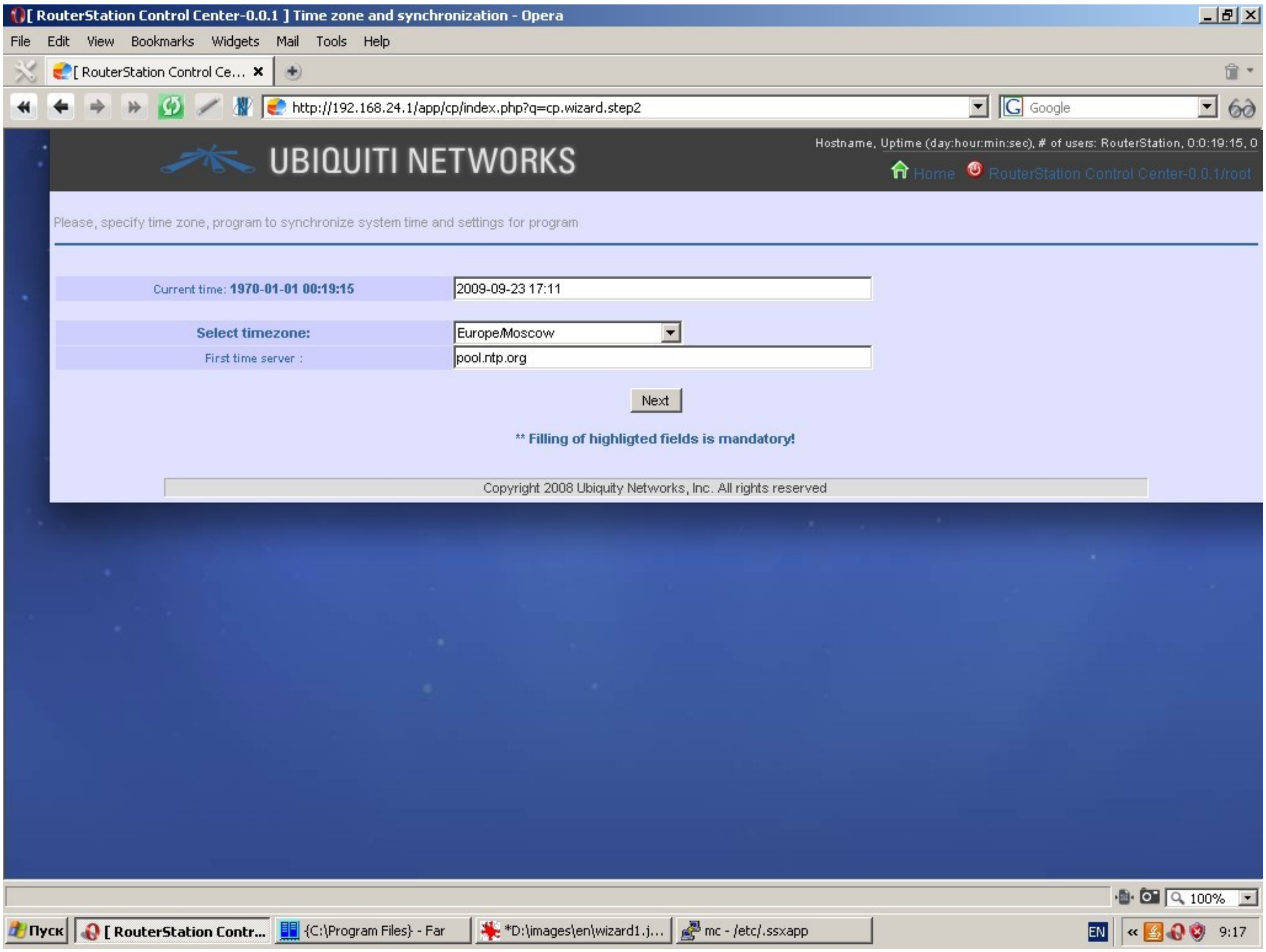

[RouterStation Control Center-0.0.1] Time zone and synchronization - Opera

http://192.168.24.1/app/cp/index.php?q=cp.wizard.step2

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:19:15, 0

Please, specify time zone, program to synchronize system time and settings for program

Current time: 1970-01-01 00:19:15	2009-09-23 17:11
Select timezone:	Europe/Moscow
First time server :	pool.ntp.org

** Filling of highligted fields is mandatory!

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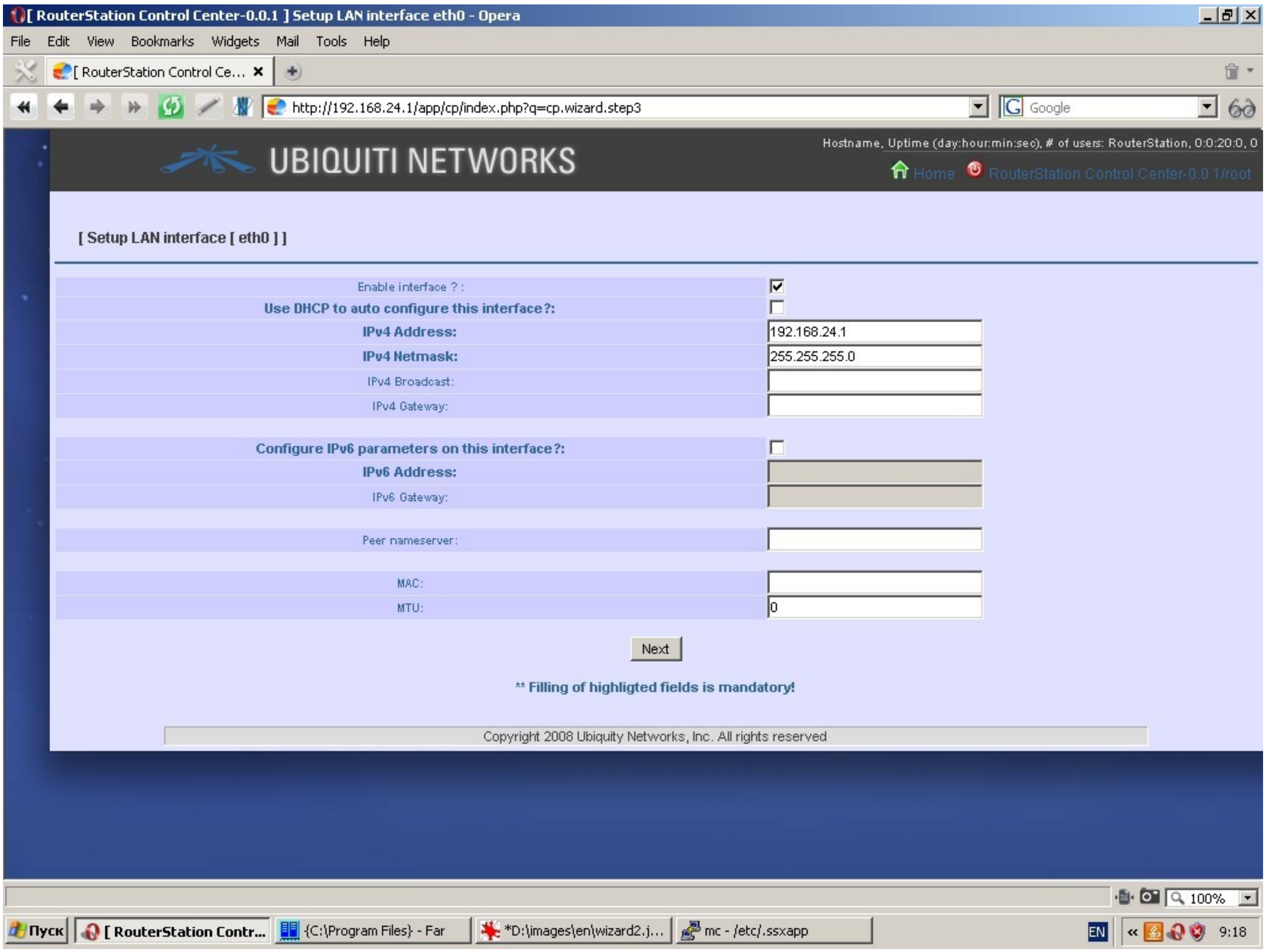
If you are not going to change the current device settings, simply click “Next”.


[RouterStation Control Center-0.0.1] Setup LAN interface eth0 - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=cp.wizard.step3
Google
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
100%
Пуск
[RouterStation Contr...
{C:\Program Files} - Far
*D:\images\en\wizard2.j...
mc - /etc/.ssxapp
EN
9:18

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:20:0, 0

[Setup LAN interface [eth0]]

Enable interface ? :	☑
Use DHCP to auto configure this interface?:	□
IPv4 Address:	192.168.24.1
IPv4 Netmask:	255.255.255.0
IPv4 Broadcast:	
IPv4 Gateway:	
Configure IPv6 parameters on this interface?:	□
IPv6 Address:	
IPv6 Gateway:	
Peer nameserver:	
MAC:	
MTU:	0

Next

** Filling of highligted fields is mandatory!

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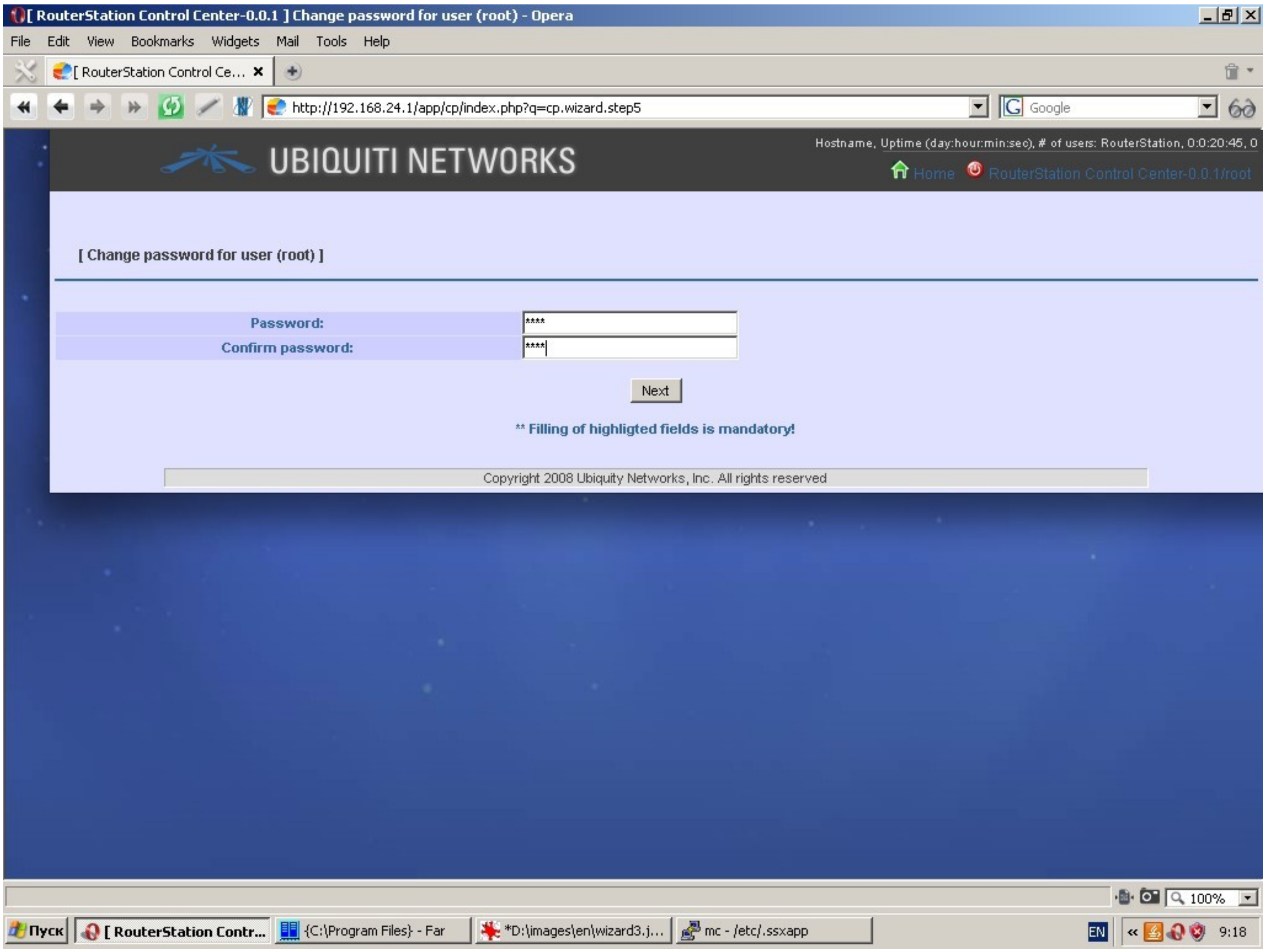
[RouterStation Control Center-0.0.1] Change password for user (root) - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=cp.wizard.step5
Google
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
Next
100%
Пуск
[RouterStation Contr...
{C:\Program Files} - Far
*D:\images\en\wizard3.j...
mc - /etc/.ssxapp
EN
9:18

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:20:45, 0

[Change password for user (root)]

Password: ****
Confirm password: ****

** Filling of highligted fields is mandatory!

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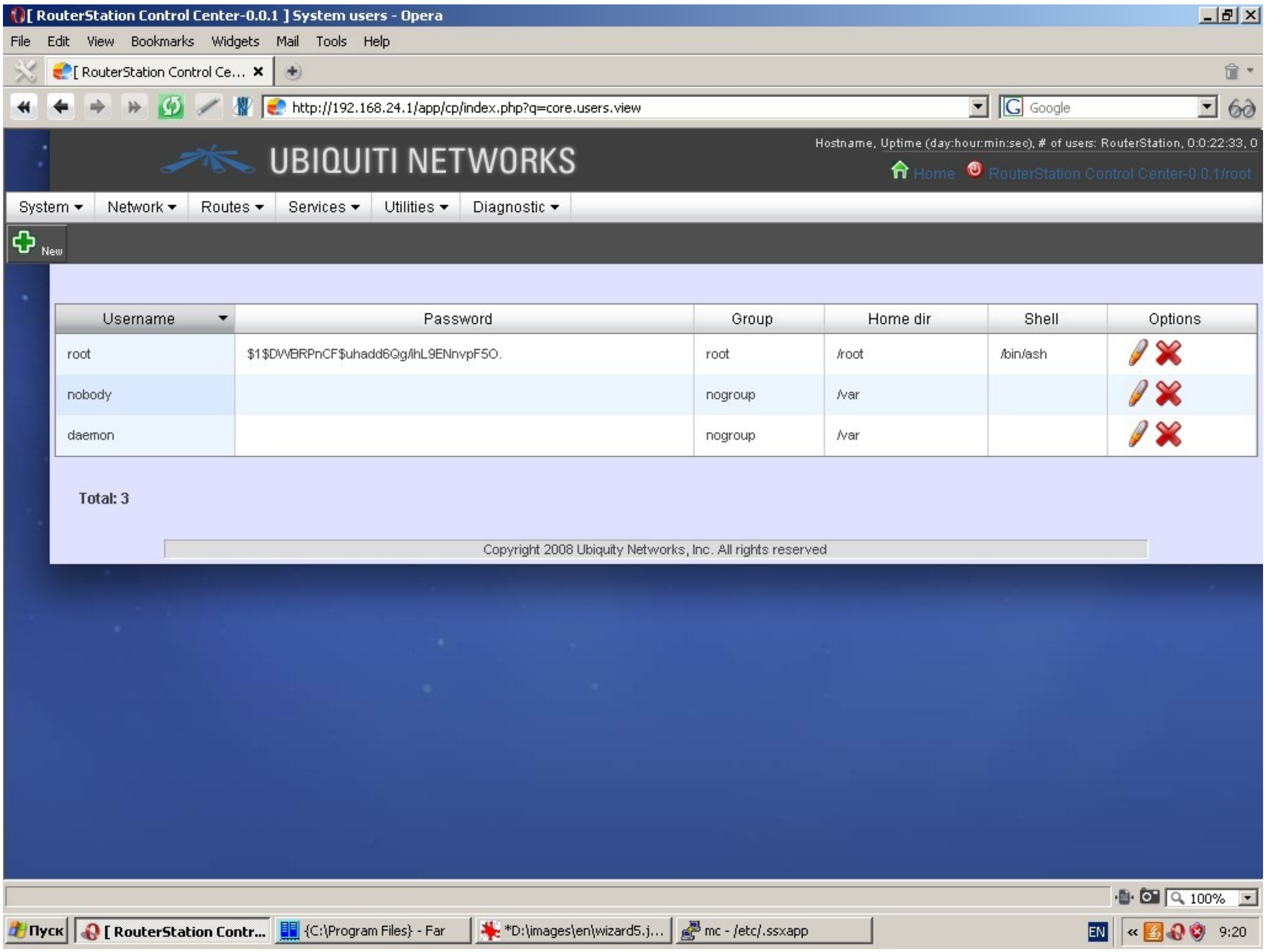
When you finish with setup wizard, exit from your browser.

General Web Interface Layout

Manufacturer’s logo is located in the top of the page. By clicking on the logo you are redirected to the corporate web site of UBIQUITY NETWORKS. Besides, you can find there the following information: hostname, pptime, home button and logout button.
Below is the main dropdown menu, which separates the work area of the page (data input/output area) from the top part of the page. All functions of the system are grouped in the main menu.
A toolbar can appear under the main menu with shortcuts to various specific functions (e. g. “New”, “Create backup”, “Find”, etc.).
Do not forget to click “Save” button after modification of any settings.
If you tick off the “Restart service(s) after saving” field, the modified settings will be saved and the relevant service(s) will be restarted after clicking the “Save” button.
Web interface uses standard icons to identify similar tasks. Thus, ➕ icon is used to identify such actions as “Add new record/property”,
❌ identifies such actions as removal/termination of service/application,
✏ identifies editing,
▶ identifies service/application start. An icon with two reciprocal arrows 🔄 identifies restart/update.



[RouterStation Control Center-0.0.1] System users - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.users.view
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:22:33, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
New

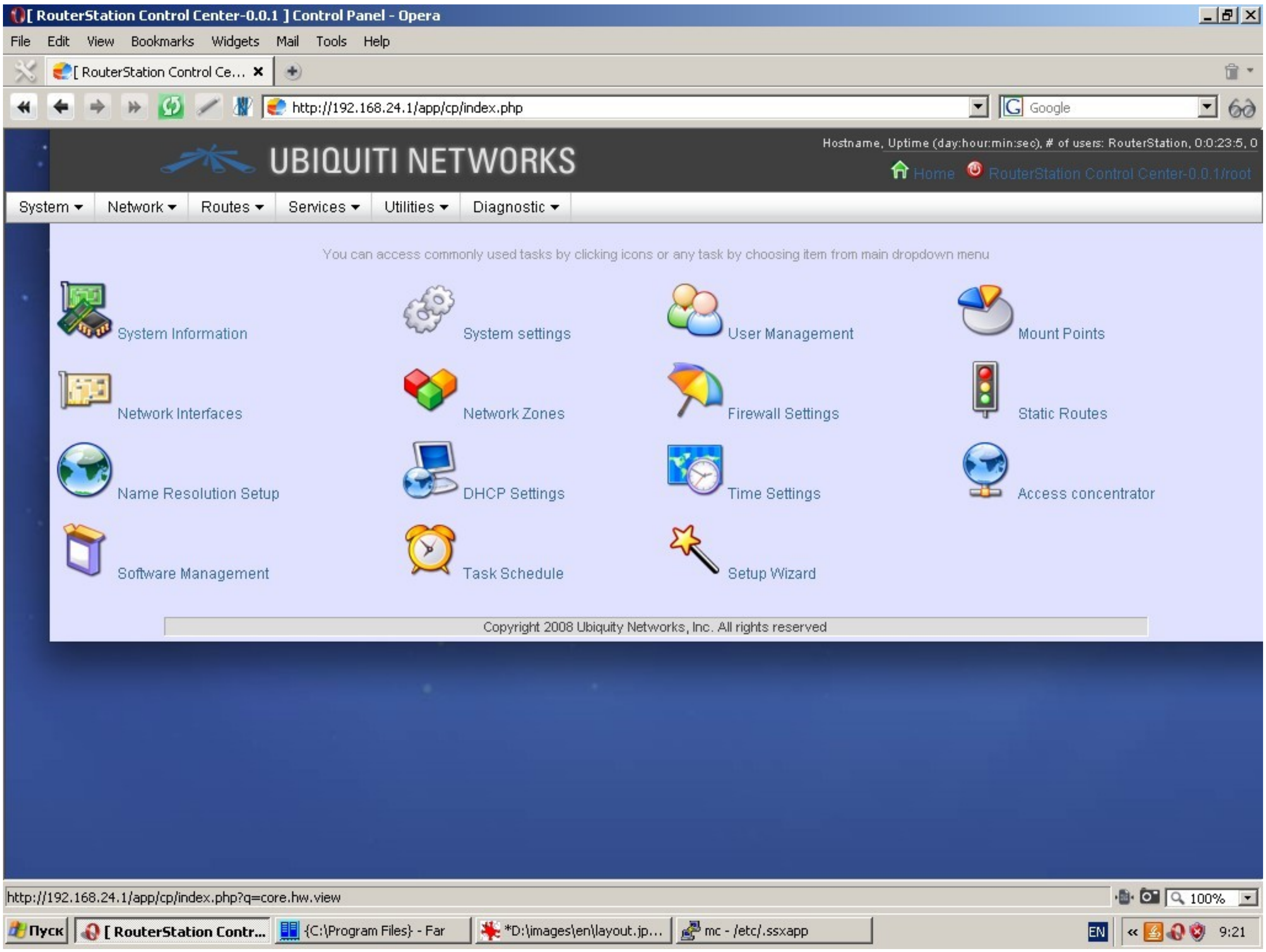
Username	Password	Group	Home dir	Shell	Options
root	$1$DWBRPnCF$uhadd6Qg/ihL9ENnvpF5O.	root	/root	/bin/ash	✎ ✖
nobody		nogroup	/var		✎ ✖
daemon		nogroup	/var		✎ ✖

Total: 3

Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{C:\Program Files} - Far
*D:\images\en\wizard5.j...
mc - /etc/.ssxapp
EN
9:20

Start Page

Start page has icons and subscripts with links to the most commonly used functions of the system. By clicking the icon you get to the settings page of the relevant function.



You can access commonly used tasks by clicking icons or any task by choosing item from main dropdown menu

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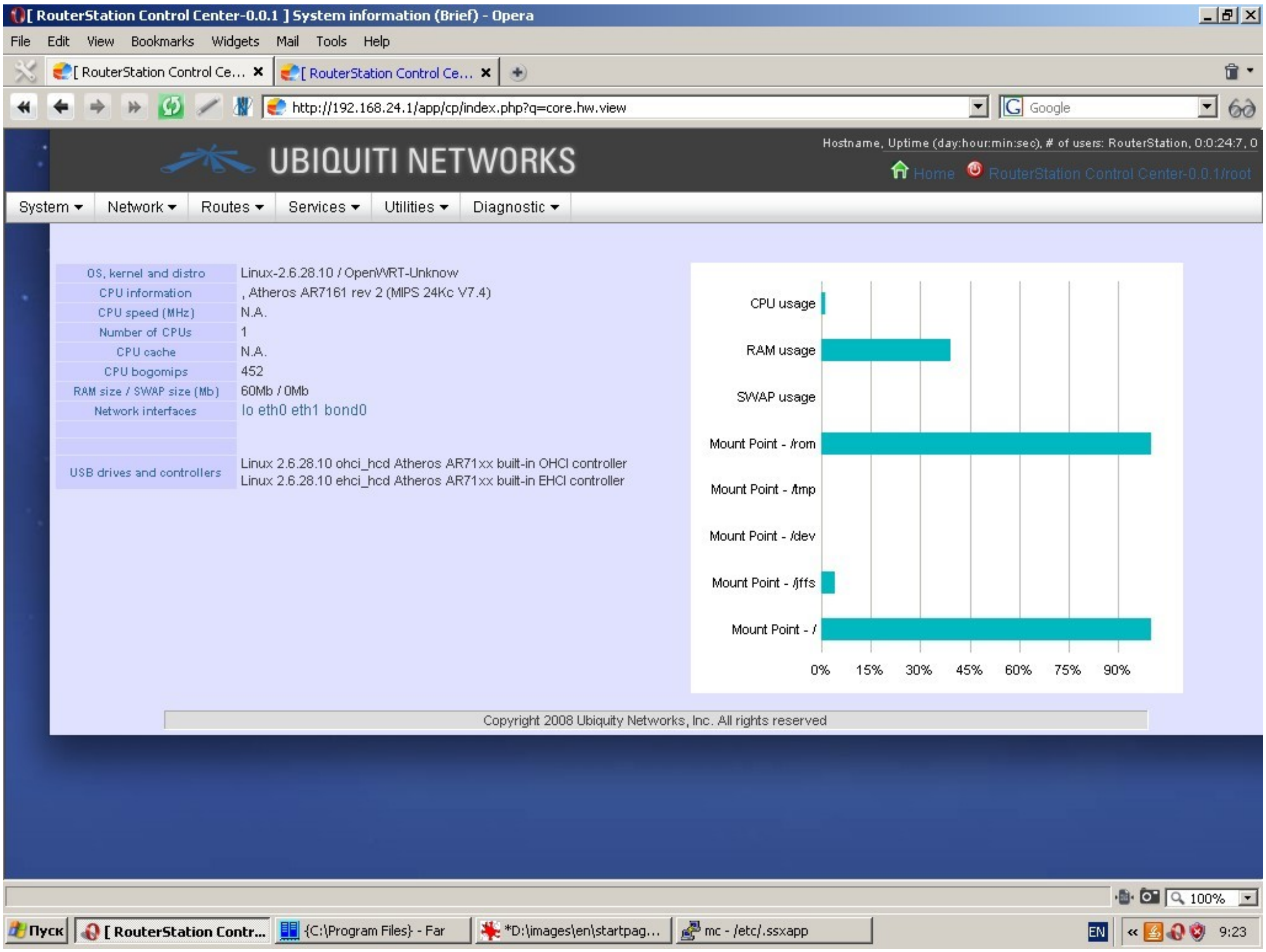
Please note that all these and many other functions of the system are accessible from the main menu.

System Information

During development of the system we were aiming at provision of a modern and smart tool, which would most efficiently and comfortably output the system data and the events taking place in the system. Thus, the following system information is displayed graphically in near to real-time mode: CPU usage, RAM usage, SWAP usage, OS kernel and distributive, CPU information, CPU bogomips, USB drivers and controllers, etc.


[RouterStation Control Center-0.0.1] System information (Brief) - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.hw.view
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:24:7, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
CPU usage
RAM usage
SWAP usage
Mount Point - /rom
Mount Point - /tmp
Mount Point - /dev
Mount Point - /jffs
Mount Point - /
0%
15%
30%
45%
60%
75%
90%
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{C:\Program Files} - Far
*D:\images\en\startpag...
mc - /etc/.ssxapp
EN
9:23

OS, kernel and distro	Linux-2.6.28.10 / OpenWRT-Unknow
CPU information	, Atheros AR7161 rev 2 (MIPS 24Kc V7.4)
CPU speed (MHz)	N.A.
Number of CPUs	1
CPU cache	N.A.
CPU bogomips	452
RAM size / SWAP size (Mb)	60Mb / 0Mb
Network interfaces	lo eth0 eth1 bond0
USB drives and controllers	Linux 2.6.28.10 ohci_hcd Atheros AR71xx built-in OHCI controller Linux 2.6.28.10 ehci_hcd Atheros AR71xx built-in EHCI controller

To view the chart you will need Flash Player 10 and above installed in your browser.

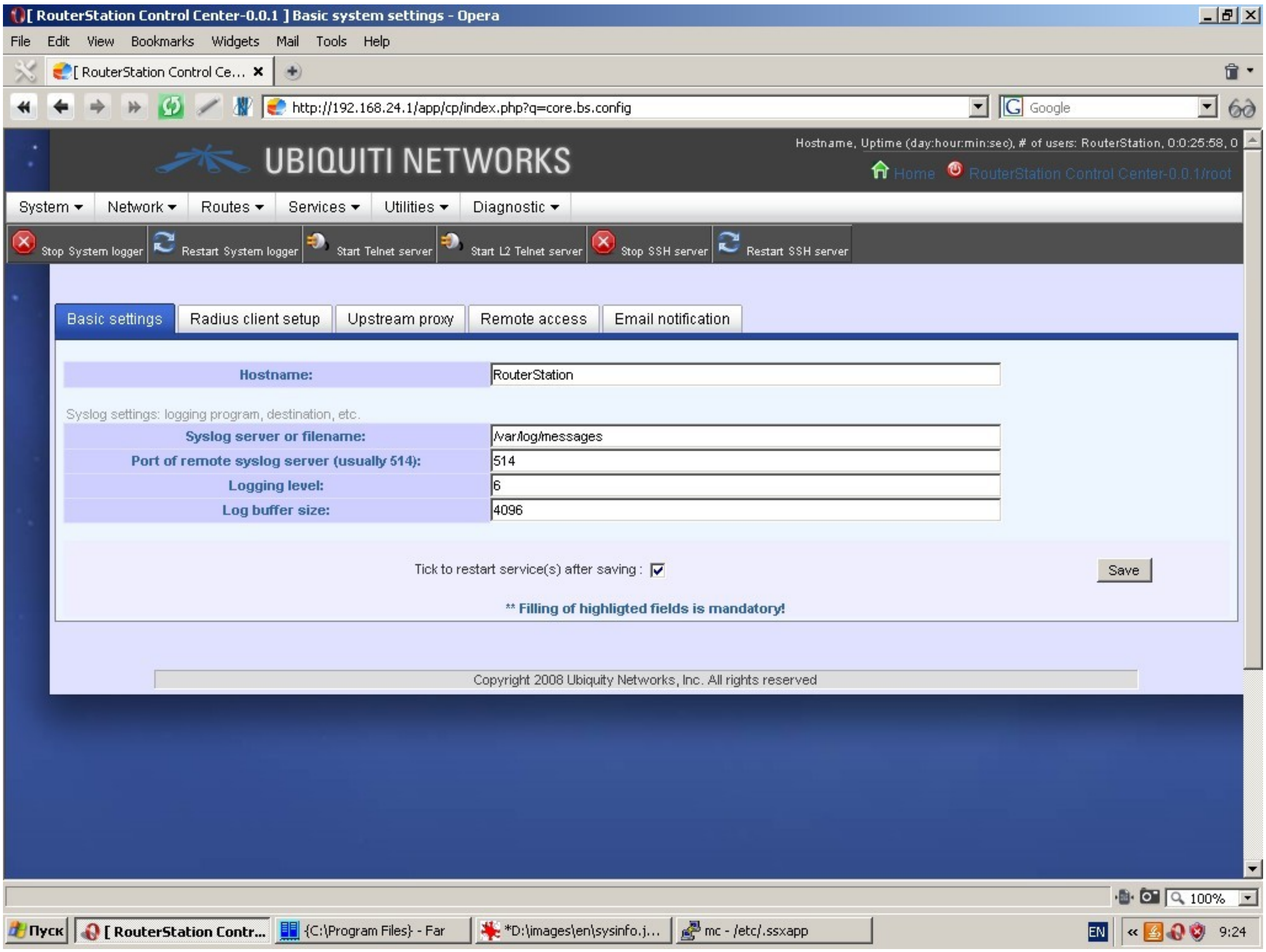
Recommended system setting sequence:

1. Change password of user “root”
2. Specify hostname
3. Specify your domain (use *localdomain* if you are not sure)
4. Specify one or more IP-addresses of nameservers
5. Type in current date and time
6. Select your time zone
7. Specify one or more upstream time servers (these settings are made either by means of Setup Wizard or via the menu items “System-Base settings”, “Services-Time settings and synchronization”, “Services-Domain name resolution”.
8. Set up network interface *eth0*
9. Set up network interface *eth1* (either by means of Setup Wizard or via the menu item “Network-Interfaces”)
10. Set up system log (via the menu item “System-Base settings”)
11. If necessary, add new users to the system. It should be noted, that any user with shell other than empty shell, */bin/false* and */bin/nologin* will have full rights to access and control the system via the web interface. User with empty shell, */bin/false* or */bin/nologin* will have access to web interface in “read only” mode. Some settings will not be accessible for such user even in read only mode. (If necessary, this is performed via the menu item “System-Users”)
12. Set up external radius-server. (If necessary, this is performed via the menu item “System-Base settings”)
13. Set up external upstream http-proxy (If necessary, this is performed via the menu item “System-Base settings”)
14. Set up all optional interfaces (VLAN; aliases; dynamic, i. e. PPP; wireless. This is performed via the menu item “Network-Interfaces”)
15. Create and set up bridges (If necessary, this is performed via the menu item “Network-Bridges”)

16. Create and set up interface bonding (If necessary, this is performed via the menu item “Network-Bonding”)
17. Group interfaces into zones (at least two zones must be specified, e. g. Lan and Wan). This is performed via the menu item “Network-Zones”
18. Set up firewall (This is performed via the menu item “Network-Firewall”)
19. Set up bridge filtering (If necessary and if the bridge is available, this is performed via the menu item “Network-Bridge filtering”)
20. Set up static routing. (This is performed via the menu item “Routes-Static”)
21. Set up other types of routing. (This is performed via the menu item “Routes”)
22. If necessary, mount external storage devices and network shares. (This is performed via the menu item “System-Mount points”)
23. If necessary, set up packages repository and install required software not included in the basic delivery package (This is performed via the menu item “System-Software”)
24. If necessary, set up traffic prioritization and quality of service assurance system. (This is performed via the menu item “Network-Bandwidth management and traffic prioritization”)
25. Set up required services and additional software.

Basic system settings

‘Basic settings’ tab contains fields for typing in hostname, filename or syslog server (remote syslog server in case of external computer), port (in case of external computer), logging level and log buffer size, where new records will clean out old ones in the event of overflow (cyclic recording).



http://192.168.24.1/app/cp/index.php?q=core.bs.config

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:25:58, 0

Hostname:	RouterStation

Syslog settings: logging program, destination, etc.

Syslog server or filename:	/var/log/messages
Port of remote syslog server (usually 514):	514
Logging level:	6
Log buffer size:	4096

Tick to restart service(s) after saving : ☑

** Filling of highligted fields is mandatory!

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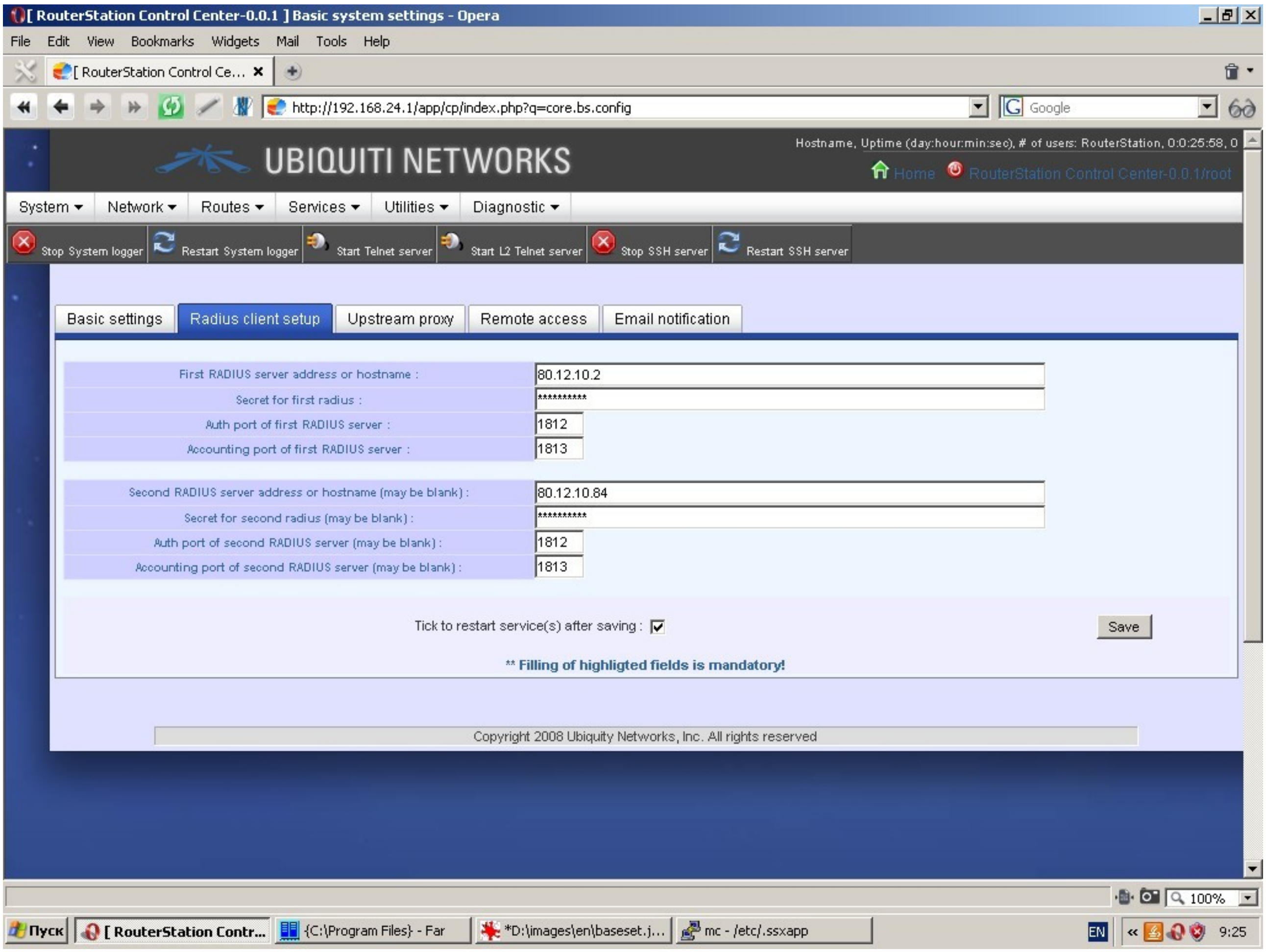
‘Radius client setup’ tab allows to specify up to two radius-servers (primary and redundant), which can be used by the system for client authorization and accounting (e. g. during PPTP/PPPoE/L2TP connections and hot spot controller operation). Radius-servers are identified by hostname or IP-address, secret phrase and authorization and accounting ports.



[RouterStation Control Center-0.0.1] Basic system settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.bs.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:25:58, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Stop System logger
Restart System logger
Start Telnet server
Start L2 Telnet server
Stop SSH server
Restart SSH server
Basic settings
Radius client setup
Upstream proxy
Remote access
Email notification
Save
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100%
Пуск
[RouterStation Contr...
{C:\Program Files} - Far
*D:\images\en\baseset.j...
mc - /etc/.ssxapp
EN
9:25

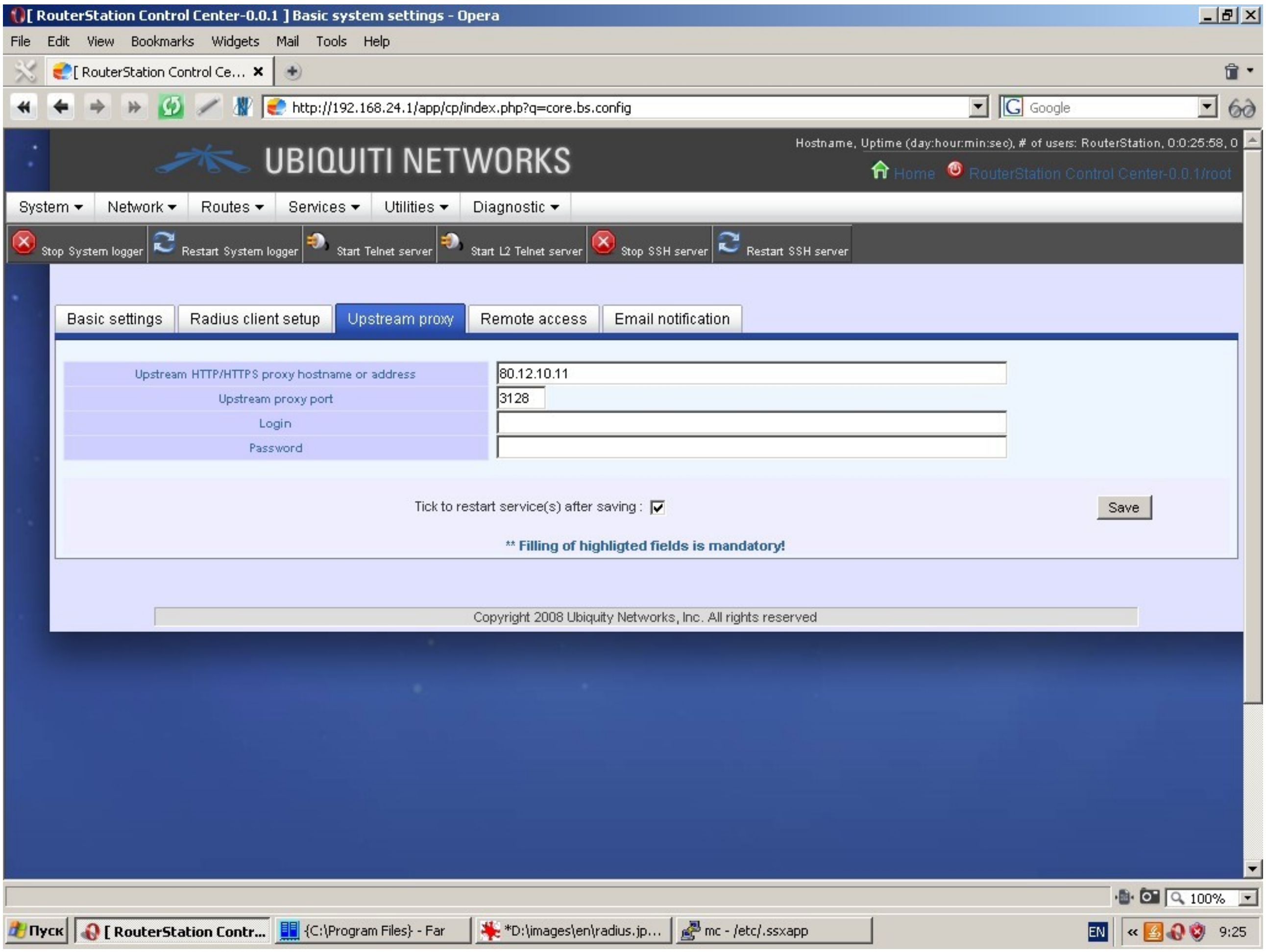
First RADIUS server address or hostname :	80.12.10.2
Secret for first radius :	**********
Auth port of first RADIUS server :	1812
Accounting port of first RADIUS server :	1813
Second RADIUS server address or hostname (may be blank) :	80.12.10.84
Secret for second radius (may be blank) :	**********
Auth port of second RADIUS server (may be blank) :	1812
Accounting port of second RADIUS server (may be blank) :	1813

Tick to restart service(s) after saving : ☑

** Filling of highligted fields is mandatory!

‘Upstream proxy’ tab allows to specify an http-proxy to be used for redirection of all http-requests from the in-built proxy. This proxy will also be used as proxy for packages manager and dynamic domain name resolution client.

To use this function, type in upstream HTTP/HTTPS proxy hostname or IP-address, upstream proxy port, where the requests are received, login and password for authorization (if necessary).


[RouterStation Control Center-0.0.1] Basic system settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.bs.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:25:58, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Stop System logger
Restart System logger
Start Telnet server
Start L2 Telnet server
Stop SSH server
Restart SSH server
Basic settings
Radius client setup
Upstream proxy
Remote access
Email notification
Save
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{C:\Program Files} - Far
*D:\images\en\radius.jp...
mc - /etc/.ssxapp
EN
9:25

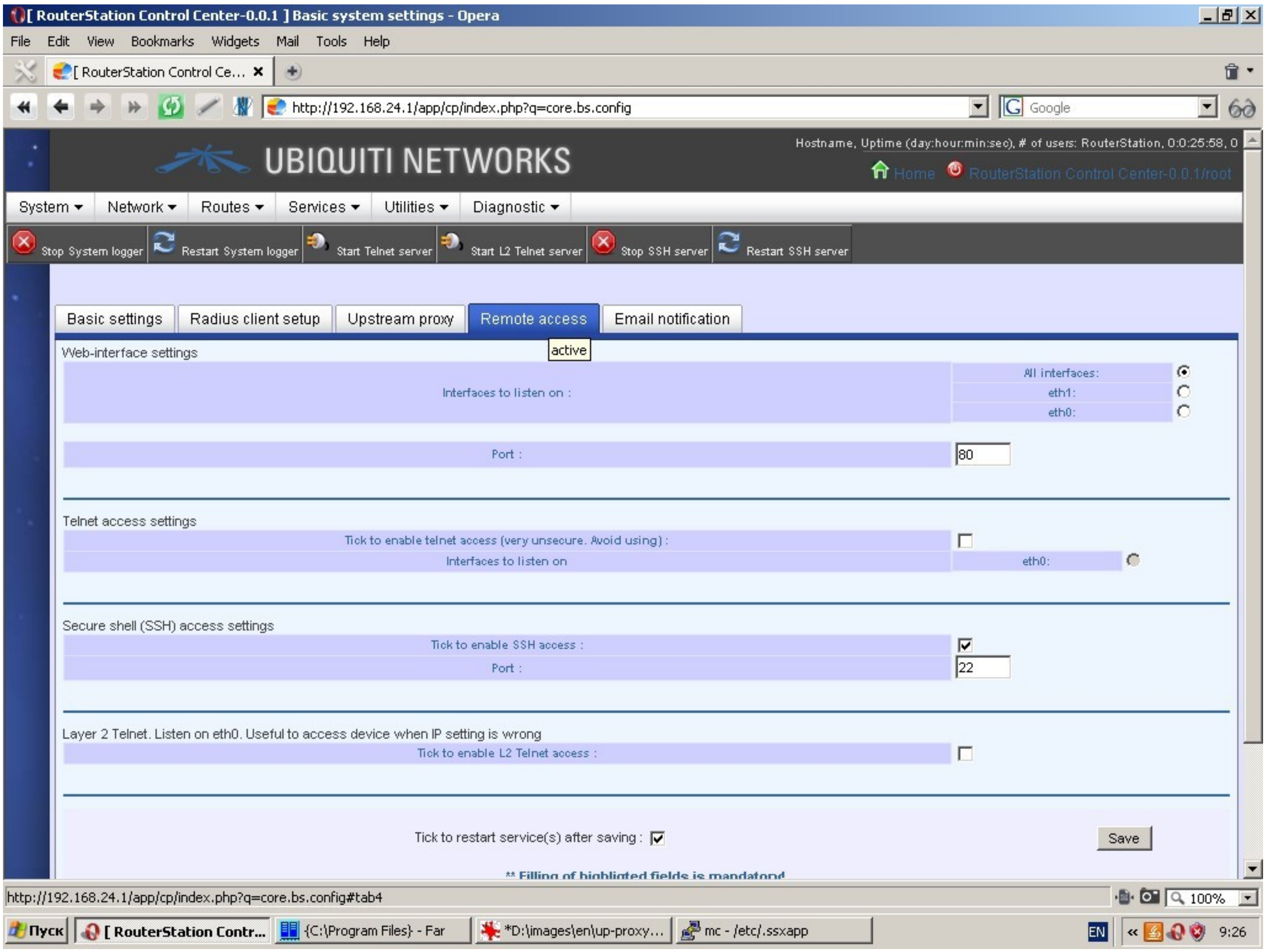
Upstream HTTP/HTTPS proxy hostname or address	80.12.10.11
Upstream proxy port	3128
Login	
Password	

Tick to restart service(s) after saving : ☑

** Filling of highligted fields is mandatory!

‘Remote access’ tab allows to control type and possibilities of remote access to the device. Remote access to the device can be performed as follows:

- via web interface,
- via telnet,
- via SSH protocol,
- via L2 telnet.


[RouterStation Control Center-0.0.1] Basic system settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php?q=core.bs.config
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:25:58, 0
Home RouterStation Control Center-0.0.1/root
System Network Routes Services Utilities Diagnostic
Stop System logger Restart System logger Start Telnet server Start L2 Telnet server Stop SSH server Restart SSH server
Basic settings Radius client setup Upstream proxy Remote access Email notification
active

Web-interface settings

Interfaces to listen on :	All interfaces:	●
	eth1:	○
	eth0:	○
Port :	80	

Telnet access settings

Tick to enable telnet access (very unsecure. Avoid using) :	□	
Interfaces to listen on	eth0:	○

Secure shell (SSH) access settings

Tick to enable SSH access :	☑
Port :	22

Layer 2 Telnet. Listen on eth0. Useful to access device when IP setting is wrong

Tick to enable L2 Telnet access :	□

Tick to restart service(s) after saving : ☑

Save
** Filling of highligted fields is mandatory!
http://192.168.24.1/app/cp/index.php?q=core.bs.config#tab4
100%
Пуск [RouterStation Contr... {C:\Program Files} - Far *D:\images\en\up-proxy... mc - /etc/.ssxapp
EN 9:26

Both types of telnet are disabled by default. Only web interface at port 80 and SSH access at port 22 for all device interfaces are enabled.

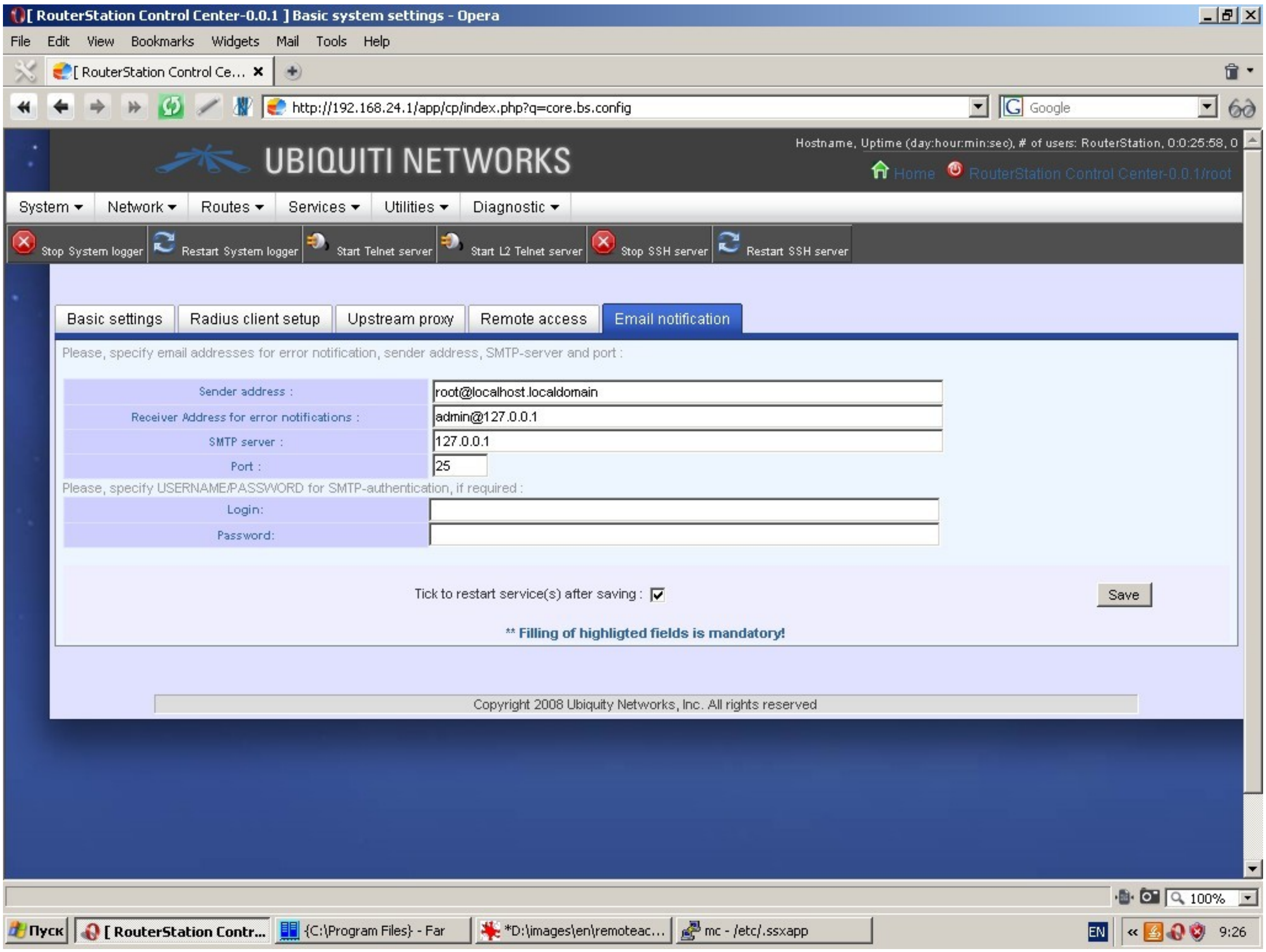
Please remember that telnet access is extremely vulnerable (password is not requested) and this vulnerability will not be any smaller by trying to limit telnet by any specific interface. Therefore, we recommend not to use telnet access at all.

L2 telnet access is available only with *eth0* interface and its value is rather theoretical. We don’t recommend to use it either.

SSH access cannot be limited by some specific interface or group of interfaces, but it can be assigned to a port other than port 22 (standard port), which we urgently recommend to do for your operational device.

Web interface can be accessible at all device interfaces (by default) and it can also be assigned to a specific interface. Besides, a port other than 80 (standard port) can be assigned to the web interface. We urgently recommend to enable web interface for your operational device with minimum set of network interfaces and to assign it to a port other then port 80.

‘Email notification’ tab allows to set up sending of email notifications by the system (IP-address and port of SMTP server; user login and password, if necessary; sender and receiver address).


[RouterStation Control Center-0.0.1] Basic system settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.bs.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:25:58, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Stop System logger
Restart System logger
Start Telnet server
Start L2 Telnet server
Stop SSH server
Restart SSH server
Basic settings
Radius client setup
Upstream proxy
Remote access
Email notification
Save
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{C:\Program Files} - Far
*D:\images\en\remoteac...
mc - /etc/.ssxapp
EN
9:26

Please, specify email addresses for error notification, sender address, SMTP-server and port :

Sender address :	root@localhost.localdomain
Receiver Address for error notifications :	admin@127.0.0.1
SMTP server :	127.0.0.1
Port :	25

Please, specify USERNAME/PASSWORD for SMTP-authentication, if required :

Login:	
Password:	

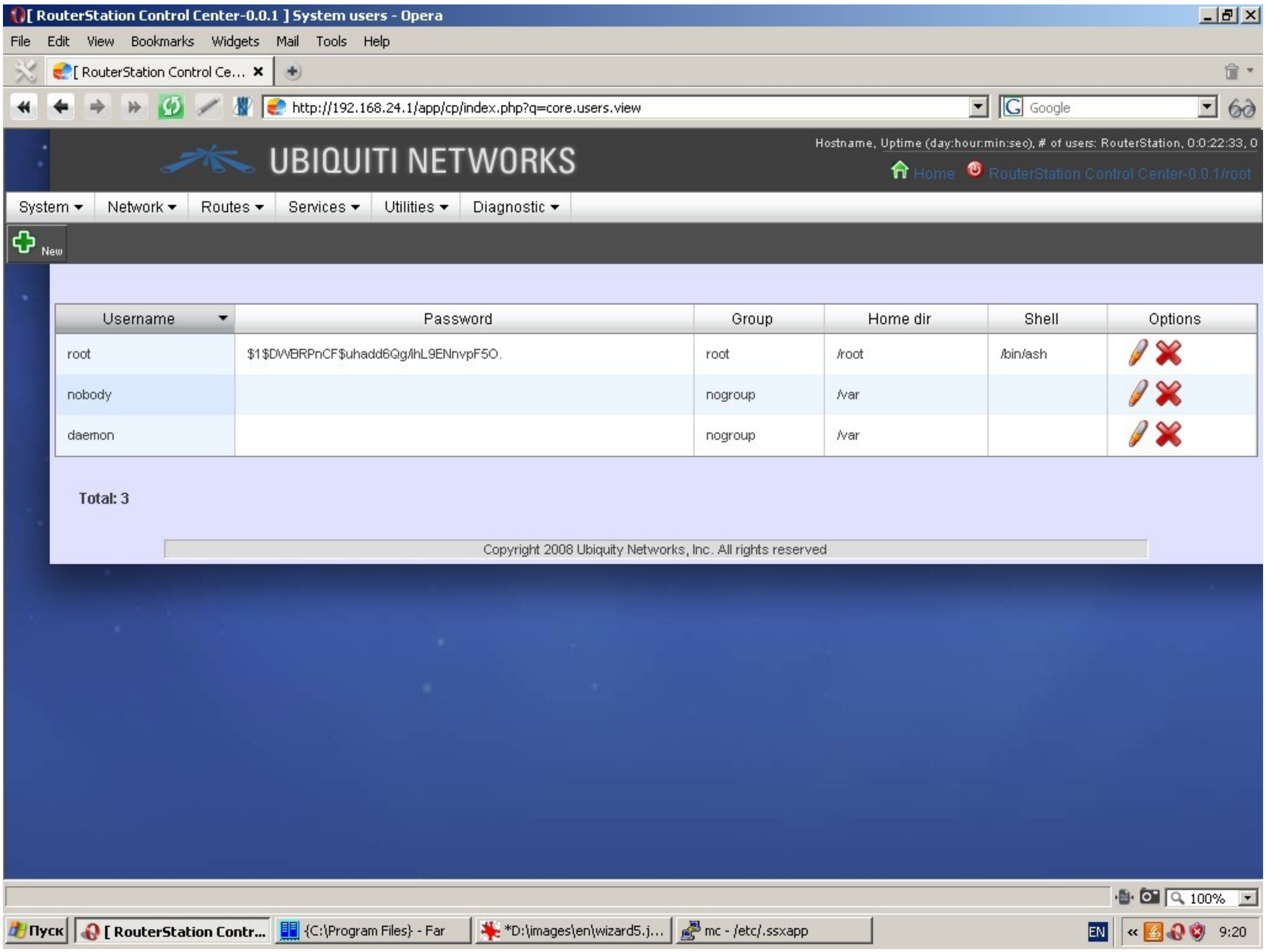
Tick to restart service(s) after saving : ☑

** Filling of highligted fields is mandatory!

Buttons in the toolbar offer tools for starting, stopping and restarting of relevant services (web interface, telnet server, etc.)

Users

This menu item is a list of system users, where you can add, delete users and edit some user options.


[RouterStation Control Center-0.0.1] System users - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.users.view
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:22:33, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
New
100%
Пуск
[RouterStation Contr...
{C:\Program Files} - Far
*D:\images\en\wizard5.j...
mc - /etc/.ssxapp
EN
9:20

Username	Password	Group	Home dir	Shell	Options
root	$1$DWBRPnCF$uhadd6Qg/ihL9ENnvpF5O.	root	/root	/bin/ash	✎ ✖
nobody		nogroup	/var		✎ ✖
daemon		nogroup	/var		✎ ✖

Total: 3

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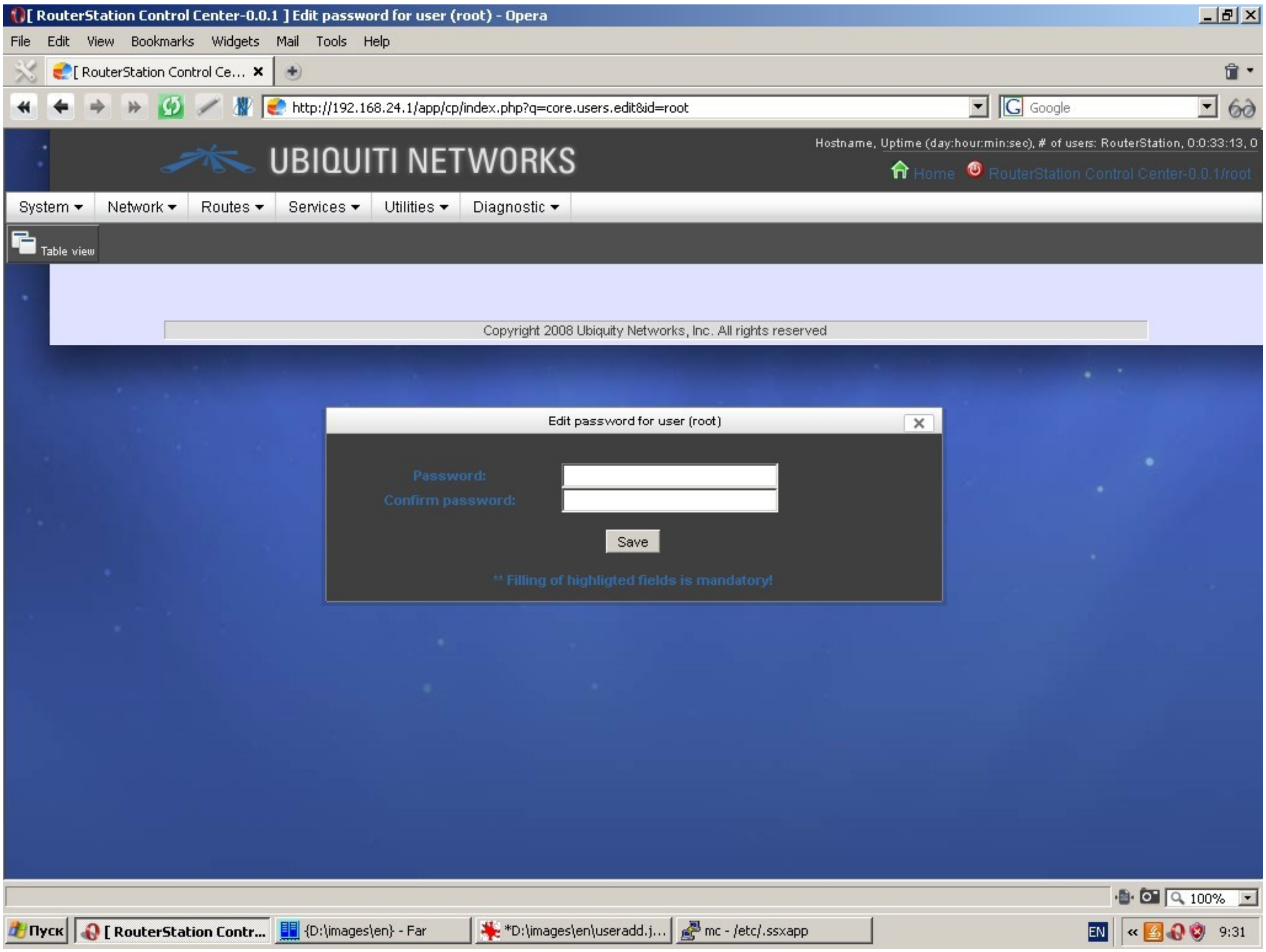
Please remember, that deletion of the user “*root*” will make the system inoperable. Addition of a user with empty shell, */bin/false* or */bin/nologin* will create a system user with “read only” access to the web interface.

Icons in the toolbar and the list of users are used for adding a new user, editing options of existing users and deleting a user.

Editing dialogue contains fields for new password entry and confirmation.



[RouterStation Control Center-0.0.1] Edit password for user (root) - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.users.edit&id=root
Google
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Table view
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\useradd.j...
mc - /etc/.ssxapp
EN
9:31

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:33:13, 0

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Edit password for user (root)

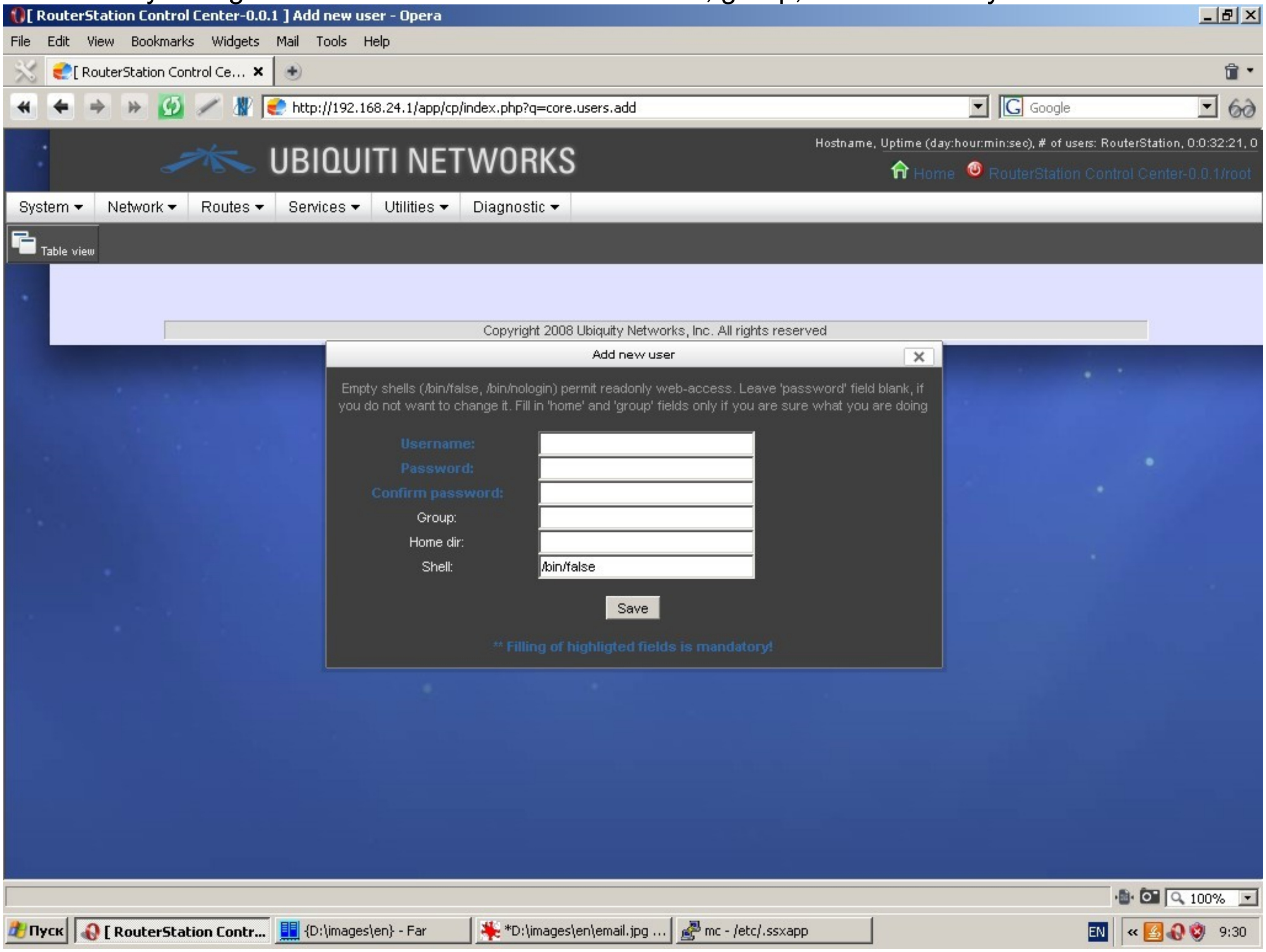
Password:

Confirm password:

Save

** Filling of highligted fields is mandatory!

New user entry dialogue also contains fields for username, group, home directory and shell.



[RouterStation Control Center-0.0.1] Add new user - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.users.add
Google
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Table view
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\email.jpg ...
mc - /etc/.ssxapp
EN
9:30

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:32:21, 0

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Add new user

Empty shells (/bin/false, /bin/nologin) permit readonly web-access. Leave 'password' field blank, if you do not want to change it. Fill in 'home' and 'group' fields only if you are sure what you are doing

Username:

Password:

Confirm password:

Group:

Home dir:

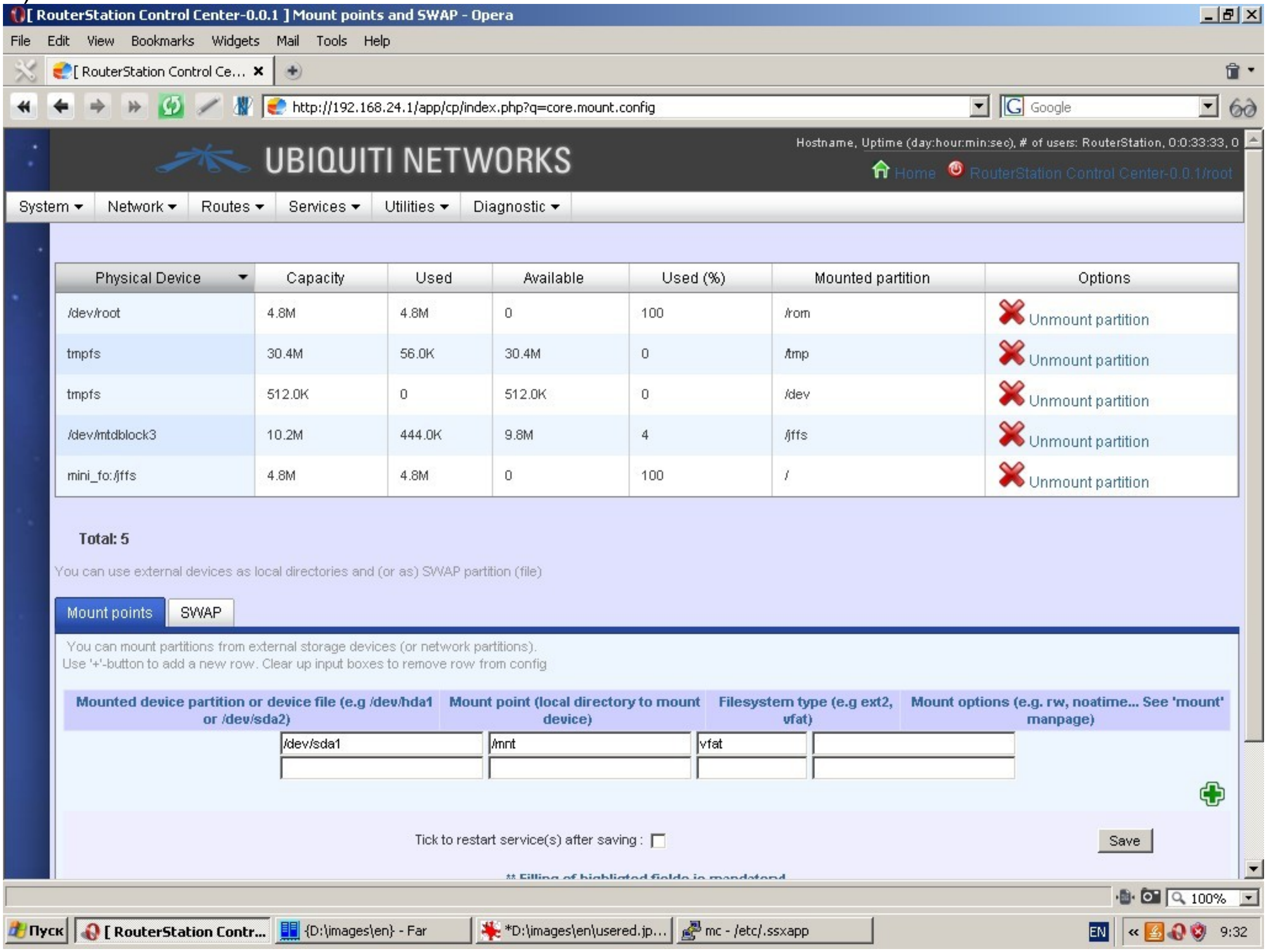
Shell: /bin/false

Save

** Filling of highligted fields is mandatory!

Mount points

This menu item tabularizes a list of mounted partitions with identification of their mount points, filesystem type as well as their total, used and available capacity. Here you can unmount a partition (with utmost care).


[RouterStation Control Center-0.0.1] Mount points and SWAP - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
Google
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
System Network Routes Services Utilities Diagnostic
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\usered.jp...
mc - /etc/.ssxapp
EN
100%
9:32

http://192.168.24.1/app/cp/index.php?q=core.mount.config

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:33:33, 0

Physical Device	Capacity	Used	Available	Used (%)	Mounted partition	Options
/dev/root	4.8M	4.8M	0	100	/rom	✗ Unmount partition
tmpfs	30.4M	56.0K	30.4M	0	/tmp	✗ Unmount partition
tmpfs	512.0K	0	512.0K	0	/dev	✗ Unmount partition
/dev/mtdblock3	10.2M	444.0K	9.8M	4	/jffs	✗ Unmount partition
mini_fo:/jffs	4.8M	4.8M	0	100	/	✗ Unmount partition

Total: 5

You can use external devices as local directories and (or as) SWAP partition (file)

Mount points | SWAP

You can mount partitions from external storage devices (or network partitions).
Use '+'-button to add a new row. Clear up input boxes to remove row from config

Mounted device partition or device file (e.g /dev/hda1 or /dev/sda2)	Mount point (local directory to mount device)	Filesystem type (e.g ext2, vfat)	Mount options (e.g. rw, noatime... See 'mount' manpage)
/dev/sda1	/mnt	vfat	

Tick to restart service(s) after saving : □ Save

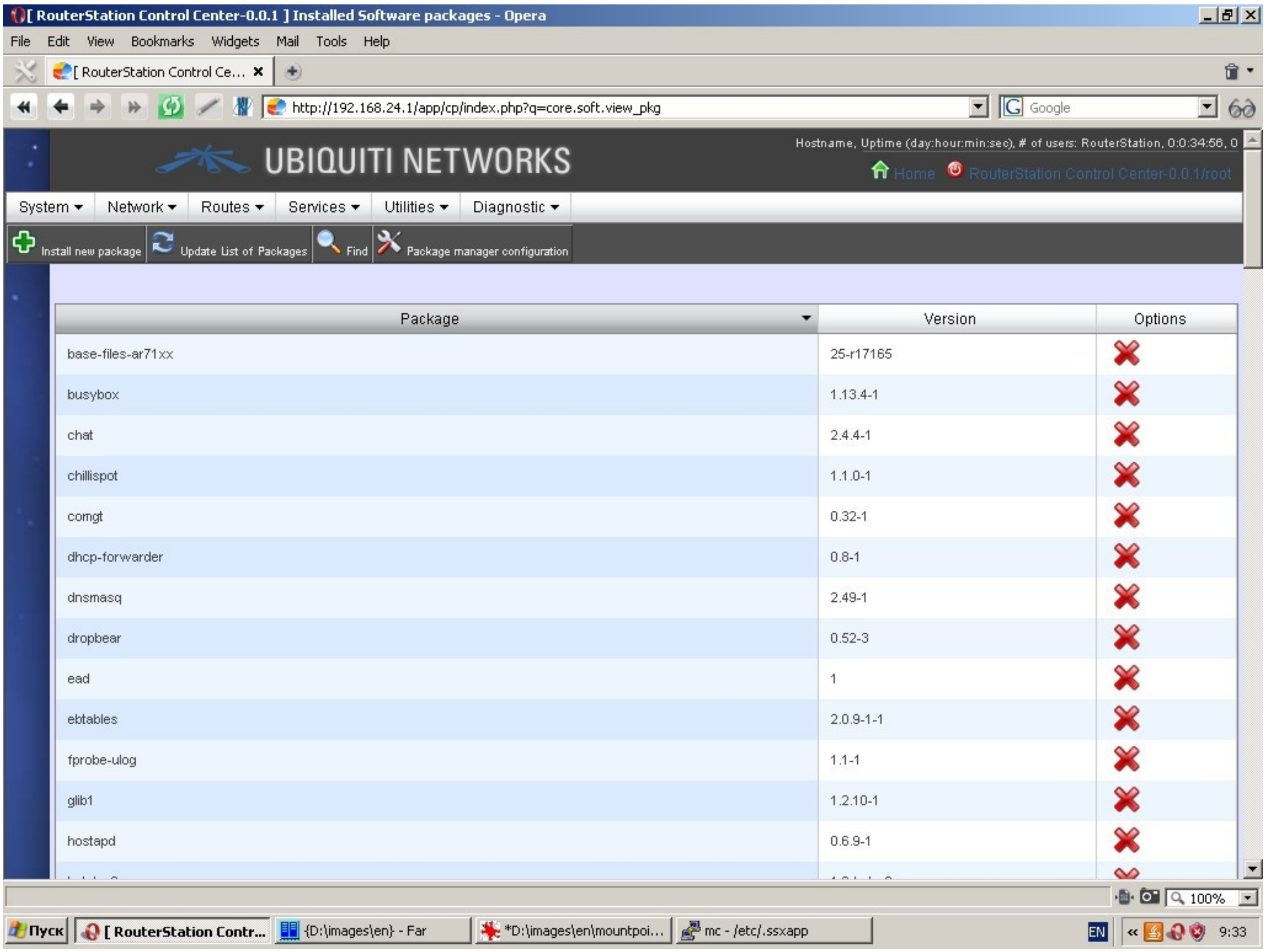
** Filling of highligted fields is mandatory

By using the ‘Mount points’ tab you can specify any number of partitions from external storage devices or network shares to be mounted to the filesystem of the device.
The following parameters are to be specified: mounted device partition or device file, local directory to mount device, filesystem type of the mounted device partition and additional options for mount command.

By using the ‘SWAP’ tab you can specify pre-created swap partitions (formatted as swap partitions) and files on external devices to increase RAM (to be used as swap partitions).

Software

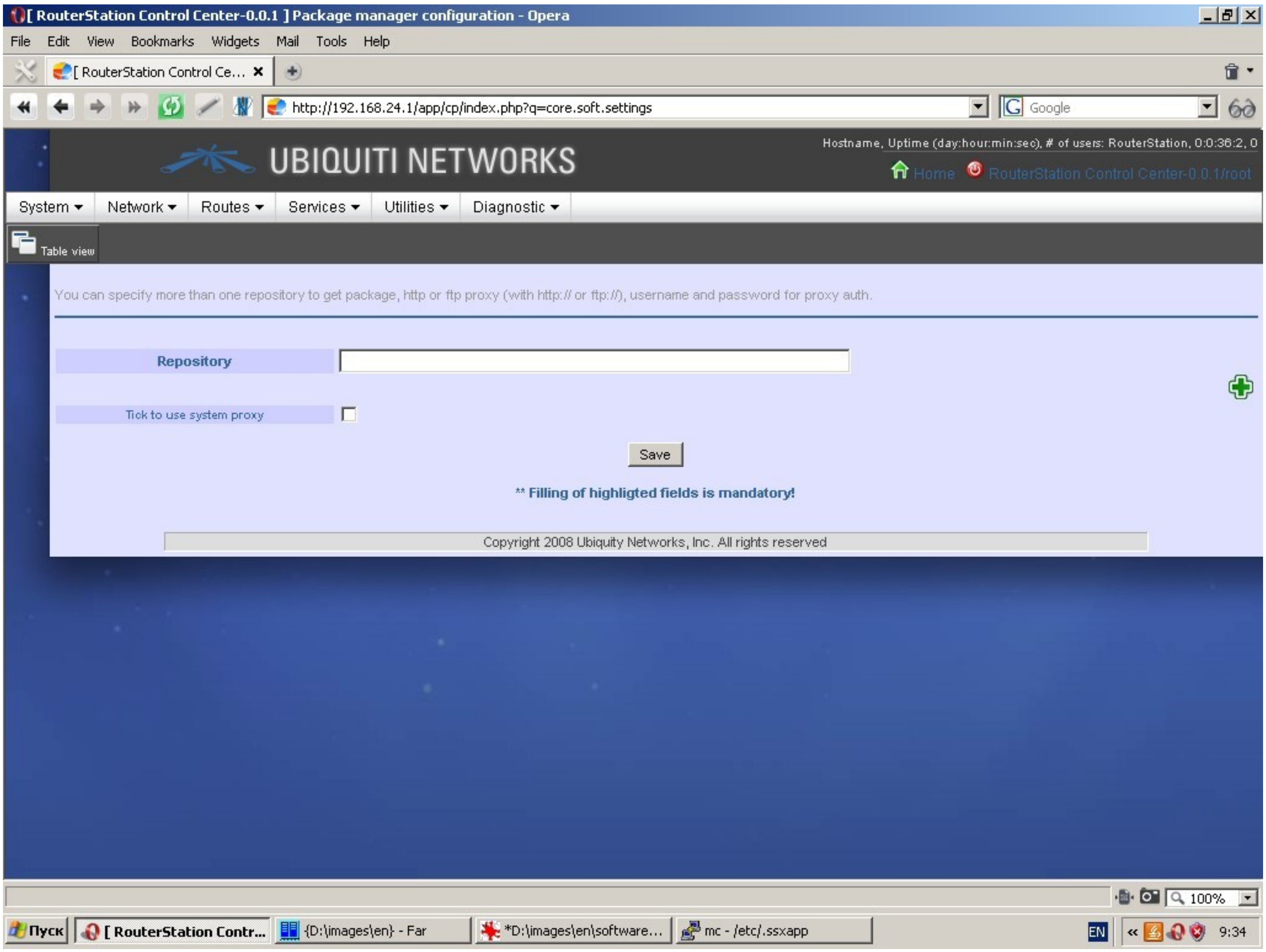
Demonstrates in list-form installed software packages with package name and version. You can remove installed software packages by using a delete option.


[RouterStation Control Center-0.0.1] Installed Software packages - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.soft.view_pkg
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:34:56, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Install new package
Update List of Packages
Find
Package manager configuration
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\mountpoi...
mc - /etc/.ssxapp
EN
9:33

Package	Version	Options
base-files-ar71xx	25-r17165	✖
busybox	1.13.4-1	✖
chat	2.4.4-1	✖
chillispot	1.1.0-1	✖
comgt	0.32-1	✖
dhcp-forwarder	0.8-1	✖
dnsmasq	2.49-1	✖
dropbear	0.52-3	✖
ead	1	✖
ebtables	2.0.9-1-1	✖
fprobe-ulog	1.1-1	✖
glib1	1.2.10-1	✖
hostapd	0.6.9-1	✖

By clicking “Package manager configuration” button in the toolbox you get access to the package manager setup dialogue.

To set up package manager you need to specify one or more repositories (sources of software packages), as normally required for a relevant operating system, and tick a box, if necessary, to use upstream proxy.



[RouterStation Control Center-0.0.1] Package manager configuration - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.soft.settings
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:36:2, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Table view
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\software...
mc - /etc/.ssxapp
EN
9:34

You can specify more than one repository to get package, http or ftp proxy (with http:// or ftp://), username and password for proxy auth.

Repository	
Tick to use system proxy	□

** Filling of highligted fields is mandatory!

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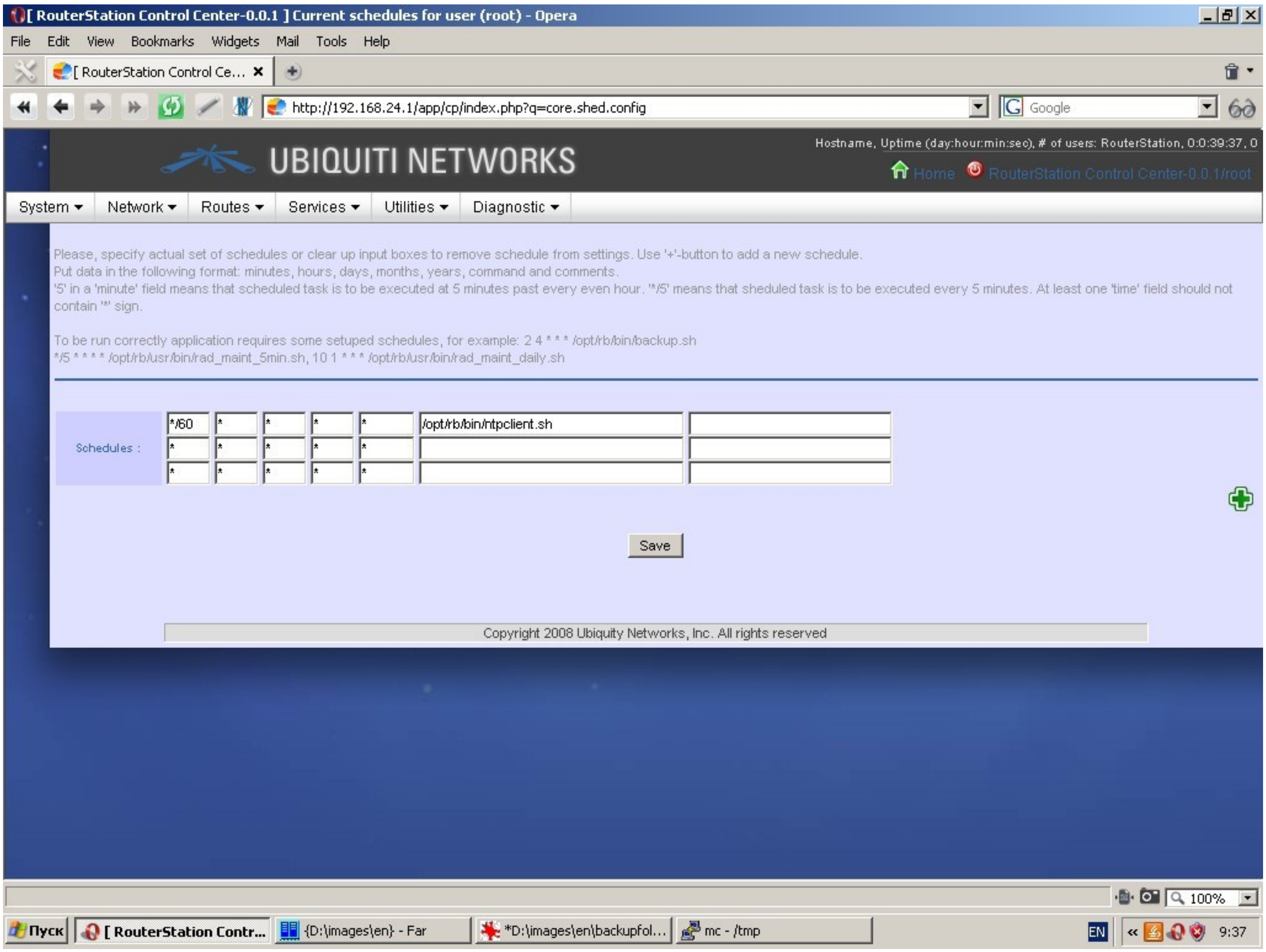
After any modification of the list of repositories you should update the list packages by clicking the “Update list of packages” button in the toolbar.
After completion of these steps you can install any software available in the mounted repositories.

Schedule

This page is a job scheduler. Syntax and fields are the same as in ‘cron’ in Linux. It should be noted, that any scheduled jobs will be executed from user “*root*”.


[RouterStation Control Center-0.0.1] Current schedules for user (root) - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.shed.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:39:37, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Save
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\backupfol...
mc - /tmp
EN
9:37

Please, specify actual set of schedules or clear up input boxes to remove schedule from settings. Use '+'-button to add a new schedule.
Put data in the following format: minutes, hours, days, months, years, command and comments.
'5' in a 'minute' field means that scheduled task is to be executed at 5 minutes past every even hour. '*/5' means that sheduled task is to be executed every 5 minutes. At least one 'time' field should not contain '*' sign.

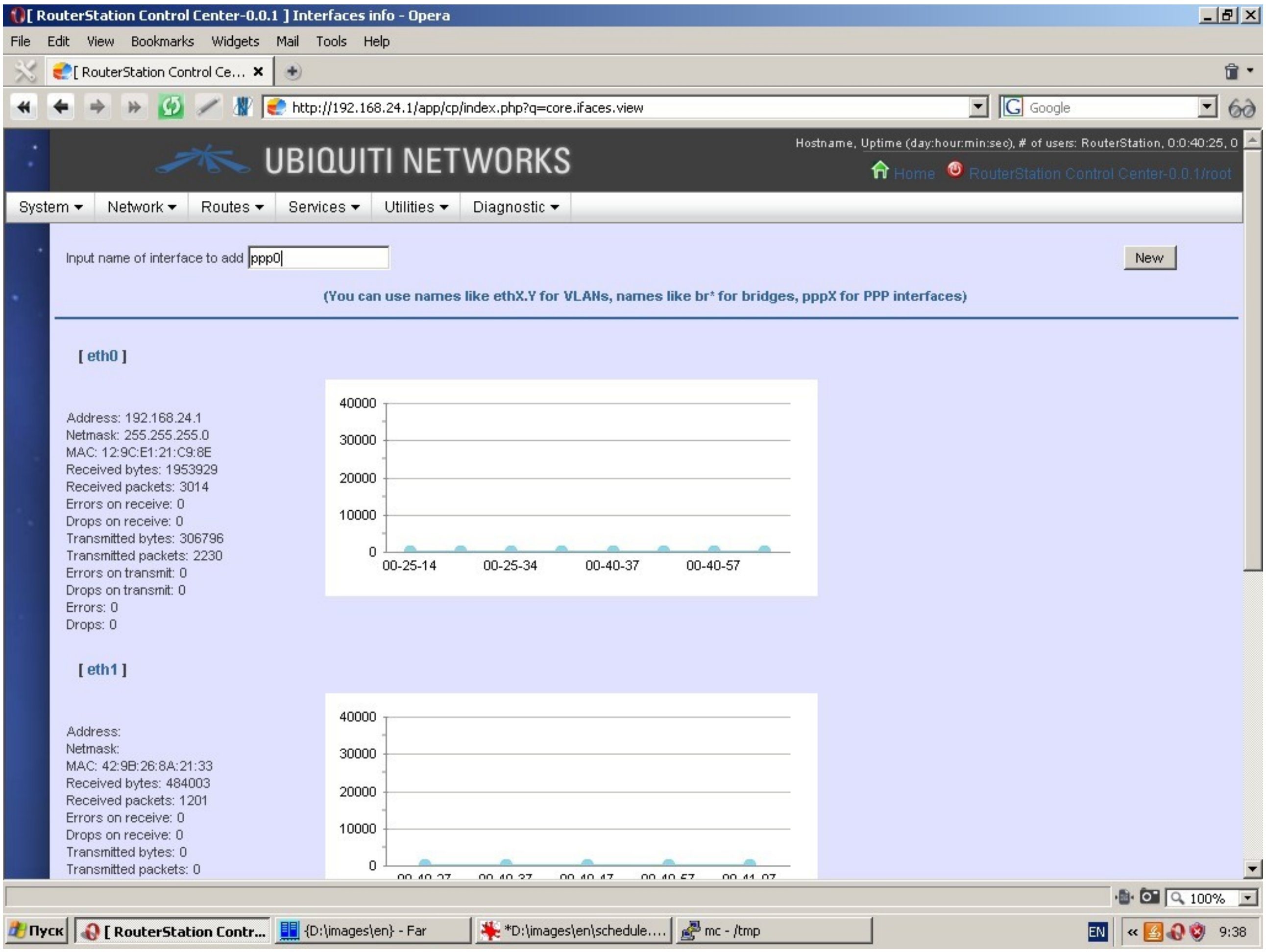
To be run correctly application requires some setuped schedules, for example: 2 4 * * * /opt/rb/bin/backup.sh
*/5 * * * * /opt/rb/usr/bin/rad_maint_5min.sh, 10 1 * * * /opt/rb/usr/bin/rad_maint_daily.sh

Schedules :	*/60	*	*	*	*	/opt/rb/bin/ntpclient.sh	
	*	*	*	*	*		
	*	*	*	*	*		

Note: The system includes several jobs into the schedule by default (for instance, network time synchronization client).

Interfaces

This page displays information (IP-address, netmask, number of sent and received packets, etc.) about all interfaces existing in the system. You can specify new interfaces, including virtual ones (using names like *eth0.1*), aliases (using names like *eth0:1*), wireless interfaces, bridges (using names like ‘*br*’), bonded and dynamic interfaces. Here you can also edit settings of any existing interface.
This page displays interface loading charts. For wireless interfaces this page also displays parameters of wireless environment. All charts are drawn in near to real-time mode.



[RouterStation Control Center-0.0.1] Interfaces info - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.ifaces.view
Google
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
New
40000
30000
20000
10000
0
00-25-14
00-25-34
00-40-37
00-40-57
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\schedule....
mc - /tmp
EN
9:38

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:40:25, 0

Input name of interface to add ppp0

(You can use names like ethX.Y for VLANs, names like br* for bridges, pppX for PPP interfaces)

[eth0]

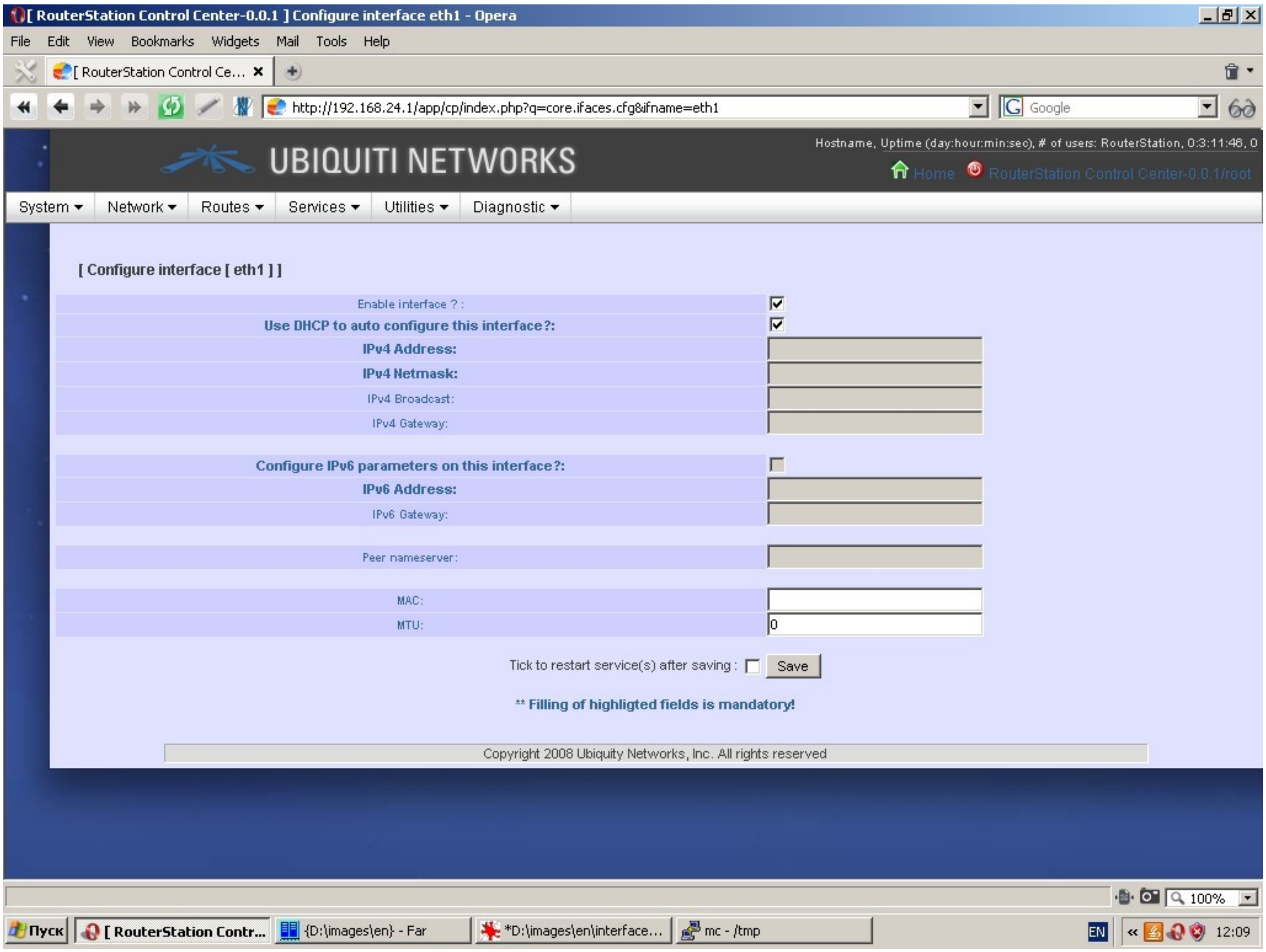
Address: 192.168.24.1
Netmask: 255.255.255.0
MAC: 12:9C:E1:21:C9:8E
Received bytes: 1953929
Received packets: 3014
Errors on receive: 0
Drops on receive: 0
Transmitted bytes: 306796
Transmitted packets: 2230
Errors on transmit: 0
Drops on transmit: 0
Errors: 0
Drops: 0

[eth1]

Address:
Netmask:
MAC: 42:9B:26:8A:21:33
Received bytes: 484003
Received packets: 1201
Errors on receive: 0
Drops on receive: 0
Transmitted bytes: 0
Transmitted packets: 0

There are three types of interface configuration dialogues:

- Configuration of Ethernet interfaces and aliases. When configuring virtual interfaces and bridges this dialogue acquires some additional fields. You can use DHCP for auto configuration or specify parameters manually, such as IP-address, netmask, gateway, etc.


[RouterStation Control Center-0.0.1] Configure interface eth1 - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.ifaces.cfg&ifname=eth1
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:11:46, 0
Home
RouterStation Control Center-0.0.1/root
System Network Routes Services Utilities Diagnostic
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\interface...
mc - /tmp
EN
12:09

[Configure interface [eth1]]

Enable interface ? :	☑
Use DHCP to auto configure this interface?:	☑
IPv4 Address:	
IPv4 Netmask:	
IPv4 Broadcast:	
IPv4 Gateway:	
Configure IPv6 parameters on this interface?:	☐
IPv6 Address:	
IPv6 Gateway:	
Peer nameserver:	
MAC:	
MTU:	0

Tick to restart service(s) after saving : ☐ Save

** Filling of highligted fields is mandatory!

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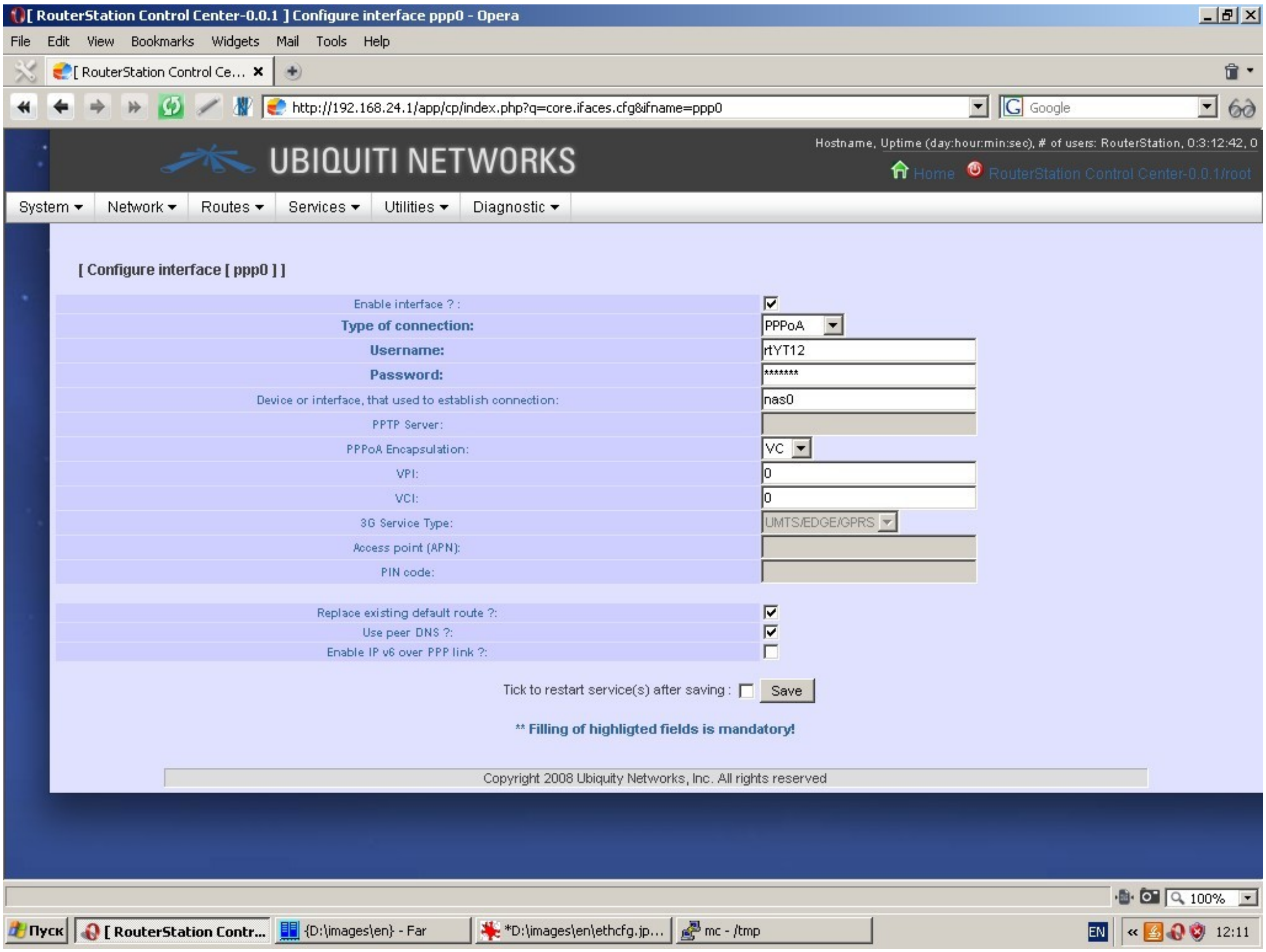
- Configuration of dynamic interfaces (ppp-interfaces). This type of interface configuration dialogue is used for dynamic connections with PPP/PPTP/PPPoE/PPPoA protocols, where the device acts as a network client. The following parameters can be configured: type of connection, device or interface used to establish connection, etc.



[RouterStation Control Center-0.0.1] Configure interface ppp0 - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.ifaces.cfg&ifname=ppp0
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:12:42, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Save
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\ethcfg.jp...
mc - /tmp
EN
12:11

[Configure interface [ppp0]]

Enable interface ? :	☑
Type of connection:	PPPoA
Username:	rtYT12
Password:	*******
Device or interface, that used to establish connection:	nas0
PPTP Server:	
PPPoA Encapsulation:	VC
VPI:	0
VCI:	0
3G Service Type:	UMTS/EDGE/GPRS
Access point (APN):	
PIN code:	
Replace existing default route ?:	☑
Use peer DNS ?:	☑
Enable IP v6 over PPP link ?:	□

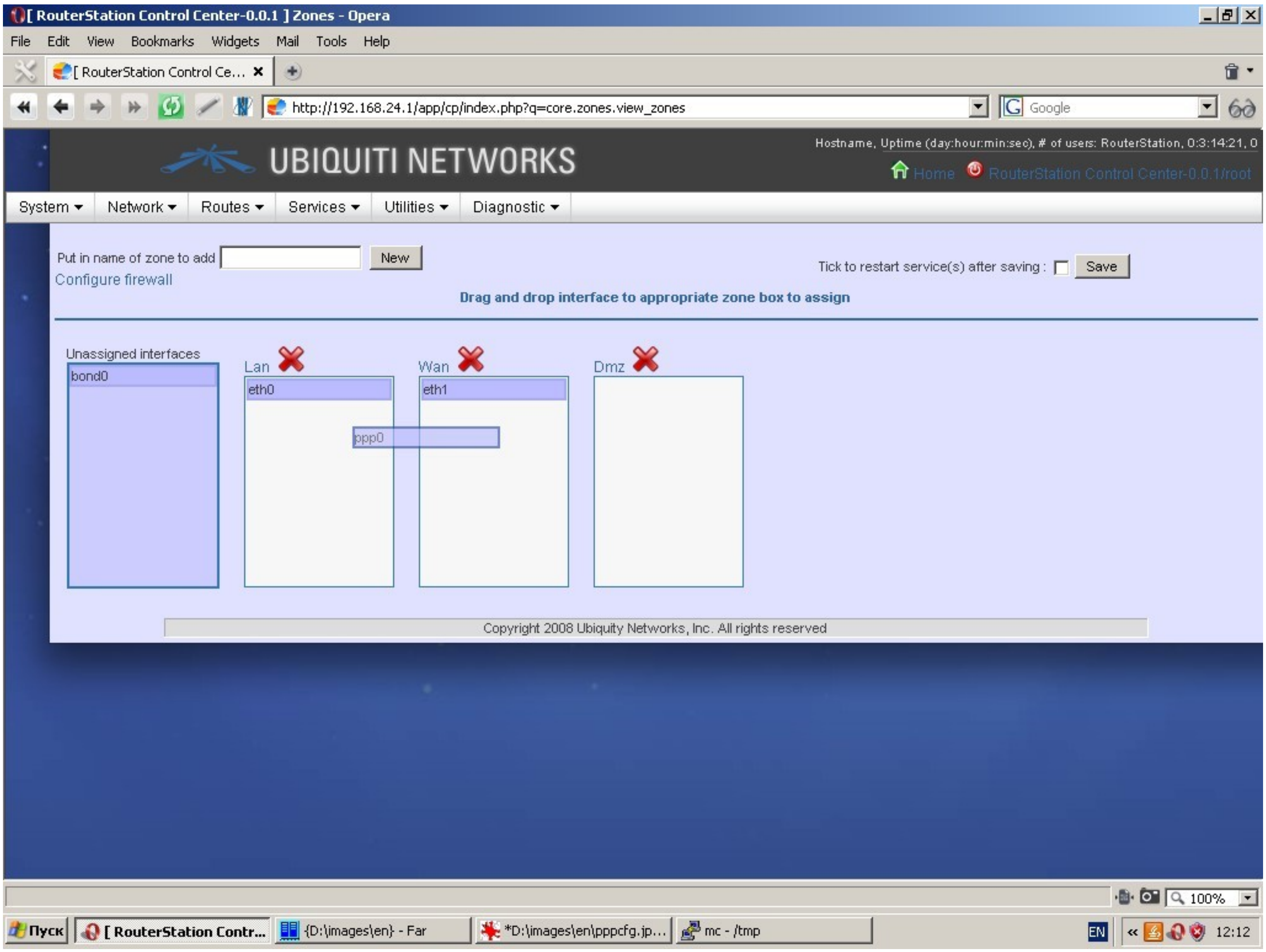
Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

- Configuration of wireless interfaces. “IP settings” tab of this dialogue is the same as Ethernet interface configuration dialogue. “Wireless” and “Additional” tabs contain some specific parameters to be set up for wireless devices: operational mode, current frequency, modulation, encryption, etc.

Zones

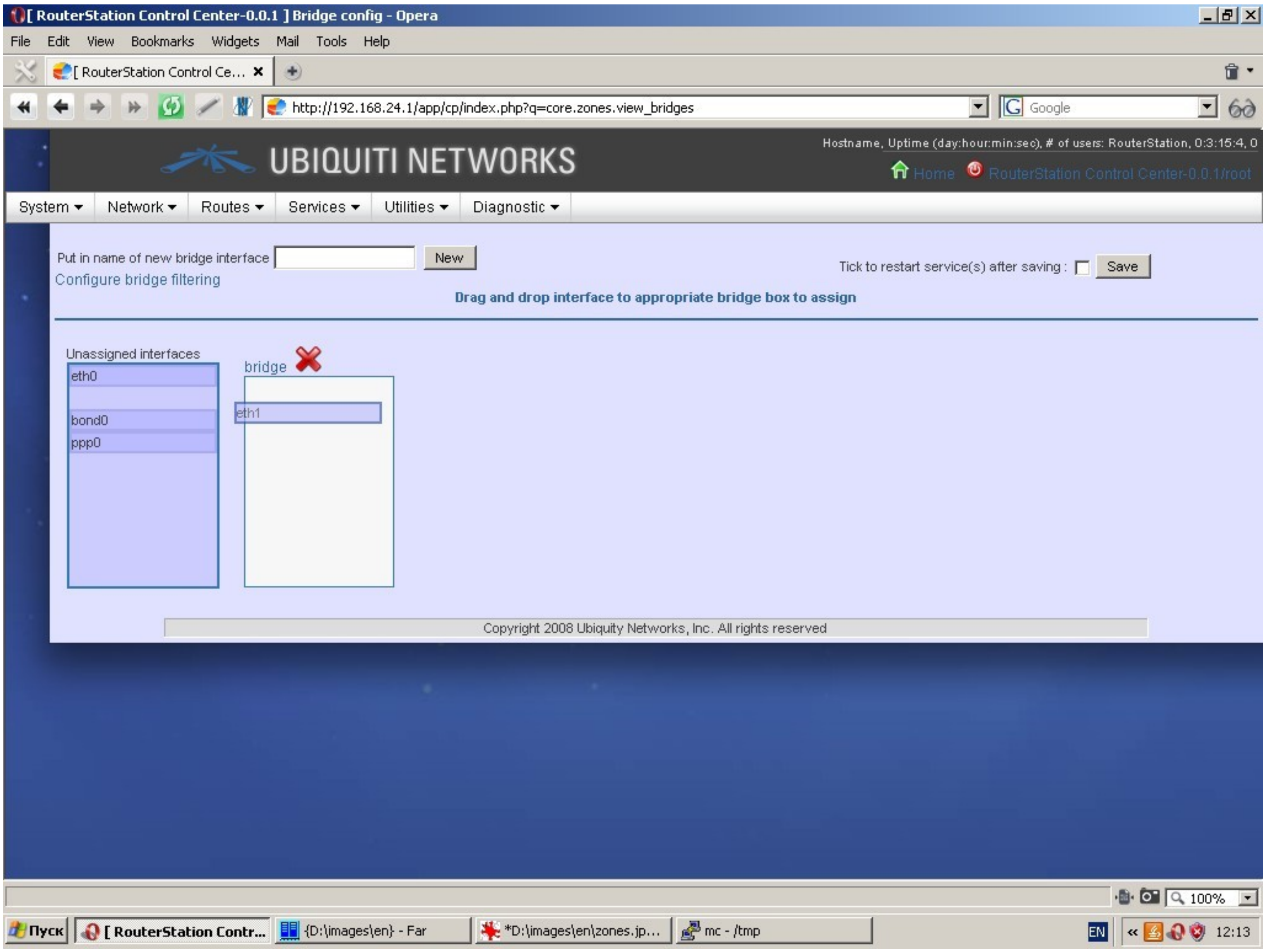
Zone is a basic property of the firewall. Zones are logical networks and the device is connected to a zone by at least one of its network interfaces. A typical configuration contains two zones: world (Wan) and internal network (Lan). Besides, the device can be connected to other zones, e. g. to a demilitarized zone (Dmz).
The total number of zones is practically unlimited.


[RouterStation Control Center-0.0.1] Zones - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.zones.view_zones
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:14:21, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Put in name of zone to add
New
Configure firewall
Tick to restart service(s) after saving : □
Save
Drag and drop interface to appropriate zone box to assign
Unassigned interfaces
bond0
Lan
eth0
Wan
eth1
ppp0
Dmz
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\pppcfg.jp...
mc - /tmp
EN
12:12

This page displays zones and contains easy zone control tools (for creating, deleting zones and changing the content of each zone). Originally all interfaces are unassigned and located in the “Unassigned interfaces” box. Simply grab the required interface with the mouse, drag it to the proper zone and drop there. You can re-assign interfaces and make them unassigned in the same manner. Because firewall rules are based on zones and their interfaces, be careful not to lose connection to the device by moving an interface between zones.

Bridges

This page displays bridges and contains easy bridge control tools (for creating, deleting bridges and changing the content of each bridge). Please remember, that bridge names begin with ‘*br*’.


[RouterStation Control Center-0.0.1] Bridge config - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.zones.view_bridges
Google
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
New
Save
Unassigned interfaces
eth0
bond0
ppp0
bridge
eth1
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\zones.jp...
mc - /tmp
EN
12:13
100%

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:15:4, 0

Put in name of new bridge interface

Configure bridge filtering

Tick to restart service(s) after saving : □

Drag and drop interface to appropriate bridge box to assign

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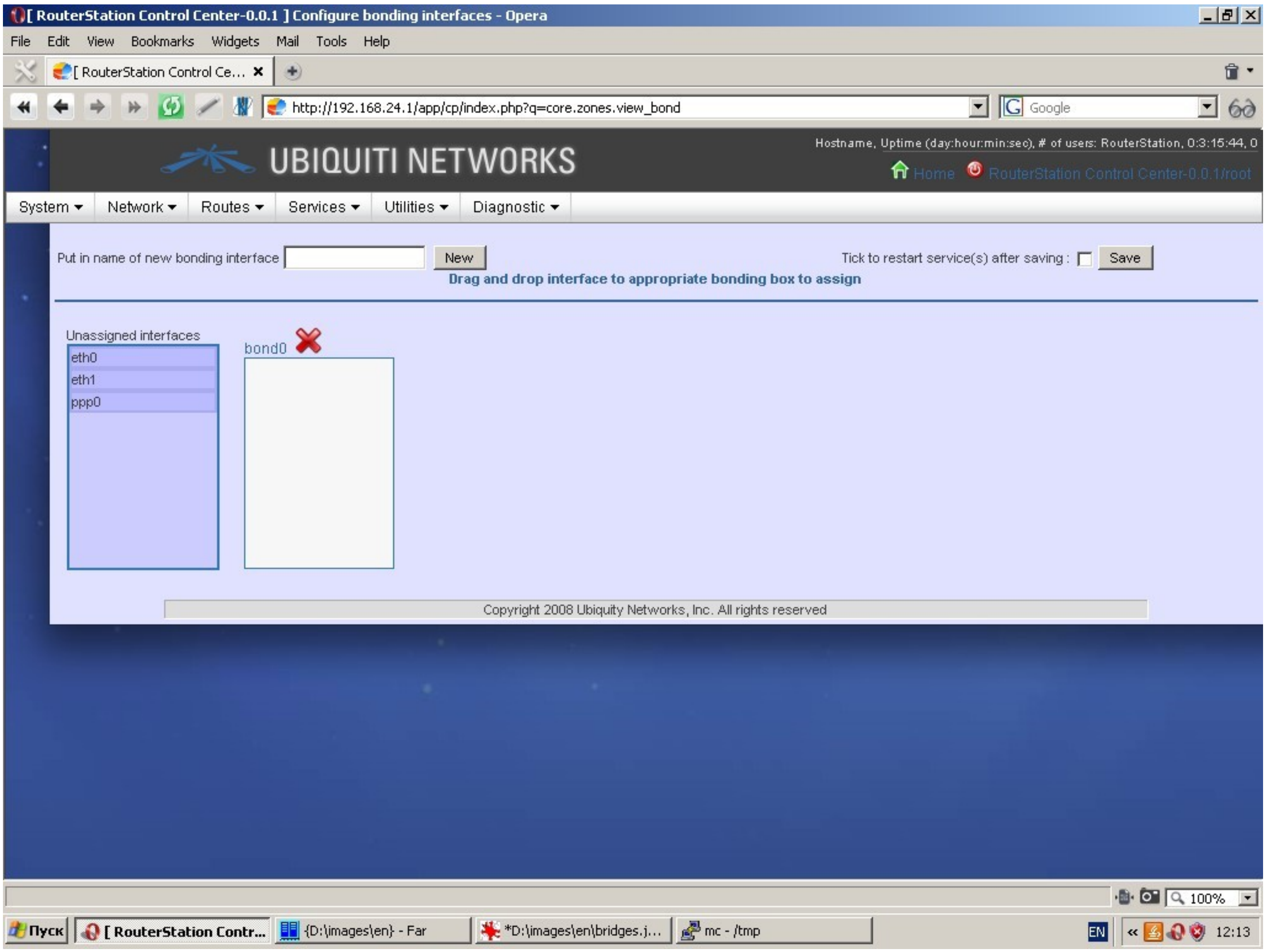
Originally all interfaces are unassigned and located in the “Unassigned interfaces” box. Simply grab the required interface with the mouse, drag it to the proper bridge and drop there. You can re-assign interfaces and make them unassigned in the same manner.

Bonding

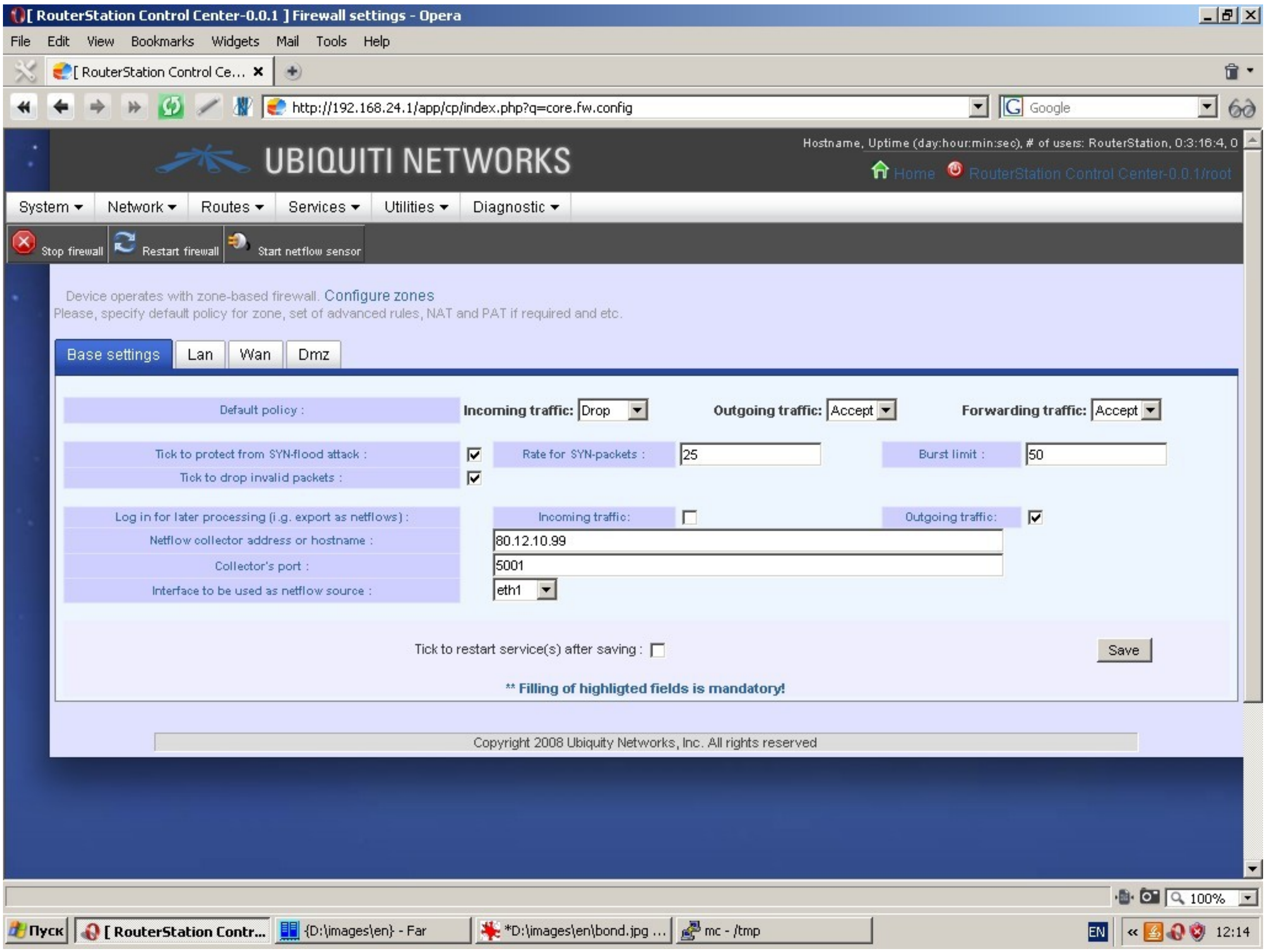
This page displays bonded interfaces and contains easy control tools (for creating, deleting bonded interfaces and changing the content of each one). Please remember, that bonding interface names begin with ‘*bond*’.


[RouterStation Control Center-0.0.1] Configure bonding interfaces - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php?q=core.zones.view_bond
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:15:44, 0
Home
RouterStation Control Center-0.0.1/root
System Network Routes Services Utilities Diagnostic
Put in name of new bonding interface
New
Tick to restart service(s) after saving :
Save
Drag and drop interface to appropriate bonding box to assign
Unassigned interfaces
eth0
eth1
ppp0
bond0
Copyright 2008 Ubiquity Networks, Inc. All rights reserved

Originally all interfaces are unassigned and located in the “Unassigned interfaces” box. Simply grab the required interface with the mouse, drag it to the proper box and drop there. You can re-assign interfaces and make them unassigned in the same manner.

Firewall

The system has quite a powerful firewall and firewall control tools.



[RouterStation Control Center-0.0.1] Firewall settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.fw.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:16:4, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Stop firewall
Restart firewall
Start netflow sensor
Base settings
Lan
Wan
Dmz
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\bond.jpg ...
mc - /tmp
EN
12:14

Device operates with zone-based firewall. Configure zones
Please, specify default policy for zone, set of advanced rules, NAT and PAT if required and etc.

Default policy : Incoming traffic: Drop Outgoing traffic: Accept Forwarding traffic: Accept

Tick to protect from SYN-flood attack : ☑ Rate for SYN-packets : 25 Burst limit : 50

Tick to drop invalid packets : ☑

Log in for later processing (i.g. export as netflows) : Incoming traffic: □ Outgoing traffic: ☑

Netflow collector address or hostname : 80.12.10.99

Collector's port : 5001

Interface to be used as netflow source : eth1

Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

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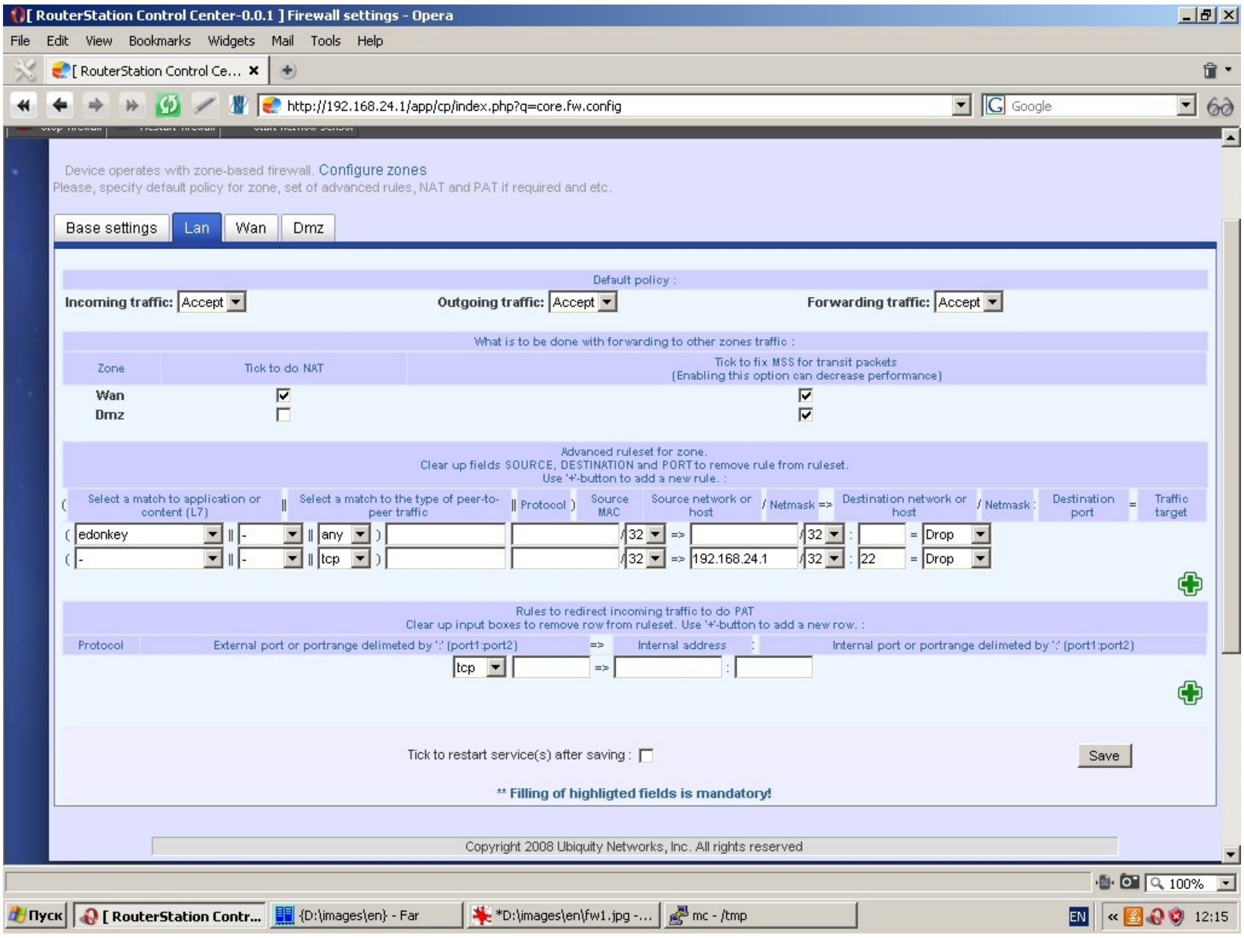
The following features of the firewall are available:

- protection from syn-flood attacks;
- export of traffic flow data going through the firewall in netflow v5 format
- Zone based firewall with automatic assignment of interfaces to the respective zone;
- Native address translation (NAT);
- Static address translation / port address translation (SNAT/PAT);
- Default policies for entire firewall and separately for each zone;
- Setting of flexible rules to accept, drop, reject or redirect packets based on source and destination addresses, ports, protocol matches (including application pattern matches (L7), MAC source addresses, etc. Rules are set separately for each zone.


[RouterStation Control Center-0.0.1] Firewall settings - Opera

http://192.168.24.1/app/cp/index.php?q=core.fw.config

Device operates with zone-based firewall. Configure zones
Please, specify default policy for zone, set of advanced rules, NAT and PAT if required and etc.

Base settings | Lan | Wan | Dmz

Default policy :

Incoming traffic: Accept | Outgoing traffic: Accept | Forwarding traffic: Accept

What is to be done with forwarding to other zones traffic :

Zone	Tick to do NAT	Tick to fix MSS for transit packets (Enabling this option can decrease performance)
Wan	☑	☑
Dmz	□	☑

Advanced ruleset for zone.
Clear up fields SOURCE, DESTINATION and PORT to remove rule from ruleset.
Use '+'-button to add a new rule. :

(Select a match to application or content (L7)	‖ Select a match to the type of peer-to-peer traffic	‖ Protocol)	Source MAC	Source network or host	/ Netmask =>	Destination network or host	/ Netmask :	Destination port	= Traffic target
edonkey	-	any			/32		/32		Drop
-	-	tcp			/32	192.168.24.1	/32	22	Drop

Rules to redirect incoming traffic to do PAT
Clear up input boxes to remove row from ruleset. Use '+'-button to add a new row. :

Protocol	External port or portrange delimeted by ':' (port1:port2) =>	Internal address :	Internal port or portrange delimeted by ':' (port1:port2)
tcp			

Tick to restart service(s) after saving : □ Save

** Filling of highligted fields is mandatory!

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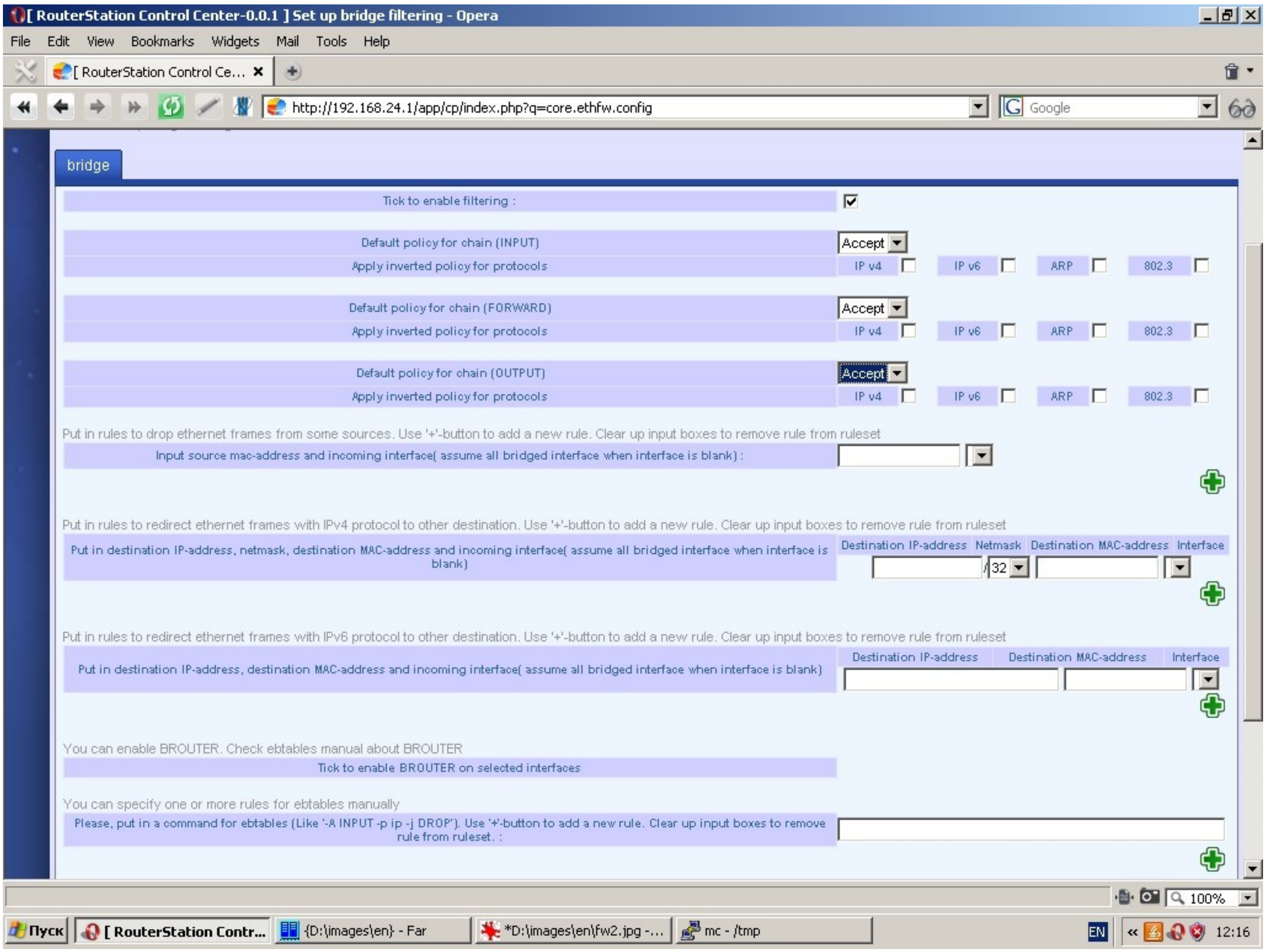
Bridge filtering

The system has bridge filtering tools at the level of Ethernet frames.
Please note, that you can use this function only if at least one bridge is created in the system. Bridge filtering will only be applicable to the traffic going through the bridge. Apart from bridge filtering you can use such functions as redirection of Ethernet frames with IP v4 or IP v6 payload to another Ethernet interface, creation of *brouter*, etc.


[RouterStation Control Center-0.0.1] Set up bridge filtering - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
Google
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\fw2.jpg -...
mc - /tmp
EN
12:16

http://192.168.24.1/app/cp/index.php?q=core.ethfw.config

bridge

Tick to enable filtering : ☑

Default policy for chain (INPUT) Accept
Apply inverted policy for protocols IP v4 □ IP v6 □ ARP □ 802.3 □

Default policy for chain (FORWARD) Accept
Apply inverted policy for protocols IP v4 □ IP v6 □ ARP □ 802.3 □

Default policy for chain (OUTPUT) Accept
Apply inverted policy for protocols IP v4 □ IP v6 □ ARP □ 802.3 □

Put in rules to drop ethernet frames from some sources. Use '+'-button to add a new rule. Clear up input boxes to remove rule from ruleset

Input source mac-address and incoming interface(assume all bridged interface when interface is blank) :

Put in rules to redirect ethernet frames with IPv4 protocol to other destination. Use '+'-button to add a new rule. Clear up input boxes to remove rule from ruleset

Put in destination IP-address, netmask, destination MAC-address and incoming interface(assume all bridged interface when interface is blank)

Destination IP-address	Netmask	Destination MAC-address	Interface
	/32		

Put in rules to redirect ethernet frames with IPv6 protocol to other destination. Use '+'-button to add a new rule. Clear up input boxes to remove rule from ruleset

Put in destination IP-address, destination MAC-address and incoming interface(assume all bridged interface when interface is blank)

Destination IP-address	Destination MAC-address	Interface

You can enable BROUTER. Check ebtables manual about BROUTER

Tick to enable BROUTER on selected interfaces

You can specify one or more rules for ebtables manually

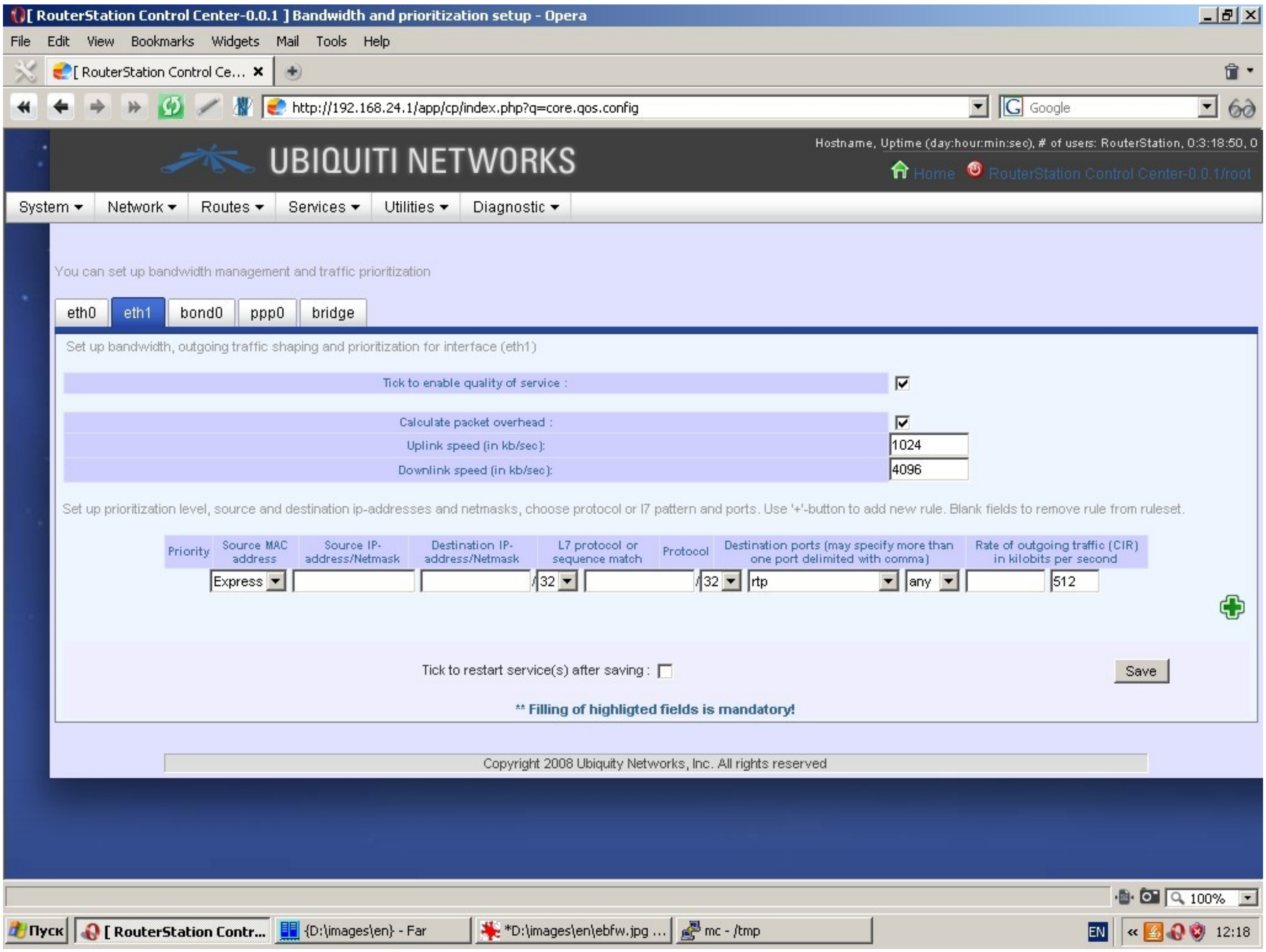
Please, put in a command for ebtables (Like '-A INPUT -p ip -j DROP'). Use '+'-button to add a new rule. Clear up input boxes to remove rule from ruleset. :

Bridge filtering settings are as follows:

- Default policies;
- Type of Ethernet frames (e. g. 802.3);
- Ethernet frames payload (IP v4 or IP v6, ARP-requests);
- List of MAC-addresses and/or interfaces, for which frames are to be dropped.
- Set of rules (IP destination address/netmask/MAC-address) for redirection of IP-packets to other interfaces;
- List of interfaces for creation of *brouter* (please refer to *ebtables* documentation).

Bandwidth management and traffic prioritization

You can shape traffic, control quality of service (QOS) and manage bandwidth.
To do this, you can enable QOS for each interface, specify bandwidth, define traffic classes, priorities for each traffic class and allocate bandwidth.


[RouterStation Control Center-0.0.1] Bandwidth and prioritization setup - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.qos.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:18:50, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
eth0
eth1
bond0
ppp0
bridge
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\ebfw.jpg ...
mc - /tmp
EN
12:18

You can set up bandwidth management and traffic prioritization

Set up bandwidth, outgoing traffic shaping and prioritization for interface (eth1)

Tick to enable quality of service : ☑

Calculate packet overhead : ☑

Uplink speed (in kb/sec): 1024

Downlink speed (in kb/sec): 4096

Set up prioritization level, source and destination ip-addresses and netmasks, choose protocol or l7 pattern and ports. Use '+'-button to add new rule. Blank fields to remove rule from ruleset.

Priority	Source MAC address	Source IP-address/Netmask	Destination IP-address/Netmask	L7 protocol or sequence match	Protocol	Destination ports (may specify more than one port delimited with comma)	Rate of outgoing traffic (CIR) in kilobits per second
Express		/32	/32	rtp	any		512

Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

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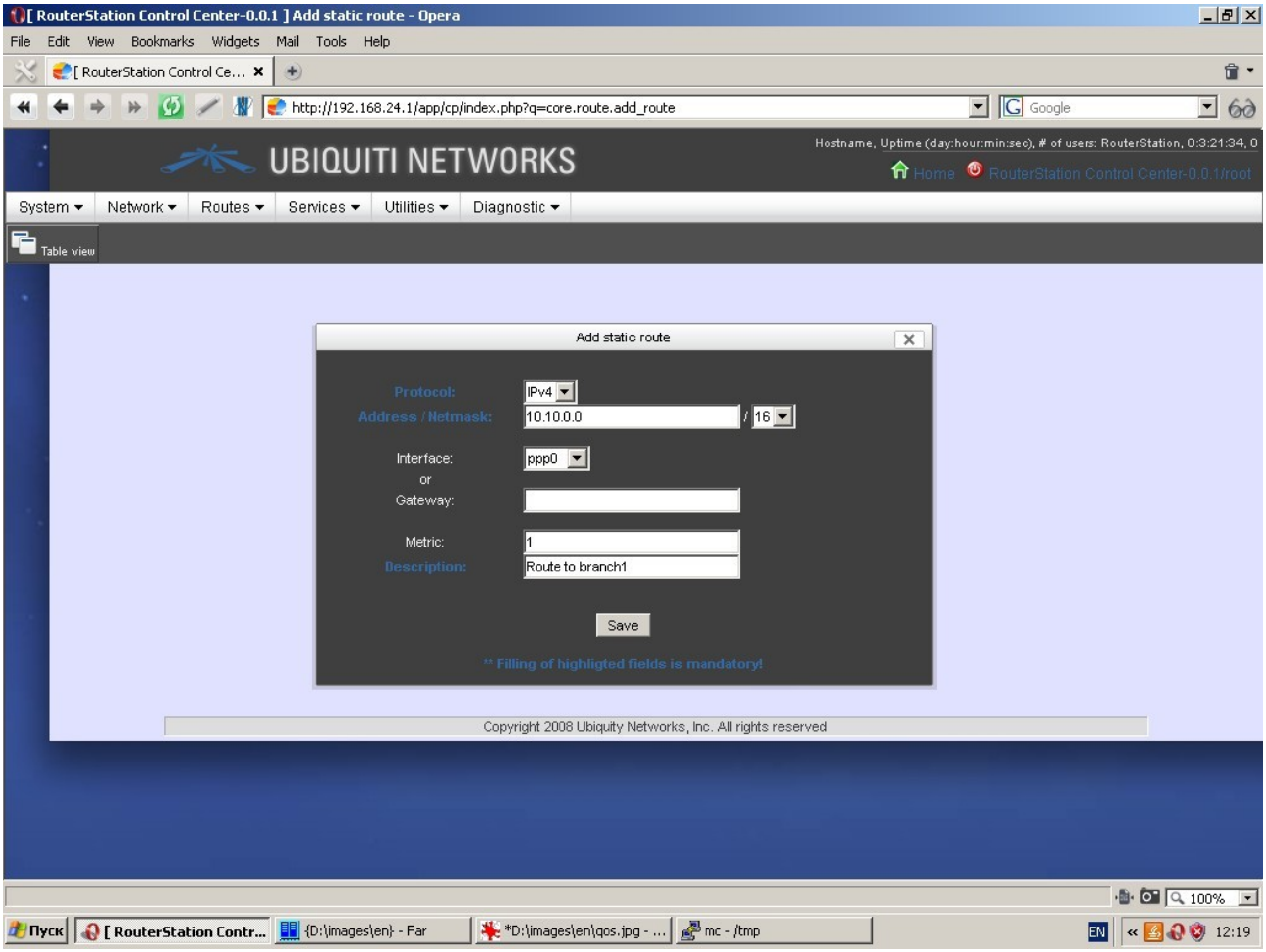
Static routing

You can specify various static routes by setting such parameters as protocol, network (address and netmask), metric, interface or gateway and route description.


[RouterStation Control Center-0.0.1] Add static route - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.route.add_route
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:21:34, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Table view
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\qos.jpg - ...
mc - /tmp
EN
12:19

Add static route

Protocol: IPv4

Address / Netmask: 10.10.0.0 / 16

Interface: ppp0

or

Gateway:

Metric: 1

Description: Route to branch1

** Filling of highligted fields is mandatory!

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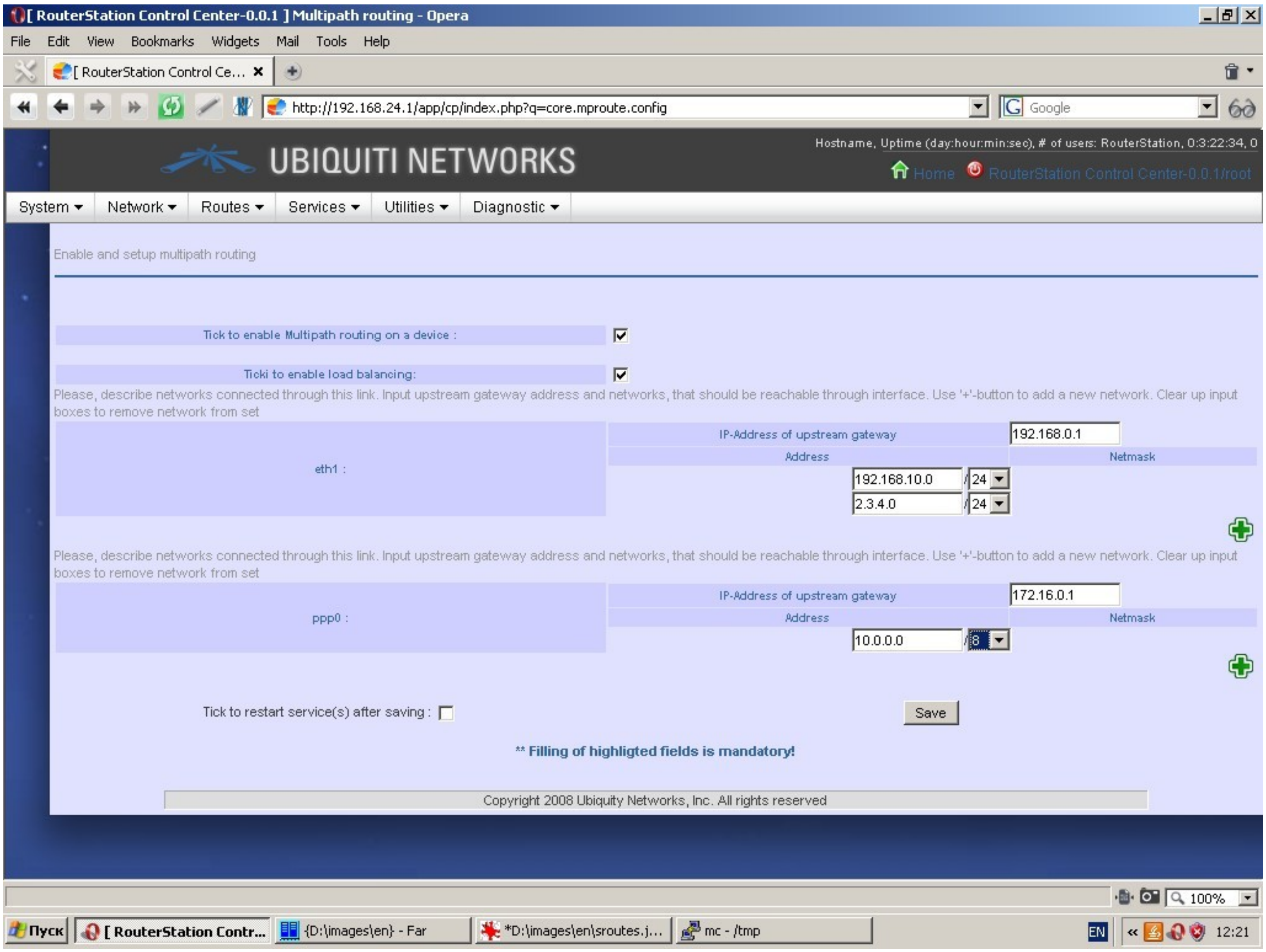
Multipath-routing

The system is capable of multipath-routing and load balancing. To activate this feature please assign at least two interfaces to Wan zone.

The following parameters are to be specified: interfaces, networks to be reachable through interface, etc.



[RouterStation Control Center-0.0.1] Multipath routing - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
Google
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
System Network Routes Services Utilities Diagnostic
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\sroutes.j...
mc - /tmp
EN
12:21

http://192.168.24.1/app/cp/index.php?q=core.mproute.config

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:22:34, 0

Enable and setup multipath routing

Tick to enable Multipath routing on a device : ☑

Ticki to enable load balancing: ☑

Please, describe networks connected through this link. Input upstream gateway address and networks, that should be reachable through interface. Use '+'-button to add a new network. Clear up input boxes to remove network from set

eth1 :	IP-Address of upstream gateway	192.168.0.1
	Address	Netmask
	192.168.10.0	/24
	2.3.4.0	/24

Please, describe networks connected through this link. Input upstream gateway address and networks, that should be reachable through interface. Use '+'-button to add a new network. Clear up input boxes to remove network from set

ppp0 :	IP-Address of upstream gateway	172.16.0.1
	Address	Netmask
	10.0.0.0	/8

Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

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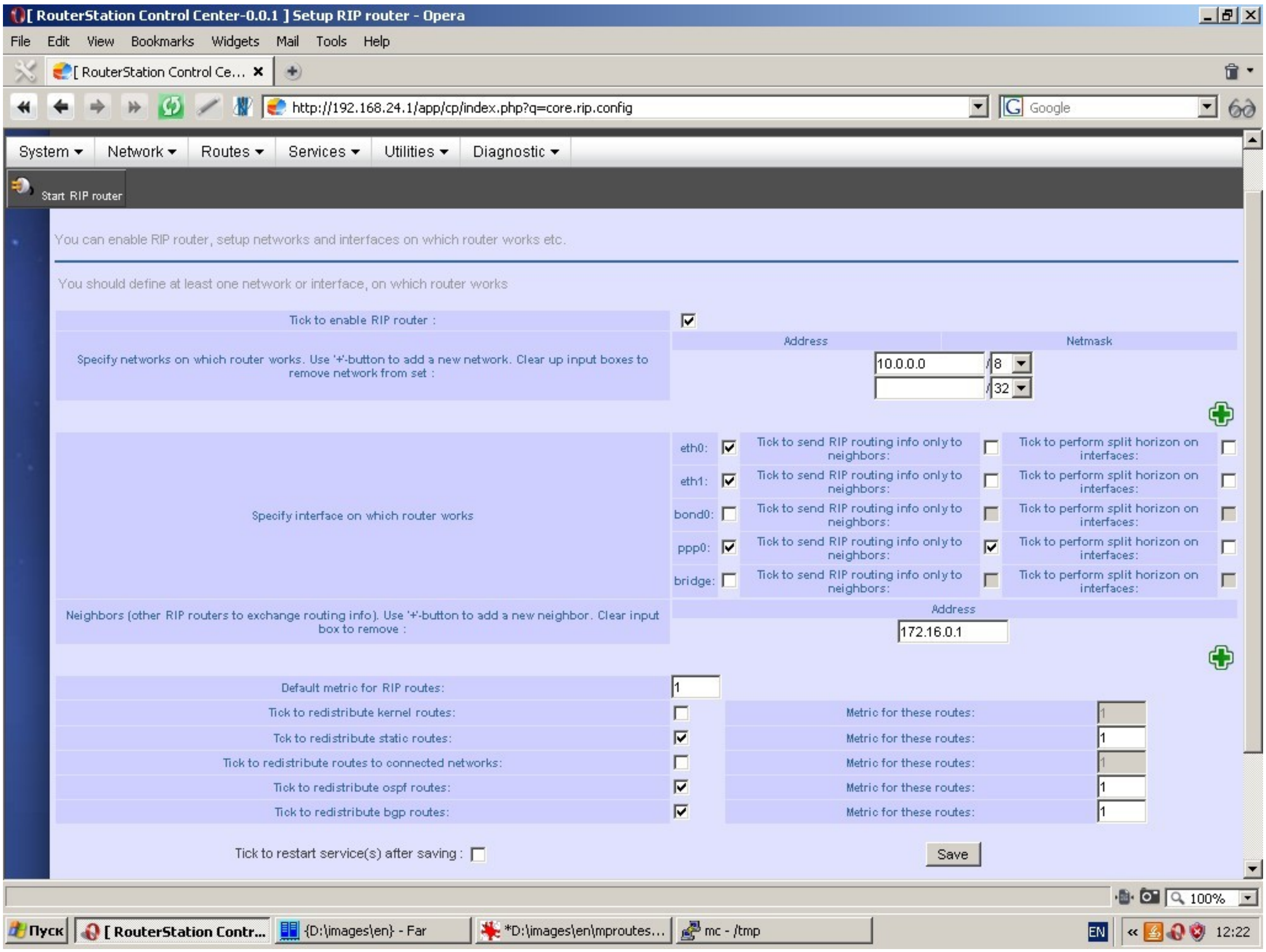
For more information please refer to relevant manuals.

RIP-router

The system has a pre-installed or an installable RIP-router and relevant control tools. The following parameters are to be specified:

- Networks on which router operates;
- Interfaces on which split horizon is performed and/or which have router neighbors;
- Router neighbors;
- Redistribution of other protocol routes (static, OSPF, etc.);
- Weights (metrics) for such routes.


[RouterStation Control Center-0.0.1] Setup RIP router - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.rip.config
Google
System Network Routes Services Utilities Diagnostic
Start RIP router
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\mproutes...
mc - /tmp
EN
12:22

You can enable RIP router, setup networks and interfaces on which router works etc.

You should define at least one network or interface, on which router works

Tick to enable RIP router : ☑

Specify networks on which router works. Use '+'-button to add a new network. Clear up input boxes to remove network from set :

Address	Netmask
10.0.0.0	/8
	/32

Specify interface on which router works

eth0: ☑	Tick to send RIP routing info only to neighbors:	☐	Tick to perform split horizon on interfaces:	☐
eth1: ☑	Tick to send RIP routing info only to neighbors:	☐	Tick to perform split horizon on interfaces:	☐
bond0: ☐	Tick to send RIP routing info only to neighbors:	☐	Tick to perform split horizon on interfaces:	☐
ppp0: ☑	Tick to send RIP routing info only to neighbors:	☑	Tick to perform split horizon on interfaces:	☐
bridge: ☐	Tick to send RIP routing info only to neighbors:	☐	Tick to perform split horizon on interfaces:	☐

Neighbors (other RIP routers to exchange routing info). Use '+'-button to add a new neighbor. Clear input box to remove :

Address: 172.16.0.1

Default metric for RIP routes: 1

Tick to redistribute kernel routes:	☐	Metric for these routes:	1
Tck to redistribute static routes:	☑	Metric for these routes:	1
Tick to redistribute routes to connected networks:	☐	Metric for these routes:	1
Tick to redistribute ospf routes:	☑	Metric for these routes:	1
Tick to redistribute bgp routes:	☑	Metric for these routes:	1

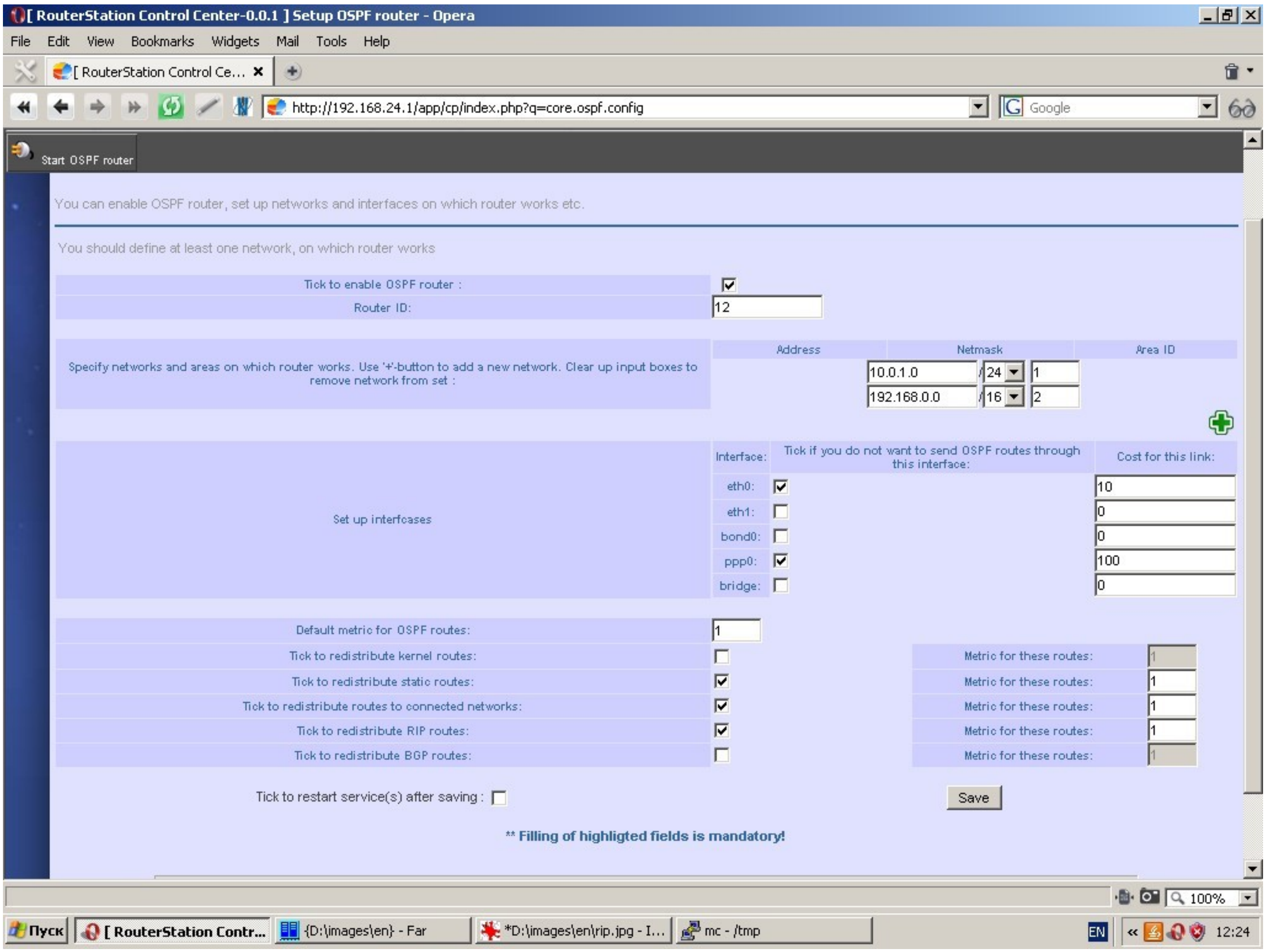
Tick to restart service(s) after saving : ☐

For more information please refer to relevant manuals.

OSPF-router

The system has a pre-installed or an installable OSPF -router and relevant control tools. The following parameters are to be specified:

- Networks on which router operates and area ID's;
- Router ID;
- Interfaces and their weights;
- Redistribution of other protocol routes (static, RIP, etc.);
- Weights (metrics) for such routes.


[RouterStation Control Center-0.0.1] Setup OSPF router - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.ospf.config
Google
Start OSPF router
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\rip.jpg - I...
mc - /tmp
EN
12:24

You can enable OSPF router, set up networks and interfaces on which router works etc.

You should define at least one network, on which router works

Tick to enable OSPF router :	☑
Router ID:	12

Specify networks and areas on which router works. Use '+'-button to add a new network. Clear up input boxes to remove network from set :

Address	Netmask	Area ID
10.0.1.0	/24	1
192.168.0.0	/16	2

Set up interfcases

Interface:	Tick if you do not want to send OSPF routes through this interface:	Cost for this link:
eth0:	☑	10
eth1:	□	0
bond0:	□	0
ppp0:	☑	100
bridge:	□	0

Default metric for OSPF routes:	1		
Tick to redistribute kernel routes:	□	Metric for these routes:	1
Tick to redistribute static routes:	☑	Metric for these routes:	1
Tick to redistribute routes to connected networks:	☑	Metric for these routes:	1
Tick to redistribute RIP routes:	☑	Metric for these routes:	1
Tick to redistribute BGP routes:	□	Metric for these routes:	1

Tick to restart service(s) after saving : □ Save

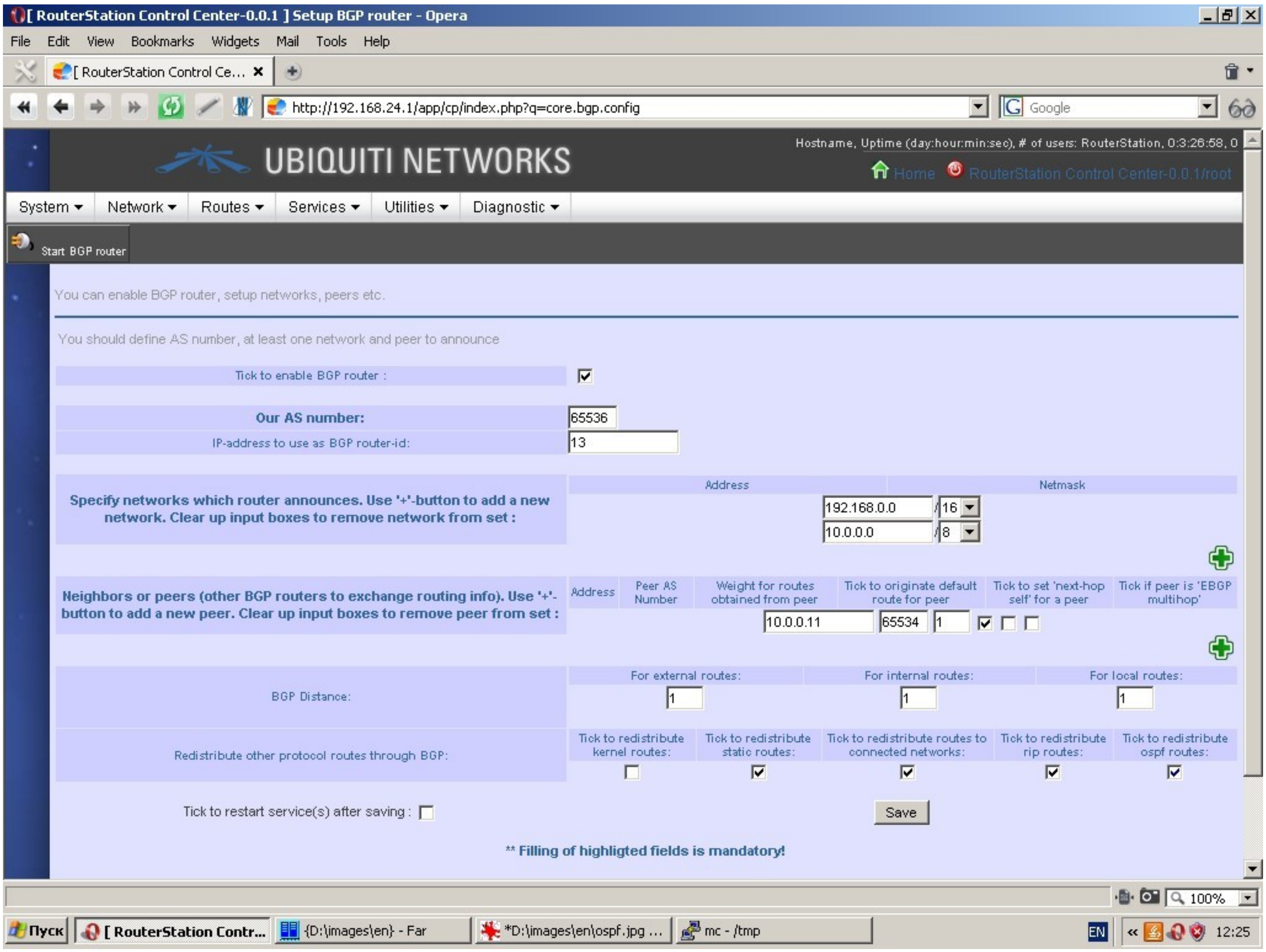
** Filling of highligted fields is mandatory!

For more information please refer to relevant manuals.

BGP-router

The system has a pre-installed or an installable BGP -router and relevant control tools.
The following parameters are to be specified:

- Networks which router announces;
- Router ID;
- Autonomous system number;
- Router neighbors, their weights ad optional attributes;
- Redistribution of other protocol routes (static, OSPF, etc.);
- Weights (metrics) for such routes.


[RouterStation Control Center-0.0.1] Setup BGP router - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.bgp.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:26:58, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Start BGP router
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\ospf.jpg ...
mc - /tmp
EN
12:25

You can enable BGP router, setup networks, peers etc.

You should define AS number, at least one network and peer to announce

Tick to enable BGP router : ☑

Our AS number: 65536

IP-address to use as BGP router-id: 13

Specify networks which router announces. Use '+'-button to add a new network. Clear up input boxes to remove network from set :

Address	Netmask
192.168.0.0	/16
10.0.0.0	/8

Neighbors or peers (other BGP routers to exchange routing info). Use '+'-button to add a new peer. Clear up input boxes to remove peer from set :

Address	Peer AS Number	Weight for routes obtained from peer	Tick to originate default route for peer	Tick to set 'next-hop self' for a peer	Tick if peer is 'EBGP multihop'
10.0.0.11	65534	1	☑	□	□

BGP Distance:

For external routes:	For internal routes:	For local routes:
1	1	1

Redistribute other protocol routes through BGP:

Tick to redistribute kernel routes:	Tick to redistribute static routes:	Tick to redistribute routes to connected networks:	Tick to redistribute rip routes:	Tick to redistribute ospf routes:
□	☑	☑	☑	☑

Tick to restart service(s) after saving : □

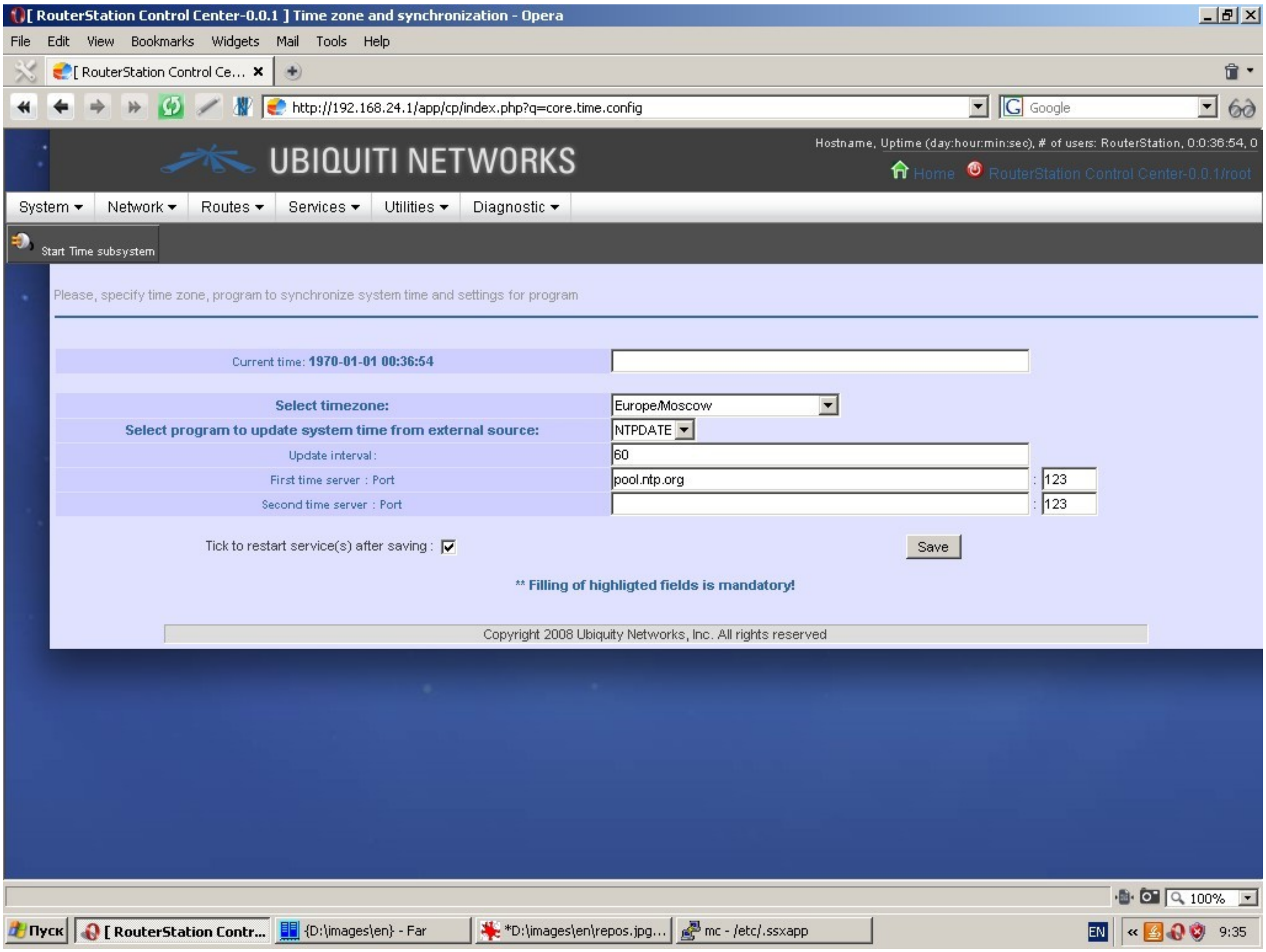
Save

** **Filling of highligted fields is mandatory!**

For more information please refer to relevant manuals.

Time settings and synchronization

This page is used to specify system time, time zone and system time synchronization.


[RouterStation Control Center-0.0.1] Time zone and synchronization - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.time.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:36:54, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Start Time subsystem
Save
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\repos.jpg...
mc - /etc/.ssxapp
EN
9:35

Please, specify time zone, program to synchronize system time and settings for program

Current time: **1970-01-01 00:36:54**

Select timezone: Europe/Moscow

Select program to update system time from external source: NTPDATE

Update interval: 60

First time server : Port pool.ntp.org : 123

Second time server : Port : 123

Tick to restart service(s) after saving : ☑

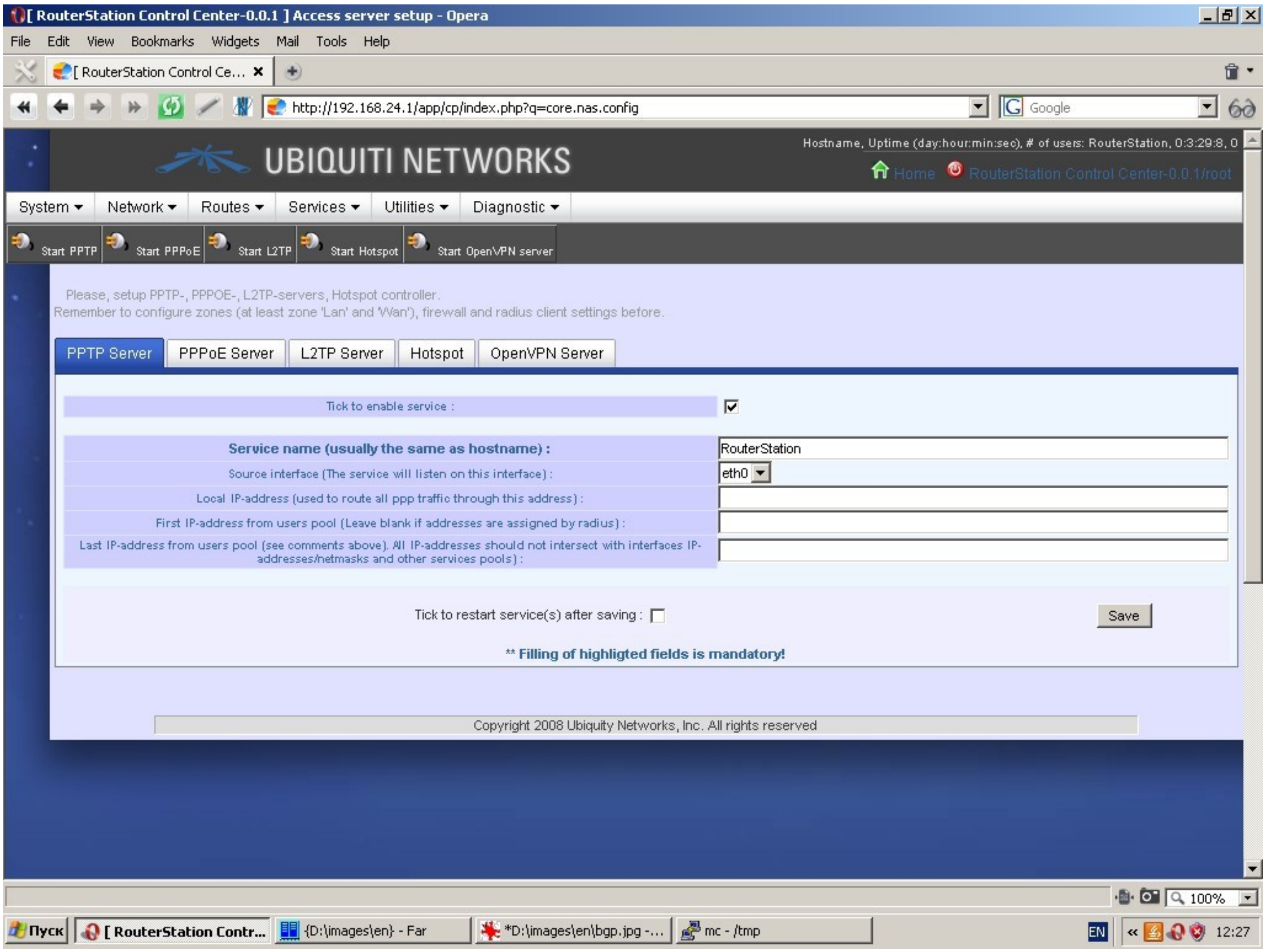
** Filling of highligted fields is mandatory!

Time synchronization can be performed by client NTPDATE with one or more time servers (in this case please specify an update interval) or by NTPD server. In latter case the network time service becomes available for clients connected to the device.

Access concentrator

By clicking on the “PPTP Server” tab you can specify such server settings as:

- Service name
- Source interface for the service to listen on
- Local IP address used to route all ppp traffic through this address (optional)
- First IP-address from users pool (not to be specified if IP addresses are assigned by a radius-server).
- Last IP-address from users pool (optional, not to be specified if IP addresses are assigned by a radius-server).



[RouterStation Control Center-0.0.1] Access server setup - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php?q=core.nas.config
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:29:8, 0
Home
RouterStation Control Center-0.0.1/root
System Network Routes Services Utilities Diagnostic
Start PPTP Start PPPoE Start L2TP Start Hotspot Start OpenVPN server
PPTP Server PPPoE Server L2TP Server Hotspot OpenVPN Server
Save
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
Пуск [RouterStation Contr... {D:\images\en} - Far *D:\images\en\bgp.jpg -... mc - /tmp EN 12:27

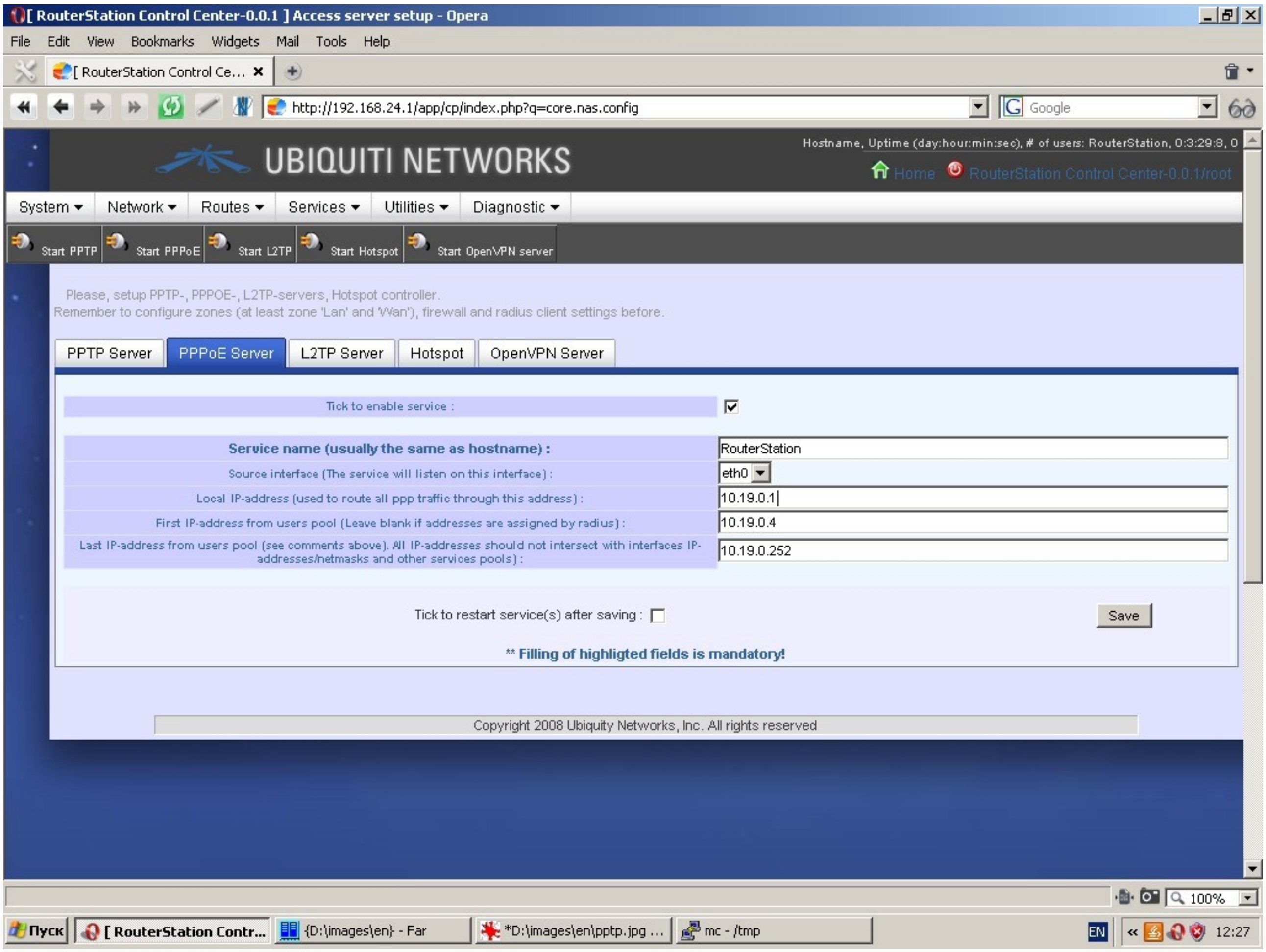
Please, setup PPTP-, PPPOE-, L2TP-servers, Hotspot controller.
Remember to configure zones (at least zone 'Lan' and 'Wan'), firewall and radius client settings before.

Tick to enable service :	☑
Service name (usually the same as hostname) :	RouterStation
Source interface (The service will listen on this interface) :	eth0
Local IP-address (used to route all ppp traffic through this address) :	
First IP-address from users pool (Leave blank if addresses are assigned by radius) :	
Last IP-address from users pool (see comments above). All IP-addresses should not intersect with interfaces IP-addresses/netmasks and other services pools) :	

Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

All specified IP-addresses should not intersect with interfaces' IP-addresses/netmasks and pools of other services.
"PPPOE Server" tab contains the same settings.



[RouterStation Control Center-0.0.1] Access server setup - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.nas.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:29:8, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Start PPTP
Start PPPoE
Start L2TP
Start Hotspot
Start OpenVPN server
PPTP Server
PPPoE Server
L2TP Server
Hotspot
OpenVPN Server
Save
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\pptp.jpg ...
mc - /tmp
EN
12:27

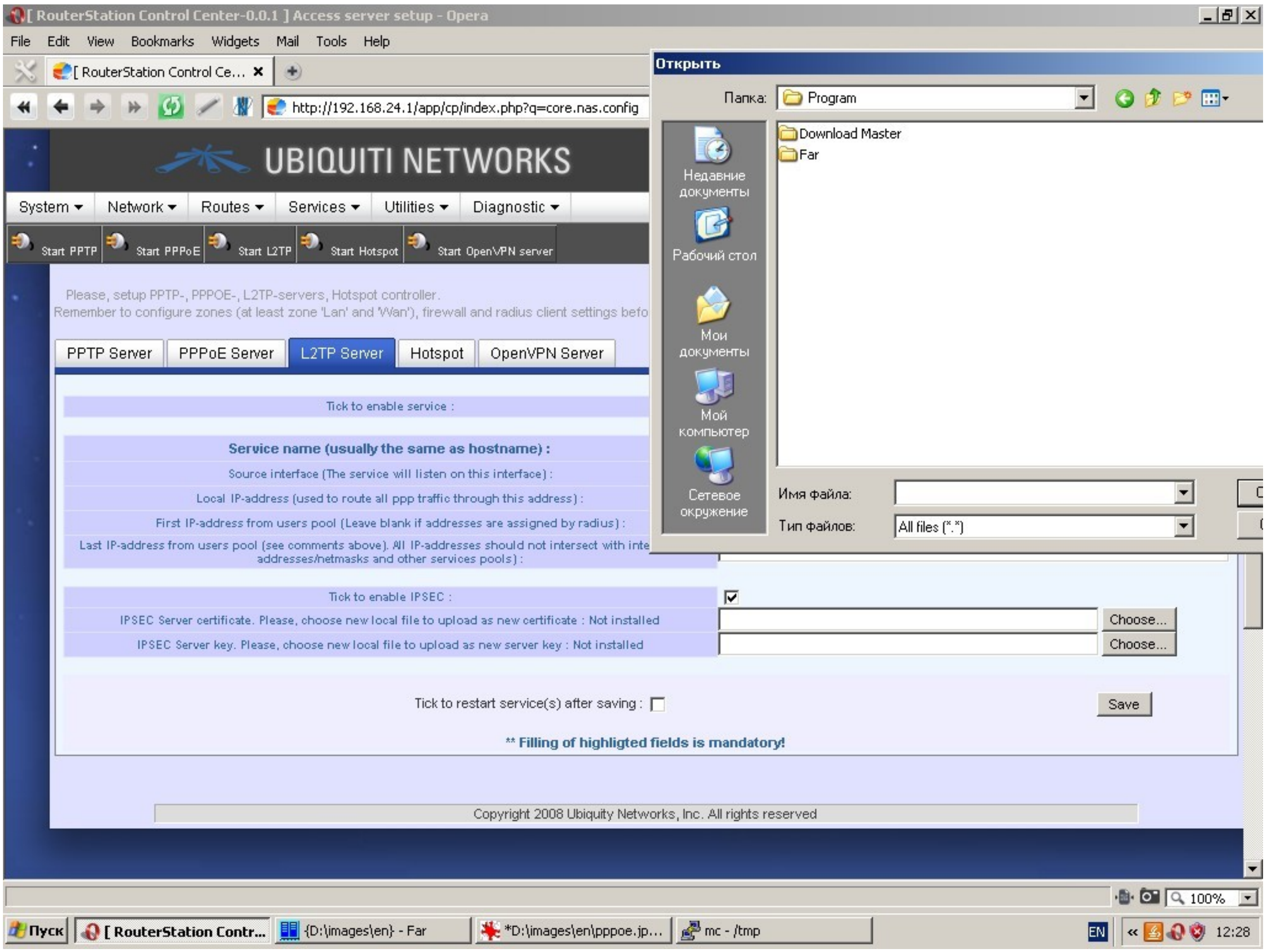
Please, setup PPTP-, PPPOE-, L2TP-servers, Hotspot controller.
Remember to configure zones (at least zone 'Lan' and 'Wan'), firewall and radius client settings before.

Tick to enable service :	☑
Service name (usually the same as hostname) :	RouterStation
Source interface (The service will listen on this interface) :	eth0
Local IP-address (used to route all ppp traffic through this address) :	10.19.0.1
First IP-address from users pool (Leave blank if addresses are assigned by radius) :	10.19.0.4
Last IP-address from users pool (see comments above). All IP-addresses should not intersect with interfaces IP-addresses/netmasks and other services pools) :	10.19.0.252

Tick to restart service(s) after saving : □

** **Filling of highligted fields is mandatory!**

“L2TP Server” tab contains the same settings plus the ability to enable IPSEC for connections. If IPSEC is supported, you should upload server certificate and key.


[RouterStation Control Center-0.0.1] Access server setup - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.nas.config
UBIQUITI NETWORKS
System Network Routes Services Utilities Diagnostic
Start PPTP Start PPPoE Start L2TP Start Hotspot Start OpenVPN server
PPTP Server PPPoE Server L2TP Server Hotspot OpenVPN Server
Открыть
Папка: Program
Download Master
Far
Недавние документы
Рабочий стол
Мои документы
Мой компьютер
Сетевое окружение
Choose...
Choose...
Save
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\pppoe.jp...
mc - /tmp
EN
12:28
100%

Please, setup PPTP-, PPPOE-, L2TP-servers, Hotspot controller.
Remember to configure zones (at least zone 'Lan' and 'Wan'), firewall and radius client settings befo

Tick to enable service :

Service name (usually the same as hostname) :

Source interface (The service will listen on this interface) :

Local IP-address (used to route all ppp traffic through this address) :

First IP-address from users pool (Leave blank if addresses are assigned by radius) :

Last IP-address from users pool (see comments above). All IP-addresses should not intersect with inte addresses/netmasks and other services pools) :

Tick to enable IPSEC : ☑

IPSEC Server certificate. Please, choose new local file to upload as new certificate : Not installed

IPSEC Server key. Please, choose new local file to upload as new server key : Not installed

Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

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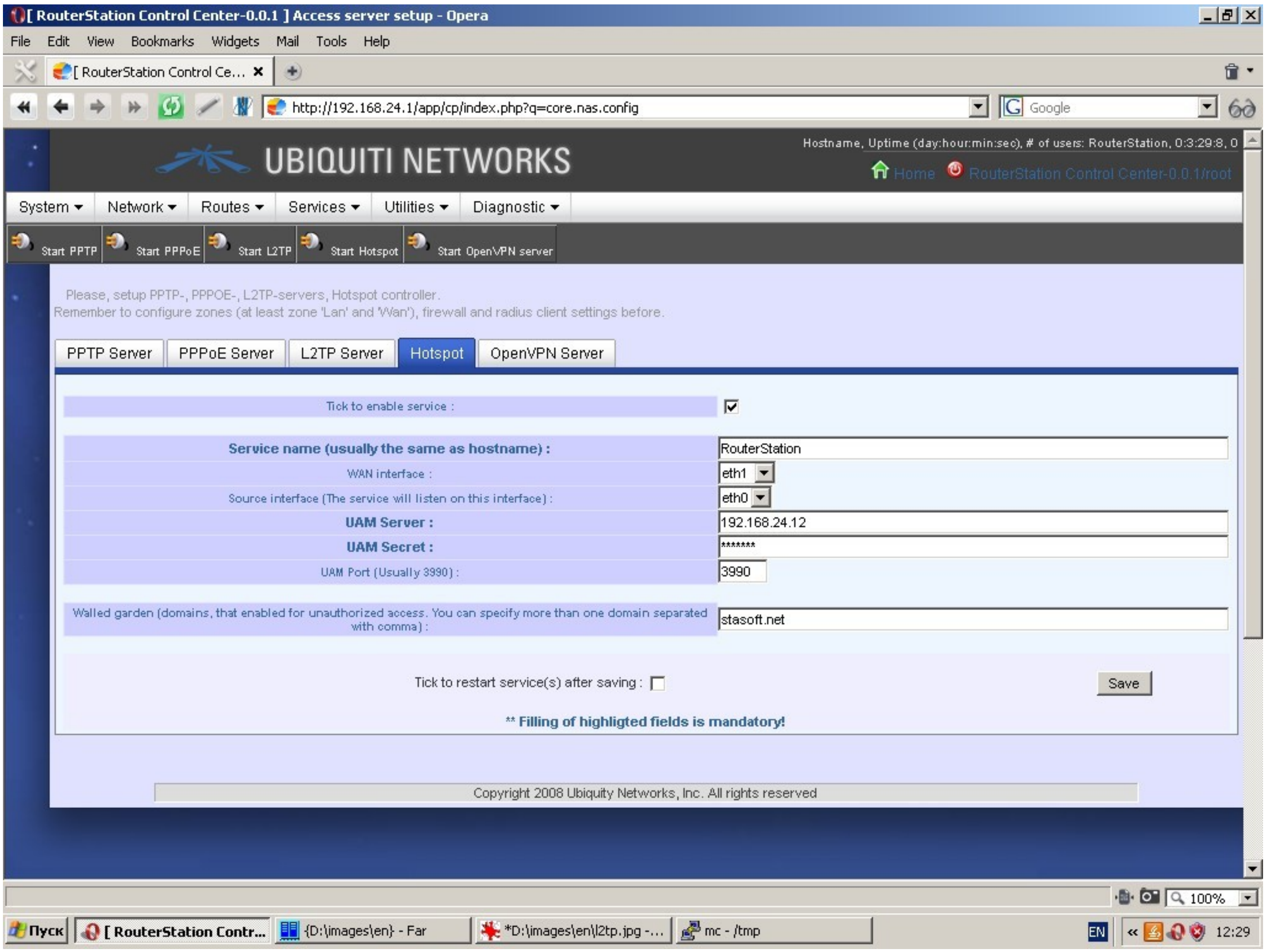
Имя файла:

Тип файлов: All files (*.*)

“Hotspot” tab contains control tools for chillispot program.

The following parameters can be specified: service name, WAN interface, source interface (from zone Lan), UAM server and port, secret phrase for UAM server. Chillispot provides walled garden (domains enabled for unauthorized access).


[RouterStation Control Center-0.0.1] Access server setup - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.nas.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:29:8, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Start PPTP
Start PPPoE
Start L2TP
Start Hotspot
Start OpenVPN server
PPTP Server
PPPoE Server
L2TP Server
Hotspot
OpenVPN Server
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\l2tp.jpg -...
mc - /tmp
EN
12:29

Please, setup PPTP-, PPPOE-, L2TP-servers, Hotspot controller.
Remember to configure zones (at least zone 'Lan' and 'Wan'), firewall and radius client settings before.

Tick to enable service :	☑
Service name (usually the same as hostname) :	RouterStation
WAN interface :	eth1
Source interface (The service will listen on this interface) :	eth0
UAM Server :	192.168.24.12
UAM Secret :	*******
UAM Port (Usually 3990) :	3990
Walled garden (domains, that enabled for unauthorized access. You can specify more than one domain separated with comma) :	stasoft.net

Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

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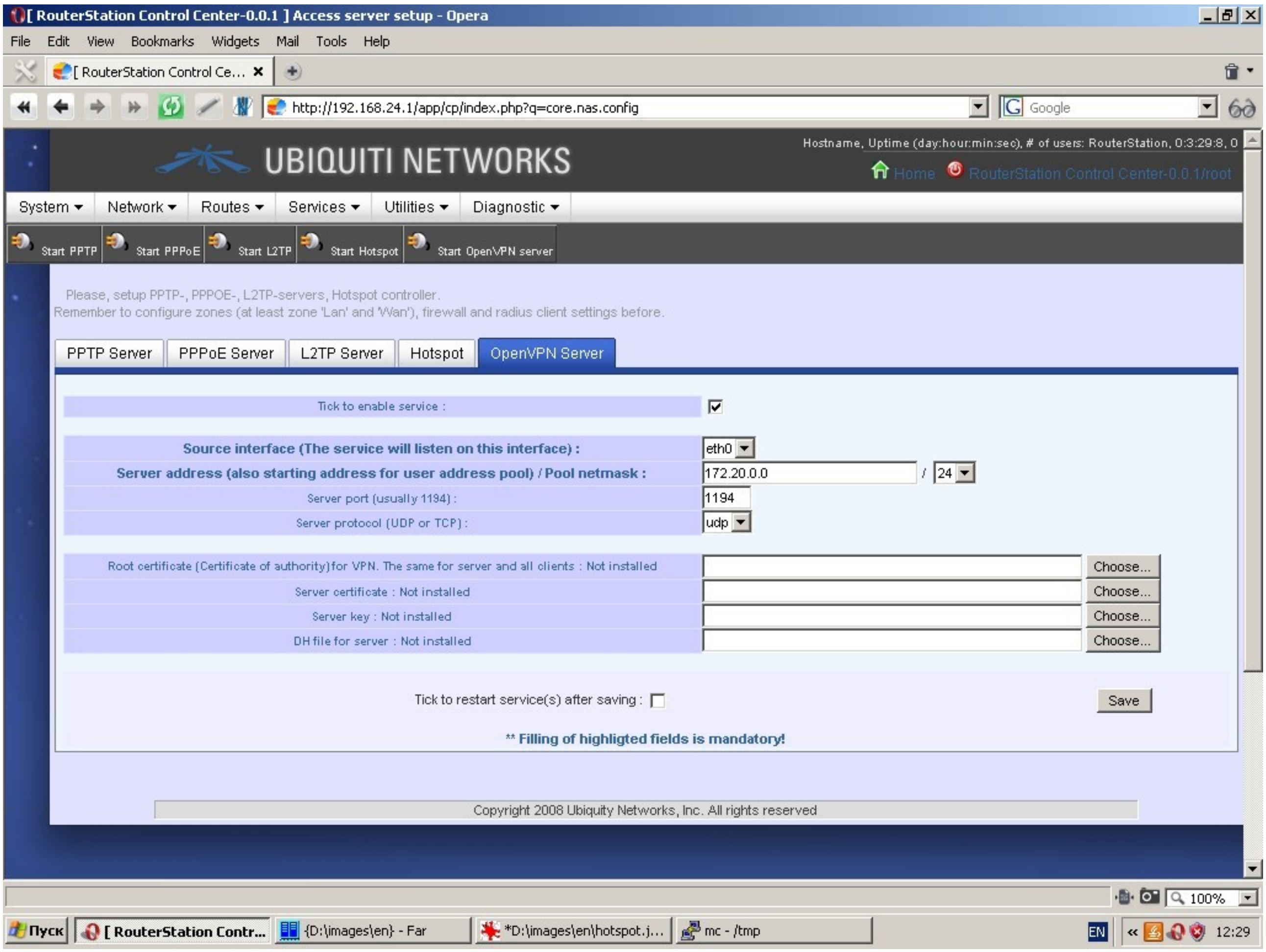
“OpenVPN Server” tab contains control tools for OpenVPN server. Here you can set up the source interface for the service to listen on; user address pool; server port and protocol; and upload root certificate (certificate of authority), server certificate and key, DH file for server.


[RouterStation Control Center-0.0.1] Access server setup - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.nas.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:29:8, 0
Home
RouterStation Control Center-0.0.1/root
System Network Routes Services Utilities Diagnostic
Start PPTP Start PPPoE Start L2TP Start Hotspot Start OpenVPN server
PPTP Server PPPoE Server L2TP Server Hotspot OpenVPN Server
Choose...
Save
Пуск [RouterStation Contr... {D:\images\en} - Far *D:\images\en\hotspot.j... mc - /tmp
EN 12:29
100%

Please, setup PPTP-, PPPOE-, L2TP-servers, Hotspot controller.
Remember to configure zones (at least zone 'Lan' and 'Wan'), firewall and radius client settings before.

Tick to enable service :	☑
Source interface (The service will listen on this interface) :	eth0
Server address (also starting address for user address pool) / Pool netmask :	172.20.0.0 / 24
Server port (usually 1194) :	1194
Server protocol (UDP or TCP) :	udp
Root certificate (Certificate of authority) for VPN. The same for server and all clients : Not installed	
Server certificate : Not installed	
Server key : Not installed	
DH file for server : Not installed	

Tick to restart service(s) after saving : □

**** Filling of highligted fields is mandatory!**

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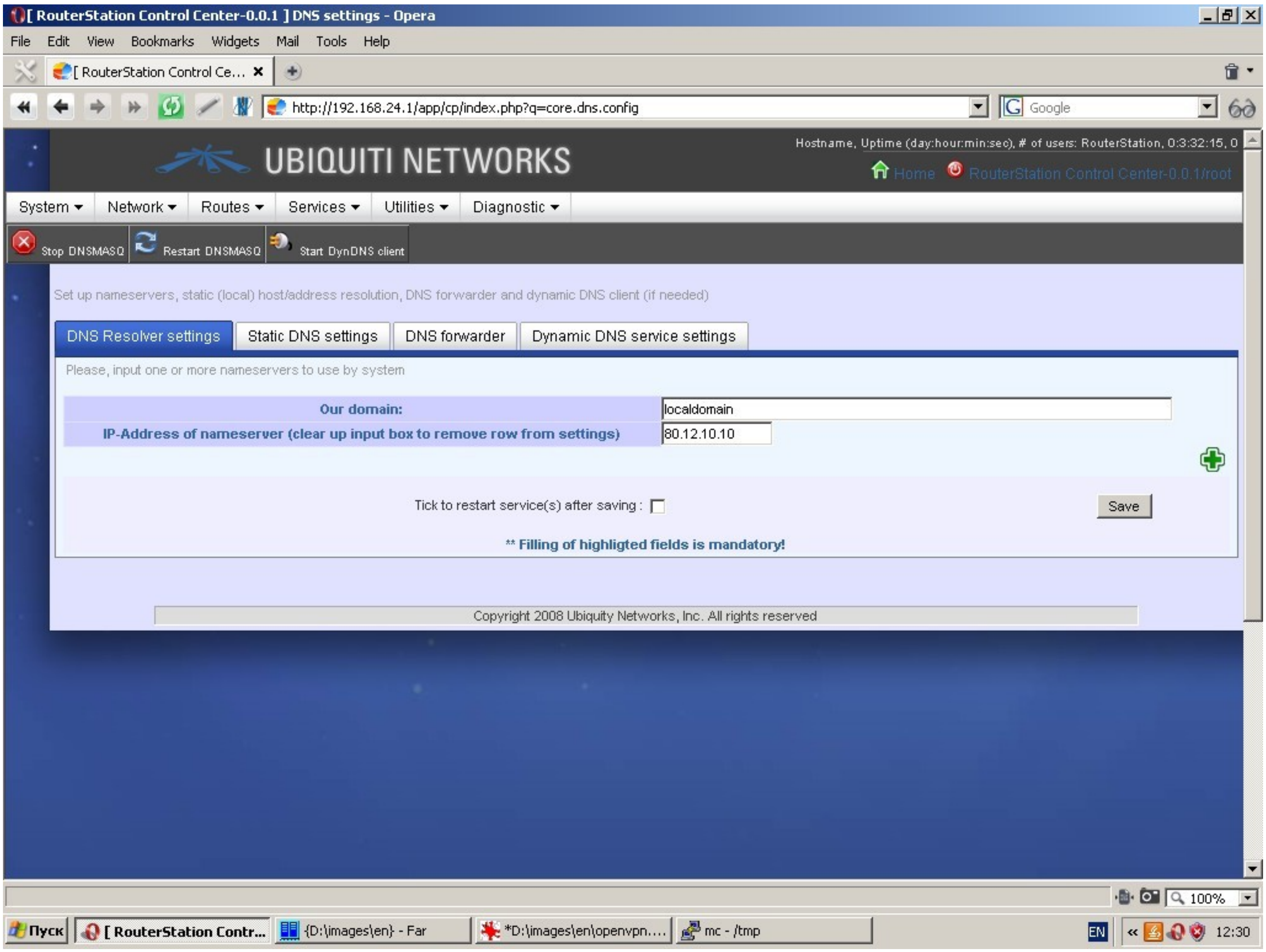
Domaine name resolution

Under the tab “DNS Resolver settings” you can specify the domain, in which the device operates, and one or more nameservers to be used by the system.


[RouterStation Control Center-0.0.1] DNS settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.dns.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:32:15, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Stop DNSMASQ
Restart DNSMASQ
Start DynDNS client
DNS Resolver settings
Static DNS settings
DNS forwarder
Dynamic DNS service settings
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\openvpn....
mc - /tmp
EN
12:30

Set up nameservers, static (local) host/address resolution, DNS forwarder and dynamic DNS client (if needed)

Please, input one or more nameservers to use by system

Our domain:	localdomain
IP-Address of nameserver (clear up input box to remove row from settings)	80.12.10.10

Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

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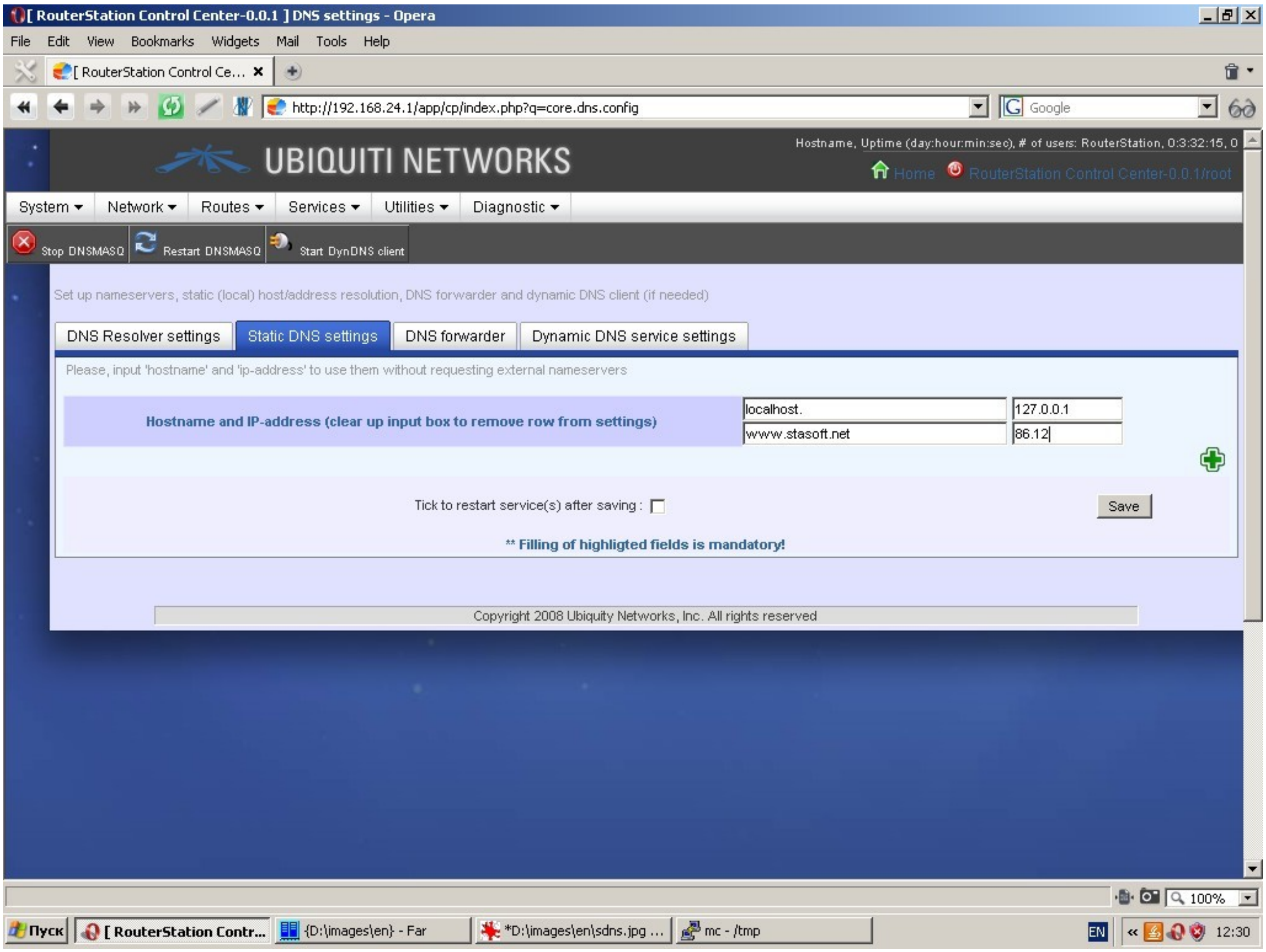
Under the tab “Static DNS settings” you can specify static pairs of 'hostname' and 'IP-address' to be used without sending requests to external nameservers (i. e. you can assign any full qualified domain name to any IP-address).



[RouterStation Control Center-0.0.1] DNS settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce…
http://192.168.24.1/app/cp/index.php?q=core.dns.config
Google
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Stop DNSMASQ
Restart DNSMASQ
Start DynDNS client
DNS Resolver settings
Static DNS settings
DNS forwarder
Dynamic DNS service settings
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\sdns.jpg ...
mc - /tmp
EN
12:30

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:32:15, 0

Set up nameservers, static (local) host/address resolution, DNS forwarder and dynamic DNS client (if needed)

Please, input 'hostname' and 'ip-address' to use them without requesting external nameservers

Hostname and IP-address (clear up input box to remove row from settings)		
	localhost.	127.0.0.1
	www.stasoft.net	86.12

Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

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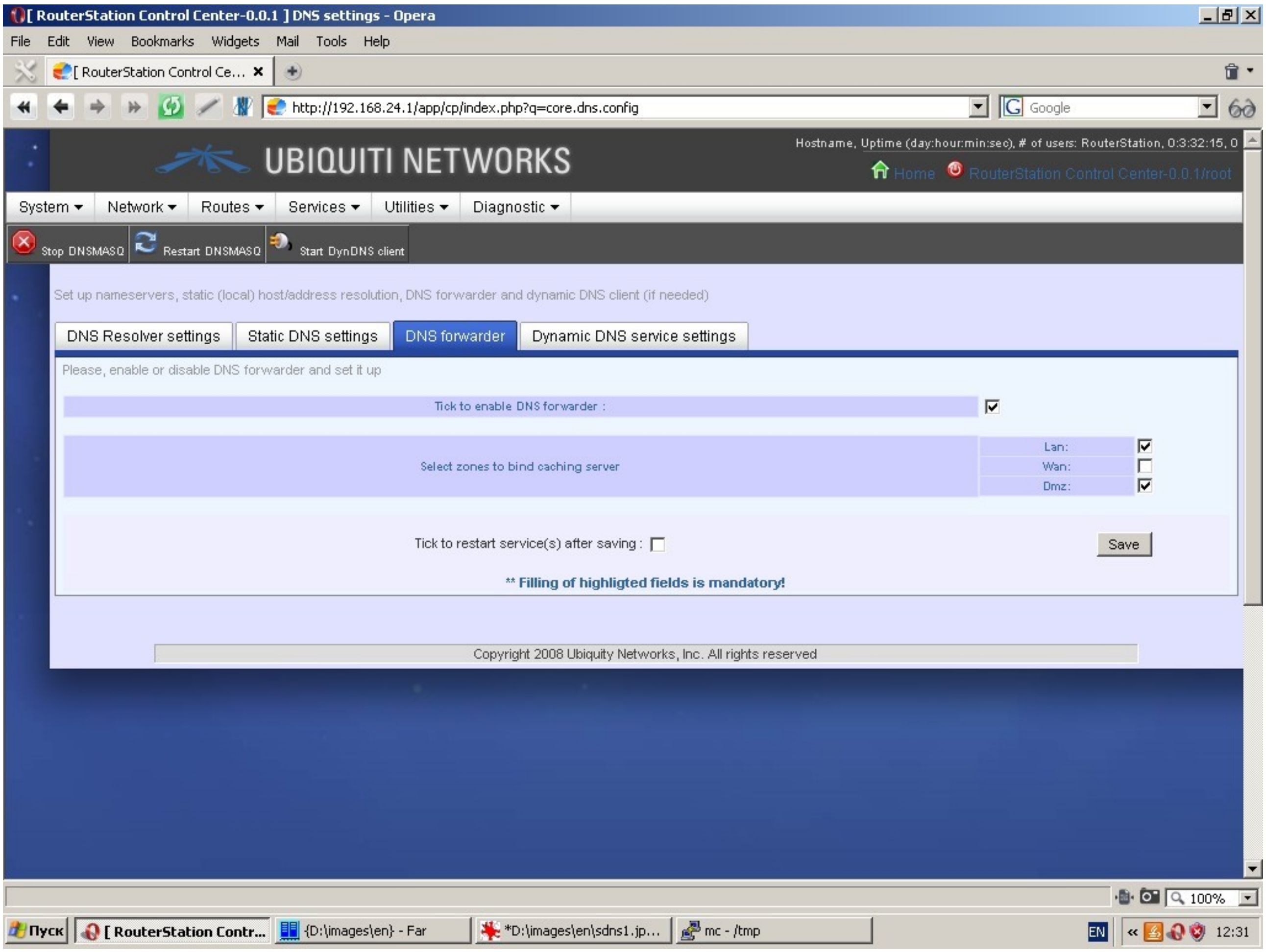
Under the tab “DNS forwarder” you can select zones to bind caching server.


[RouterStation Control Center-0.0.1] DNS settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.dns.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:32:15, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Stop DNSMASQ
Restart DNSMASQ
Start DynDNS client
DNS Resolver settings
Static DNS settings
DNS forwarder
Dynamic DNS service settings
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\sdns1.jp...
mc - /tmp
EN
12:31

Set up nameservers, static (local) host/address resolution, DNS forwarder and dynamic DNS client (if needed)

Please, enable or disable DNS forwarder and set it up

Tick to enable DNS forwarder : ☑

Select zones to bind caching server
Lan: ☑
Wan: □
Dmz: ☑

Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

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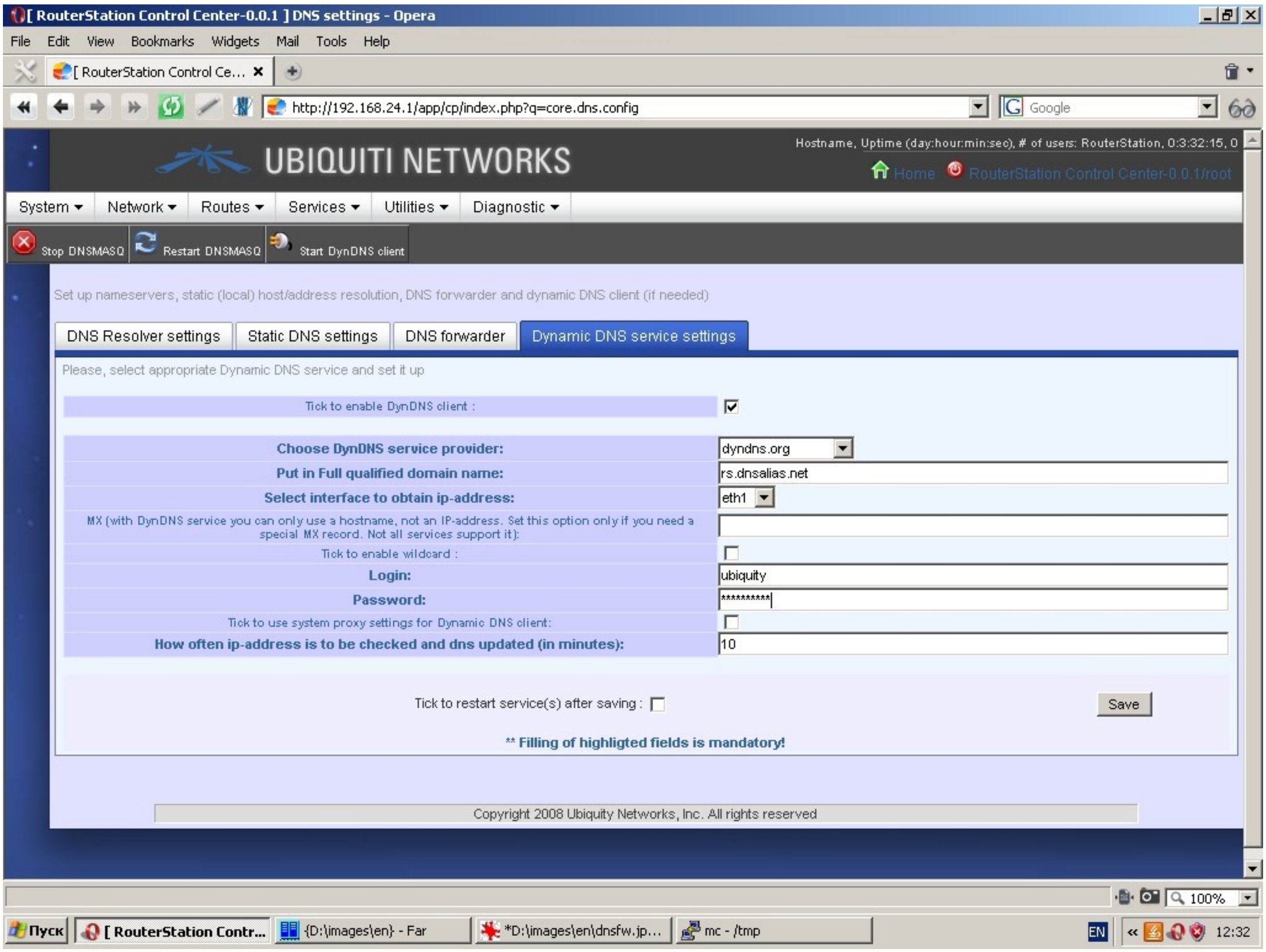
Under the tab “Dynamic DNS service settings” you can choose DynDNS service provider, external interface to obtain an IP-address, specify how often IP-address is to be checked and DNS updated, service user login and password.


[RouterStation Control Center-0.0.1] DNS settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.dns.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:32:15, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Stop DNSMASQ
Restart DNSMASQ
Start DynDNS client
DNS Resolver settings
Static DNS settings
DNS forwarder
Dynamic DNS service settings
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\dnsfw.jp...
mc - /tmp
EN
12:32

Set up nameservers, static (local) host/address resolution, DNS forwarder and dynamic DNS client (if needed)

Please, select appropriate Dynamic DNS service and set it up

Tick to enable DynDNS client :	☑
Choose DynDNS service provider:	dyndns.org
Put in Full qualified domain name:	rs.dnsalias.net
Select interface to obtain ip-address:	eth1
MX (with DynDNS service you can only use a hostname, not an IP-address. Set this option only if you need a special MX record. Not all services support it):	
Tick to enable wildcard :	☐
Login:	ubiquity
Password:	**********
Tick to use system proxy settings for Dynamic DNS client:	☐
How often ip-address is to be checked and dns updated (in minutes):	10

Tick to restart service(s) after saving : ☐ Save

** Filling of highligted fields is mandatory!

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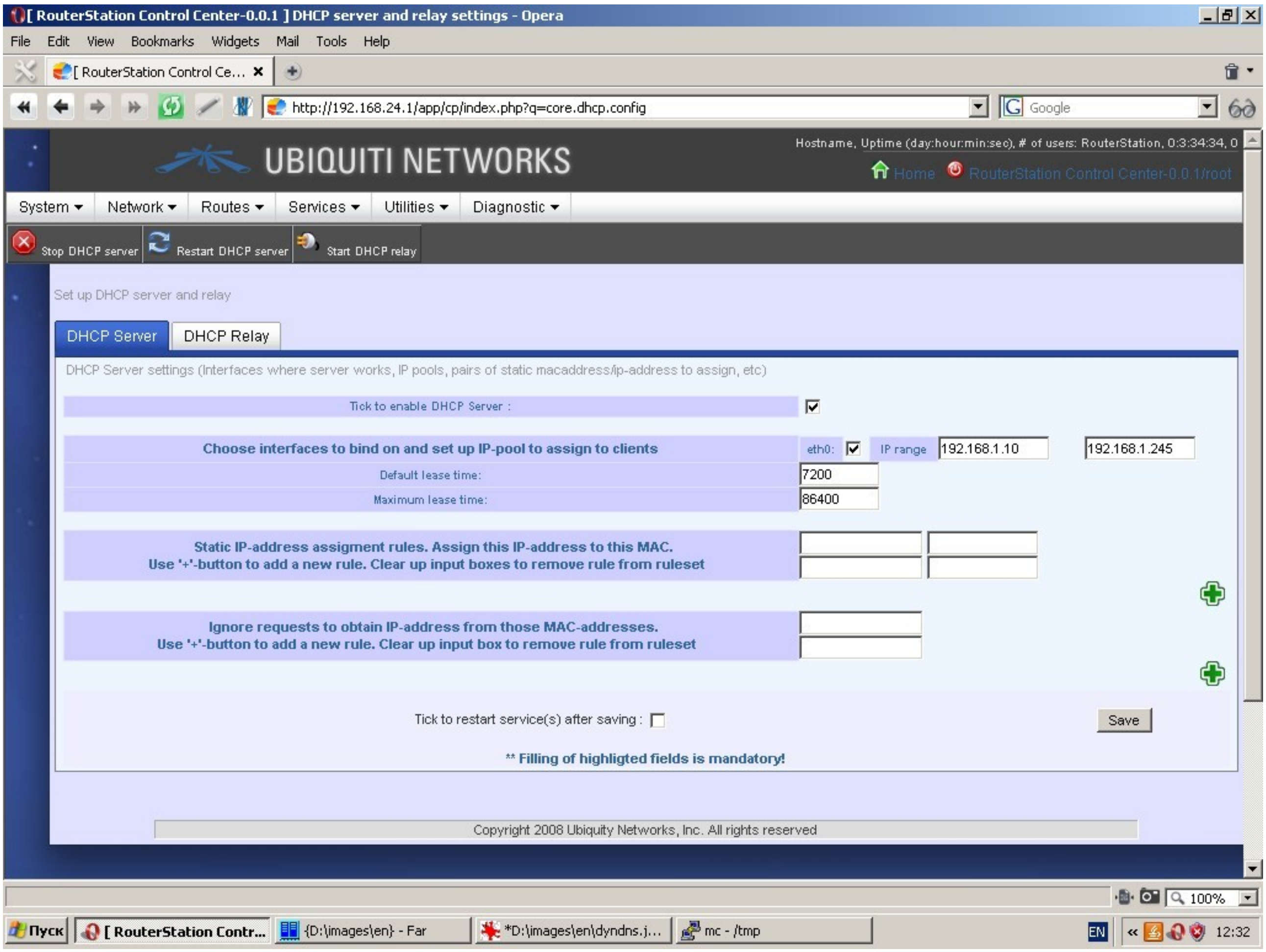
To be able to use dynamic DNS service you must be registered with the chosen service provider.

DHCP settings

“DHCP Server” tab contains DHCP-server setting tools (DHCP is the server, which automatically assigns IP-addresses at the requests of the clients).



[RouterStation Control Center-0.0.1] DHCP server and relay settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.dhcp.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:34:34, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Stop DHCP server
Restart DHCP server
Start DHCP relay
DHCP Server
DHCP Relay
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\dyndns.j...
mc - /tmp
EN
12:32

Set up DHCP server and relay

DHCP Server settings (Interfaces where server works, IP pools, pairs of static macaddress/ip-address to assign, etc)

Tick to enable DHCP Server : ☑

Choose interfaces to bind on and set up IP-pool to assign to clients — eth0: ☑ IP range 192.168.1.10 192.168.1.245

Default lease time: 7200

Maximum lease time: 86400

Static IP-address assigment rules. Assign this IP-address to this MAC.
Use '+'-button to add a new rule. Clear up input boxes to remove rule from ruleset

Ignore requests to obtain IP-address from those MAC-addresses.
Use '+'-button to add a new rule. Clear up input box to remove rule from ruleset

Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

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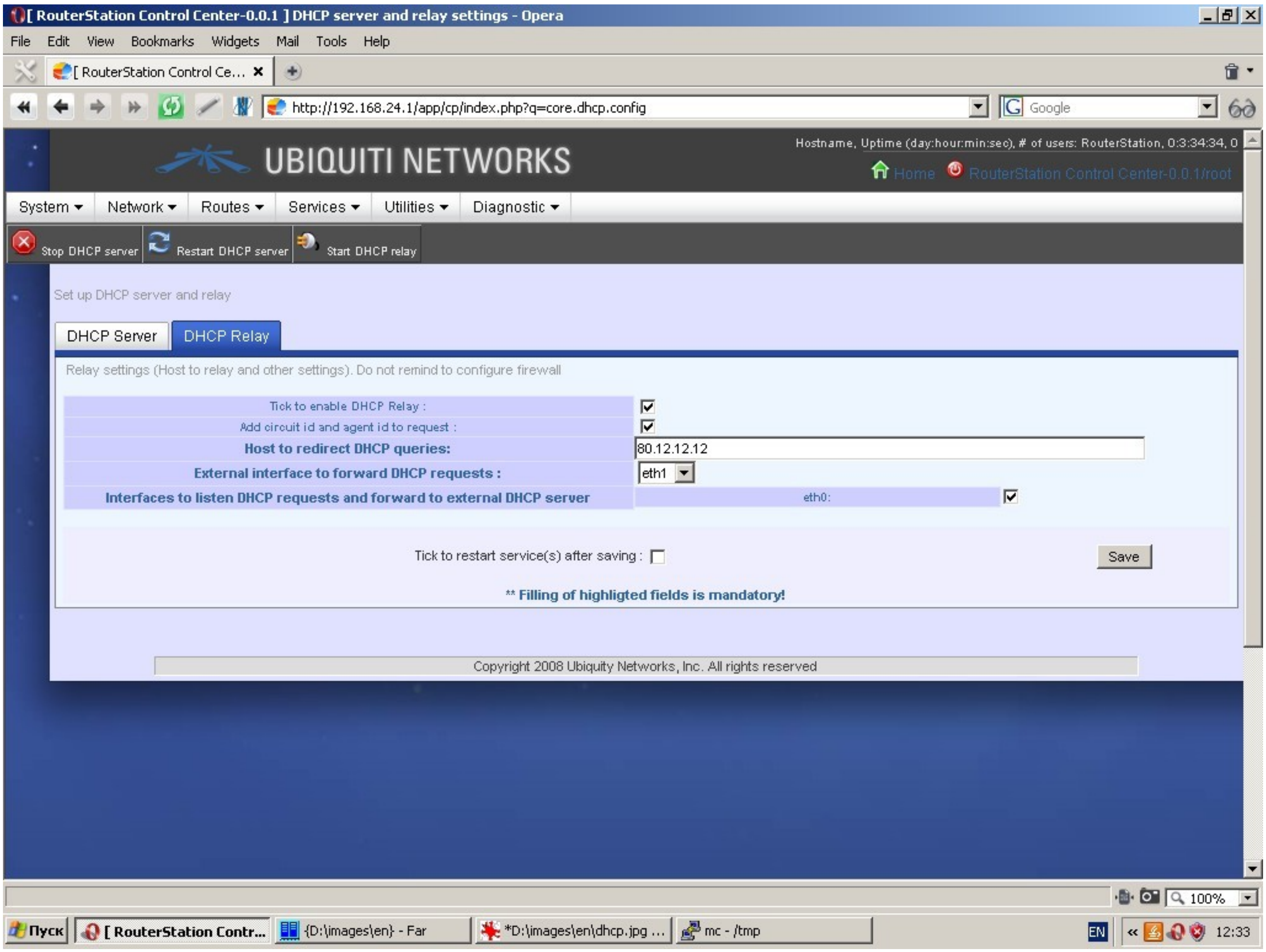
The following parameters are to be set: interfaces to bind on and IP-pool to assign to clients, pairs of static MAC-address/IP-address to assign, list of MAC-addresses to be ignored, etc.

“DHCP Relay” tab contains relay settings (host to relay and other settings).



[RouterStation Control Center-0.0.1] DHCP server and relay settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.dhcp.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:34:34, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Stop DHCP server
Restart DHCP server
Start DHCP relay
DHCP Server
DHCP Relay
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\dhcp.jpg ...
mc - /tmp
EN
12:33

Set up DHCP server and relay

Relay settings (Host to relay and other settings). Do not remind to configure firewall

Tick to enable DHCP Relay :	☑	
Add circuit id and agent id to request :	☑	
Host to redirect DHCP queries:	80.12.12.12	
External interface to forward DHCP requests :	eth1	
Interfaces to listen DHCP requests and forward to external DHCP server	eth0:	☑

Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

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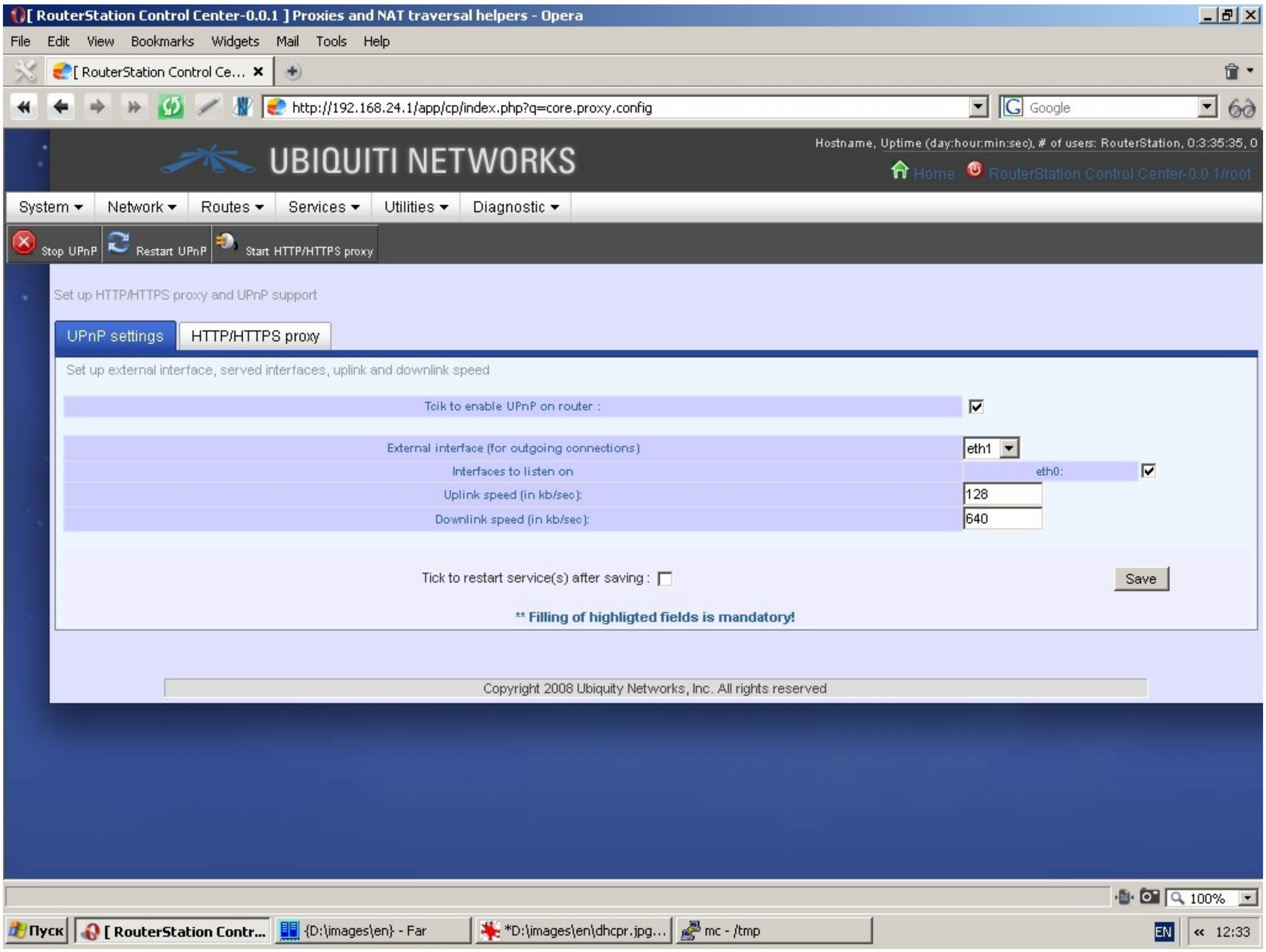
The following settings are to be specified: host to redirect DHCP queries, circuit ID and agent ID, etc.

Proxy and NAT traversal

Under the tab “UPnP settings” you can set up UPnP support. The following settings are to be specified: external interface for outgoing connections, interfaces to listen on and uplink/downlink speed.


[RouterStation Control Center-0.0.1] Proxies and NAT traversal helpers - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce…
http://192.168.24.1/app/cp/index.php?q=core.proxy.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:35:35, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Stop UPnP
Restart UPnP
Start HTTP/HTTPS proxy
UPnP settings
HTTP/HTTPS proxy
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\dhcpr.jpg...
mc - /tmp
EN
12:33

Set up HTTP/HTTPS proxy and UPnP support

Set up external interface, served interfaces, uplink and downlink speed

Toik to enable UPnP on router : ☑

External interface (for outgoing connections)	eth1
Interfaces to listen on	eth0: ☑
Uplink speed (in kb/sec):	128
Downlink speed (in kb/sec):	640

Tick to restart service(s) after saving : □ Save

** Filling of highligted fields is mandatory!

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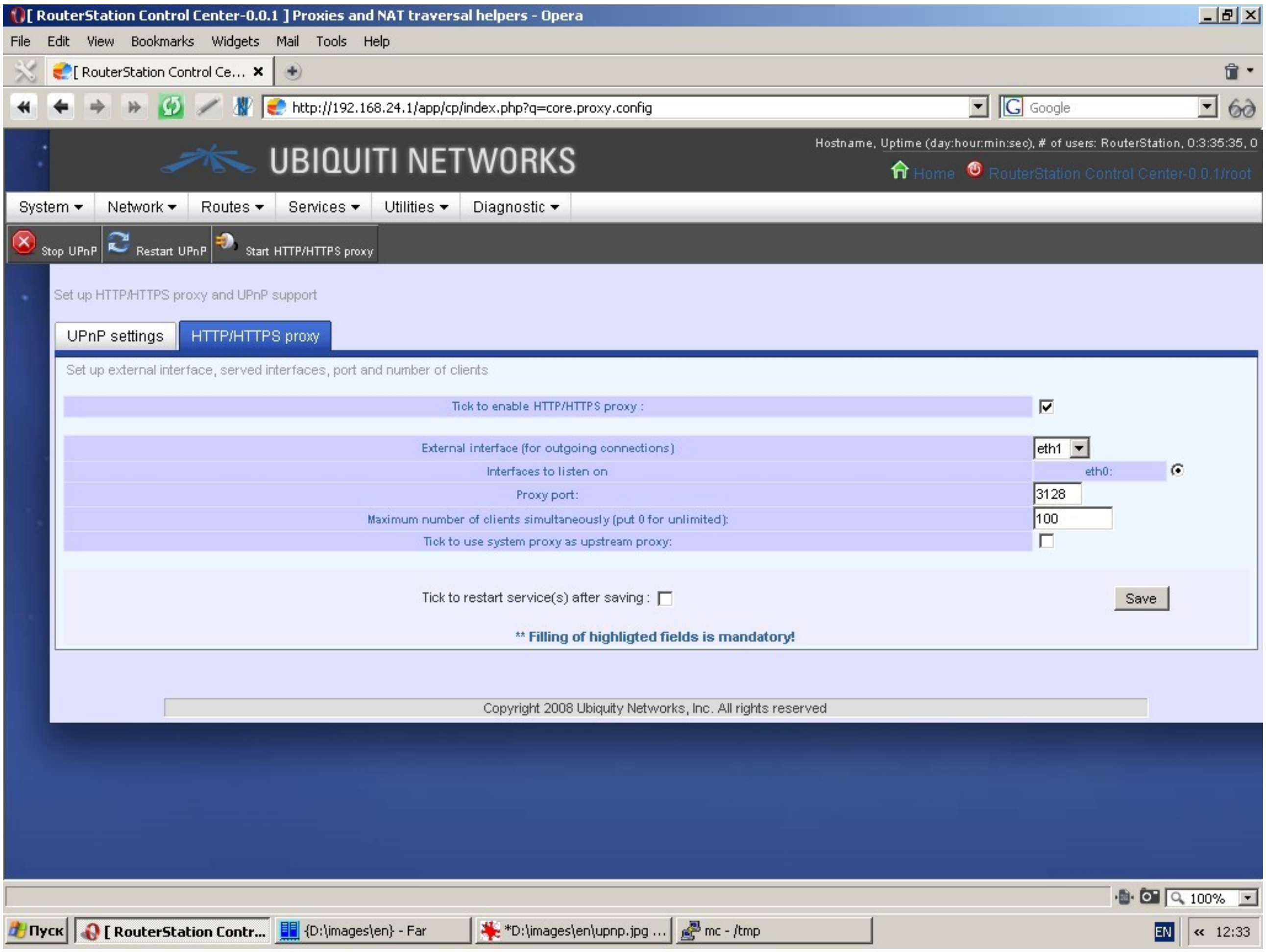
“HTTP/HTTPS proxy” tab contains proxy setting tools. You can select one external interface for outgoing connections, an internal interface to listen on, specify proxy port, maximum number of clients simultaneously and use system proxy as upstream proxy.


[RouterStation Control Center-0.0.1] Proxies and NAT traversal helpers - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.proxy.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:35:35, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Stop UPnP
Restart UPnP
Start HTTP/HTTPS proxy
UPnP settings
HTTP/HTTPS proxy
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\upnp.jpg ...
mc - /tmp
EN
12:33

Set up HTTP/HTTPS proxy and UPnP support

Set up external interface, served interfaces, port and number of clients

Tick to enable HTTP/HTTPS proxy : ☑

External interface (for outgoing connections) eth1

Interfaces to listen on eth0: ●

Proxy port: 3128

Maximum number of clients simultaneously (put 0 for unlimited): 100

Tick to use system proxy as upstream proxy: □

Tick to restart service(s) after saving : □ Save

** Filling of highligted fields is mandatory!

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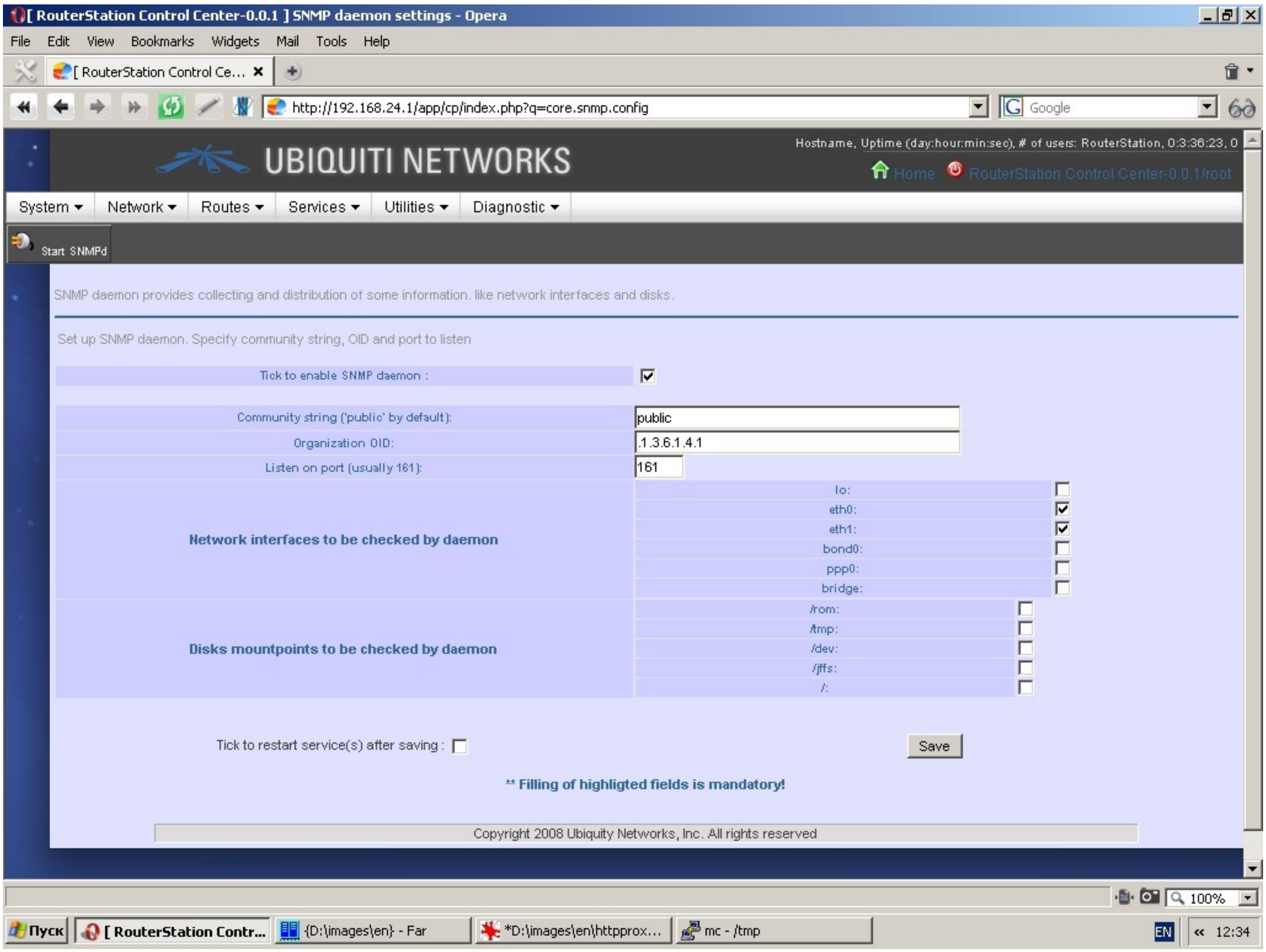
SNMP daemon

This page contains SNMP-server settings. SNMP deamon ensures monitoring of network interfaces and device partitions by client applications using SNMP ver. 2 protocol. Additional settings to be made are community string, OID and port to listen on.


[RouterStation Control Center-0.0.1] SNMP daemon settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.snmp.config
Google
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Start SNMPd
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\httpprox...
mc - /tmp
EN
12:34

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:36:23, 0

SNMP daemon provides collecting and distribution of some information. like network interfaces and disks.

Set up SNMP daemon. Specify community string, OID and port to listen

Tick to enable SNMP daemon :	☑
Community string ('public' by default):	public
Organization OID:	.1.3.6.1.4.1
Listen on port (usually 161):	161
Network interfaces to be checked by daemon	lo: □ eth0: ☑ eth1: ☑ bond0: □ ppp0: □ bridge: □
Disks mountpoints to be checked by daemon	/rom: □ /tmp: □ /dev: □ /jffs: □ /: □

Tick to restart service(s) after saving : □

** Filling of highligted fields is mandatory!

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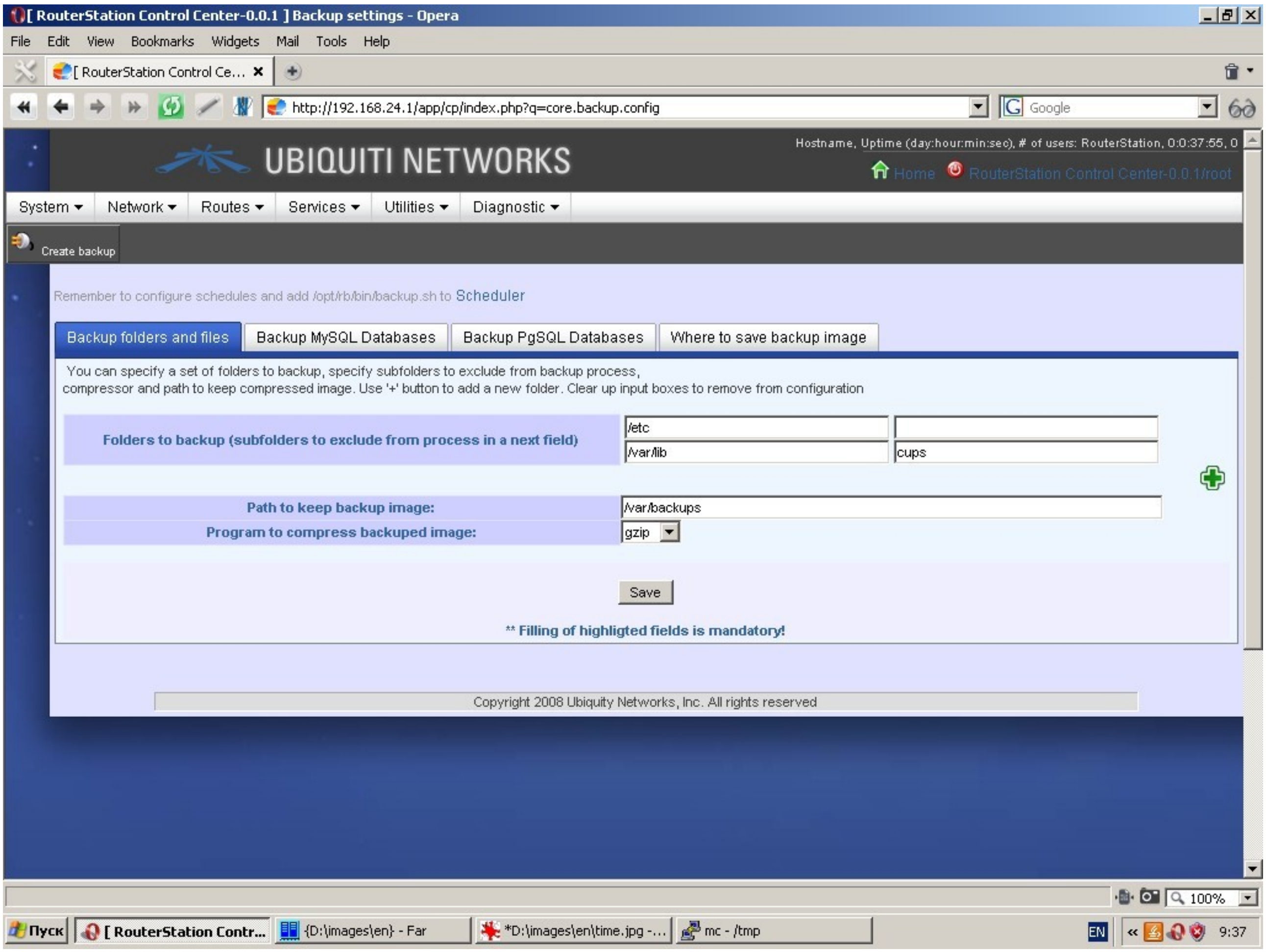
Image backup and restore from image

Backup settings

By using “Backup folders and files” tab you can specify a set of folders to backup, subfolders to exclude from backup process, compressor and path to keep a compressed image. Remember that you can specify more than one folder by clicking the ‘+’ button.



[RouterStation Control Center-0.0.1] Backup settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php?q=core.backup.config
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
System Network Routes Services Utilities Diagnostic
Create backup
Backup folders and files
Backup MySQL Databases
Backup PgSQL Databases
Where to save backup image
Save
Пуск

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:37:55, 0

Remember to configure schedules and add /opt/rb/bin/backup.sh to Scheduler

You can specify a set of folders to backup, specify subfolders to exclude from backup process, compressor and path to keep compressed image. Use '+' button to add a new folder. Clear up input boxes to remove from configuration

Folders to backup (subfolders to exclude from process in a next field): /etc | ; /var/lib | cups

Path to keep backup image: /var/backups

Program to compress backuped image: gzip

** Filling of highligted fields is mandatory!

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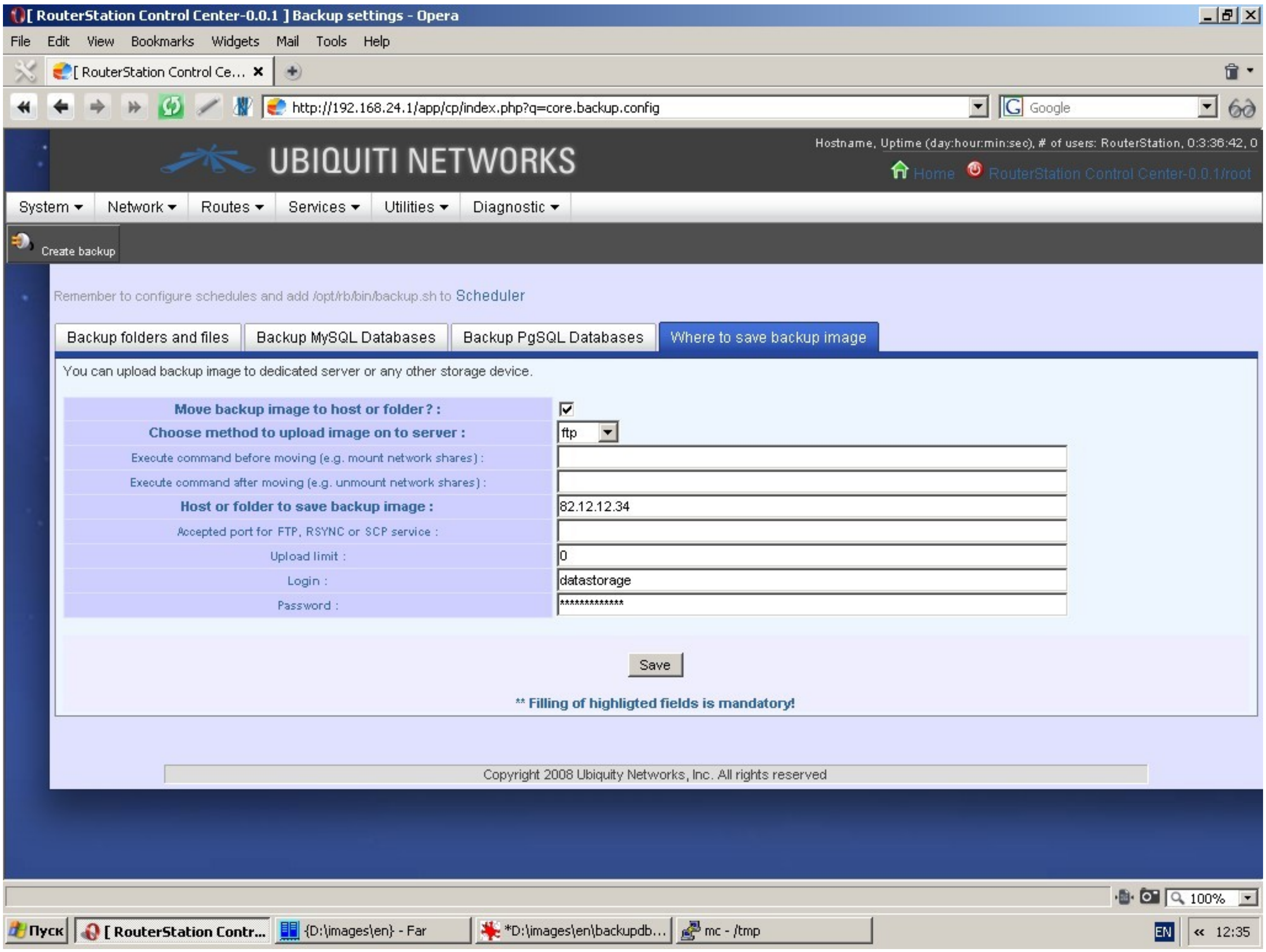
One of the settings is selection of program to compress backup image (*gzip* or *bzip2*).
You must also specify a path (filesystem directory) to keep backup image. Don’t use network shares for this directory.
Remember that to be able to perform backup, your system must have an installed *rsync* software package and at least one compressor: *gzip* or *bzip2*.
Under the tab “Where to save backup image” you can specify what to do with a backup image after saving. You can move backup image to remote server by means of either built-in ftp-client or scp/rsync protocols (requires installation of respective software packages). You can also move or copy backup image to another device partition (another physical storage) or network partition.


[RouterStation Control Center-0.0.1] Backup settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.backup.config
Google
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Create backup
Backup folders and files
Backup MySQL Databases
Backup PgSQL Databases
Where to save backup image
Save
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\backupdb...
mc - /tmp
EN
12:35
100%

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:36:42, 0

Remember to configure schedules and add /opt/rb/bin/backup.sh to Scheduler

You can upload backup image to dedicated server or any other storage device.

Move backup image to host or folder? :	☑
Choose method to upload image on to server :	ftp
Execute command before moving (e.g. mount network shares) :	
Execute command after moving (e.g. unmount network shares) :	
Host or folder to save backup image :	82.12.12.34
Accepted port for FTP, RSYNC or SCP service :	
Upload limit :	0
Login :	datastorage
Password :	*************

** Filling of highligted fields is mandatory!

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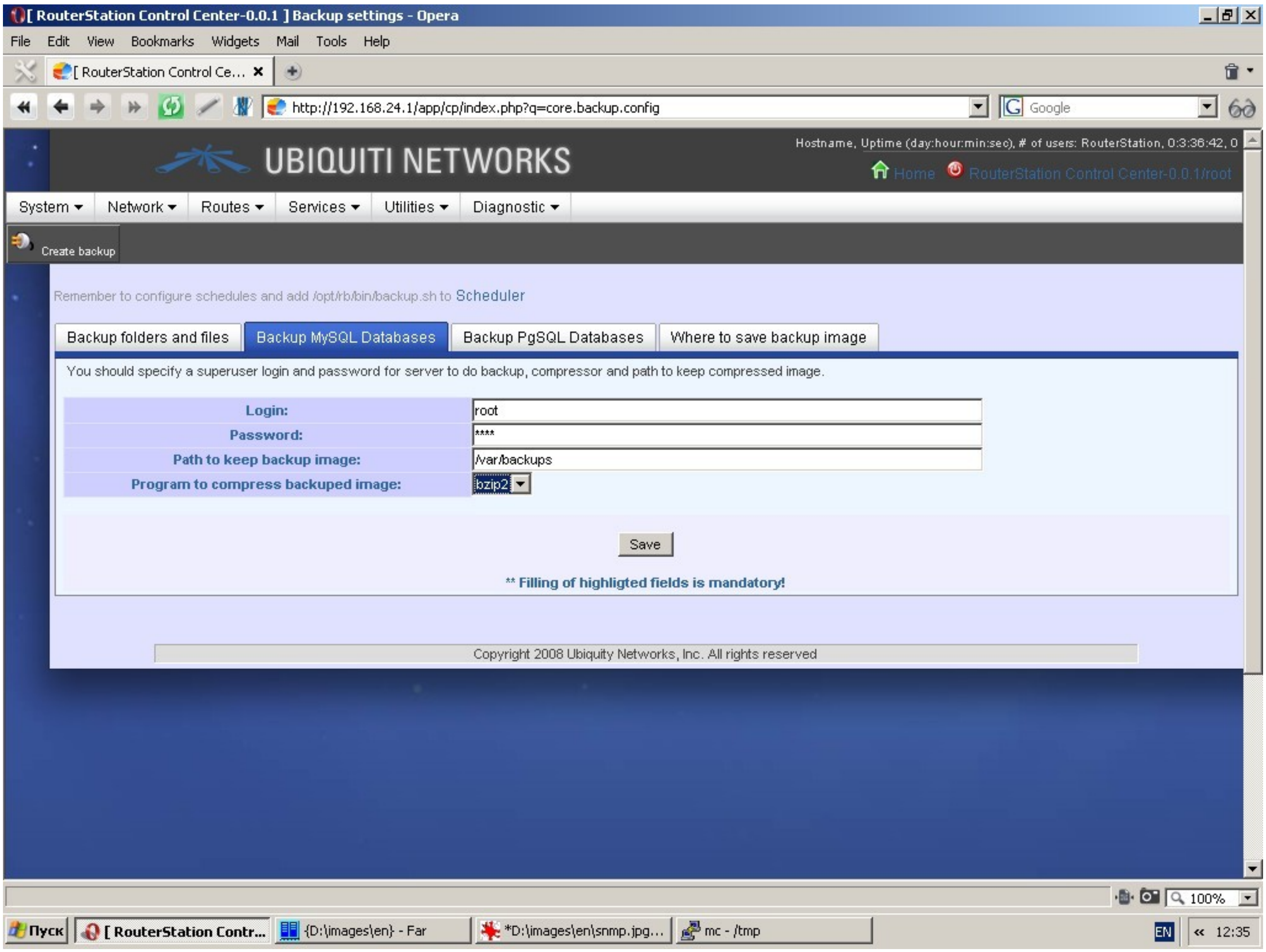
Settings to be made are: host or folder to save backup image, accepted port, type of protocol, what commands are to be executed before and after moving (e. g. mount / unmount), etc.

Remember that backup process is launched by *backup.sh* command. Execution time and periodicity are to be specified under the menu item “Schedule”. Backup can also be forcibly executed by clicking the toolbar button “Create backup”.

In the event of installed MySQL and/or PostgreSQL client(-s) and server(-s) the system is capable of performing full backup of all databases. In this case you should specify a superuser login and password for the server to do backup, compressor and path to keep compressed image. Backup images will be handled in the same manner as images of files and folders.


[RouterStation Control Center-0.0.1] Backup settings - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php?q=core.backup.config
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
System Network Routes Services Utilities Diagnostic
Create backup
Backup folders and files
Backup MySQL Databases
Backup PgSQL Databases
Where to save backup image
Save
100%
Пуск
12:35

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:36:42, 0

Remember to configure schedules and add /opt/rb/bin/backup.sh to Scheduler

You should specify a superuser login and password for server to do backup, compressor and path to keep compressed image.

Login:	root
Password:	****
Path to keep backup image:	/var/backups
Program to compress backuped image:	bzip2

** Filling of highligted fields is mandatory!

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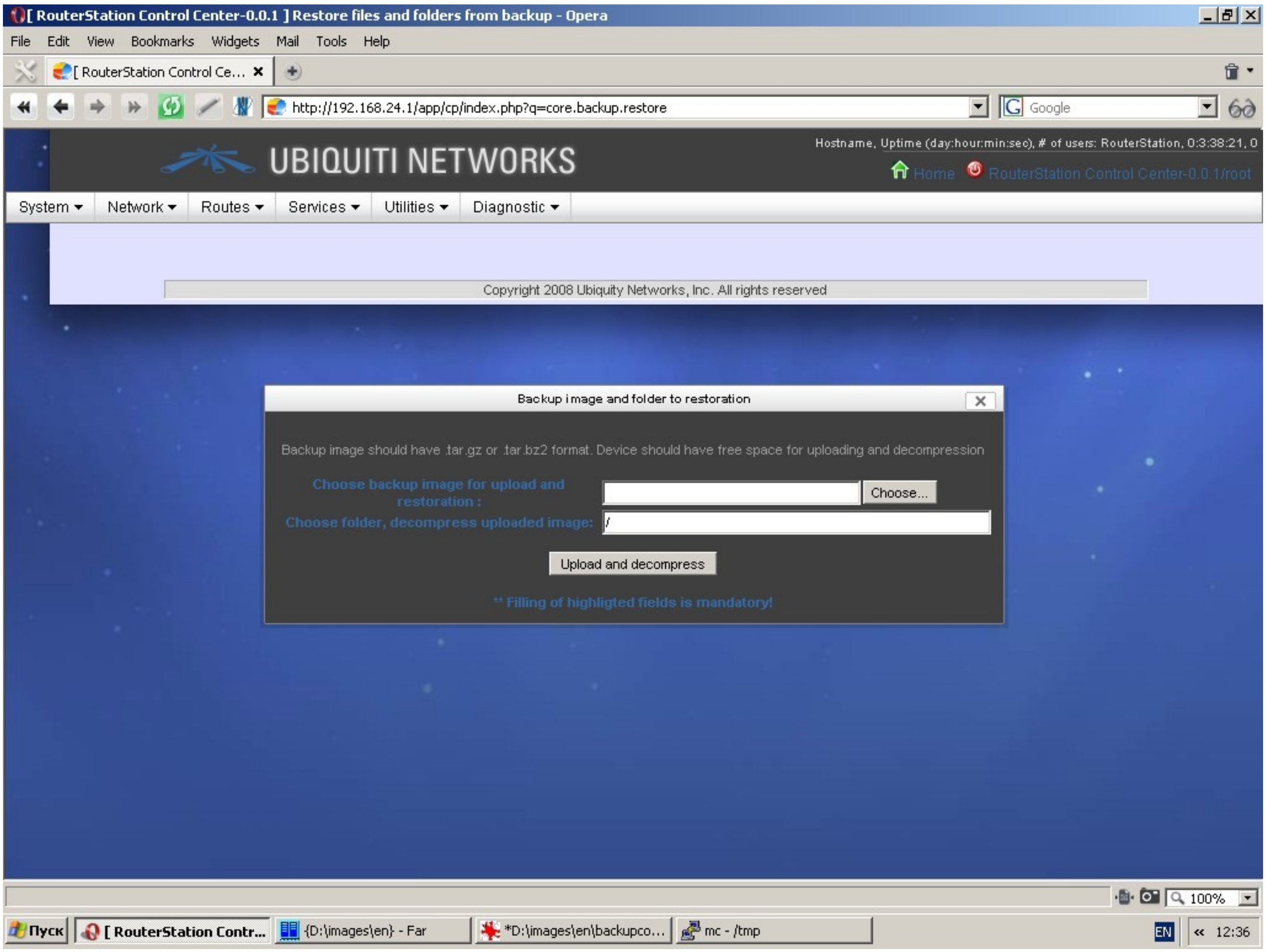
Restore from image

You can upload and decompress backup image specifying a folder for decompression of uploaded image. Backup image should have *.tar.gz* or *.tar.bz2* format. Please remember that after decompression current files will be replaced by files from the backup image, whereas the files, that are not present in the backup image, will be untouched.


[RouterStation Control Center-0.0.1] Restore files and folders from backup - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.backup.restore
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:38:21, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\backupco...
mc - /tmp
EN
12:36

Backup image and folder to restoration

Backup image should have .tar.gz or .tar.bz2 format. Device should have free space for uploading and decompression

Choose backup image for upload and restoration : Choose...

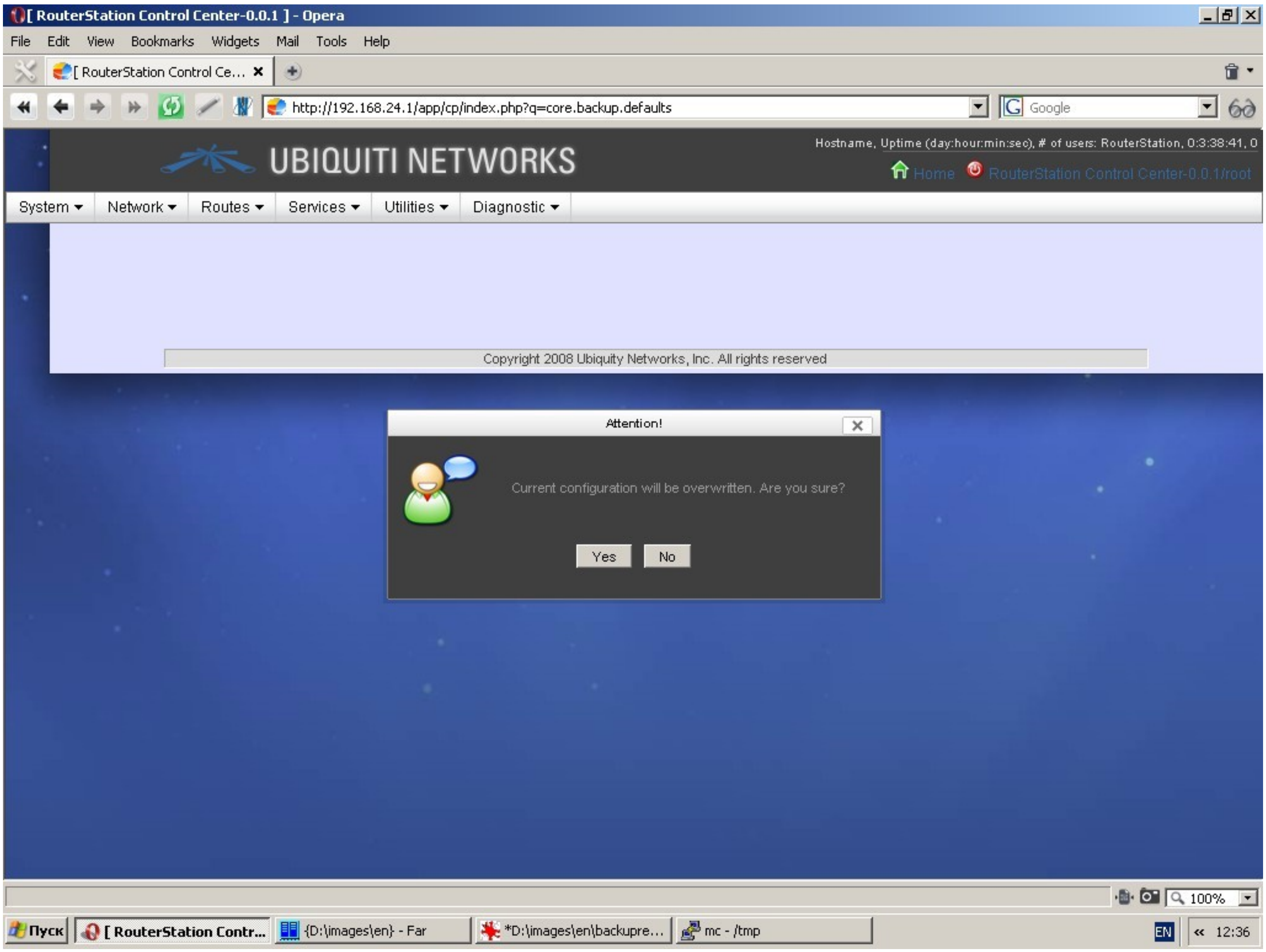
Choose folder, decompress uploaded image: /

Upload and decompress

** Filling of highligted fields is mandatory!

Factory default settings

When you choose “Yes”, the current configuration will be overwritten by factory default settings.

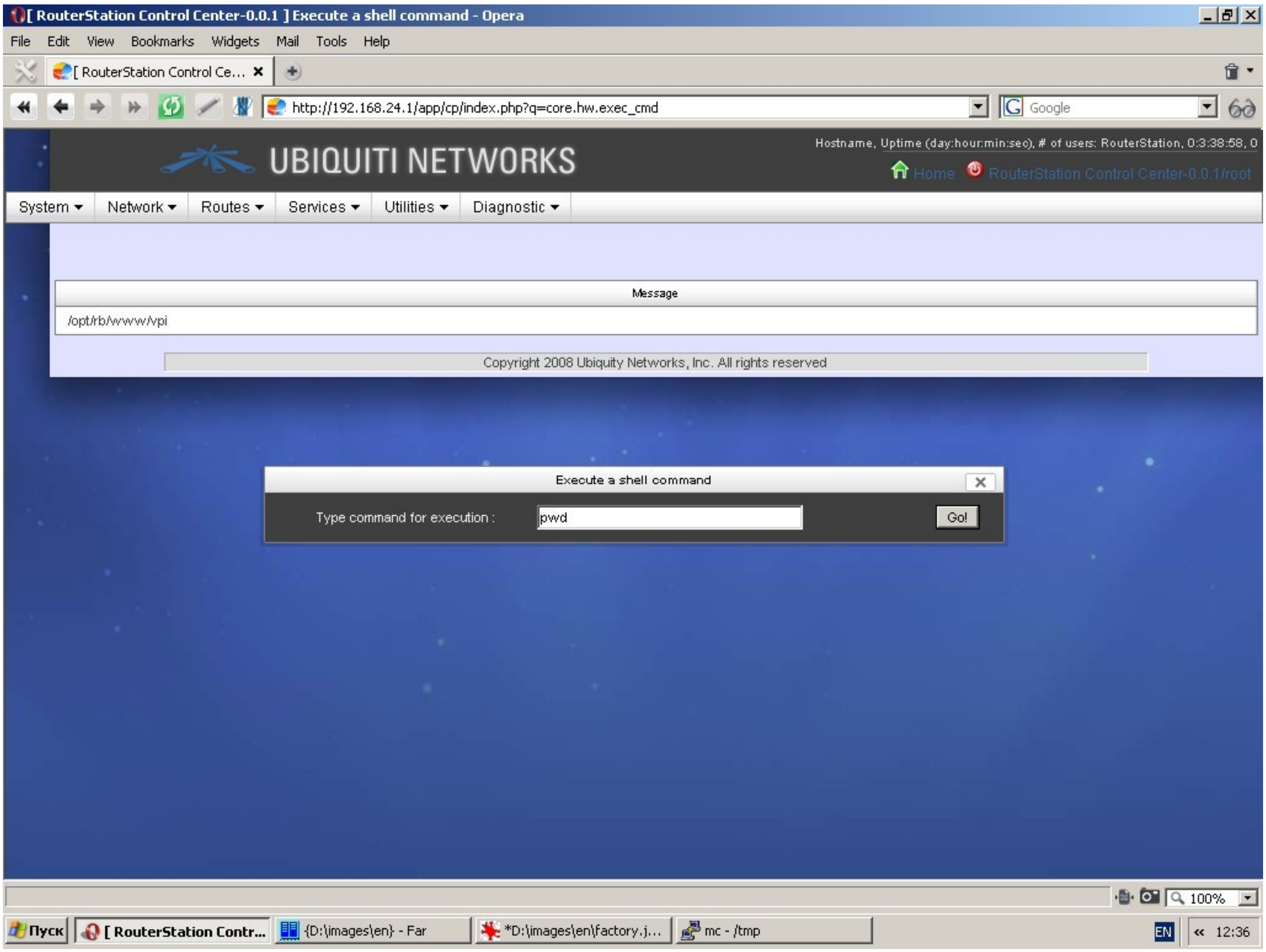

[RouterStation Control Center-0.0.1] - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php?q=core.backup.defaults
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:38:41, 0
Home RouterStation Control Center-0.0.1/root
System Network Routes Services Utilities Diagnostic
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
Attention!
Yes
No
100%
Пуск [RouterStation Contr... {D:\images\en} - Far *D:\images\en\backupre... mc - /tmp
EN 12:36

Current configuration will be overwritten. Are you sure?

Use this function with utmost care!

Execute command

You can execute any command as if you are using an operating system console. You will see output in table “Message” (Don’t use “Enter” key to execute command. Click “Go!” button in the dialogue window). Use this function with utmost care!

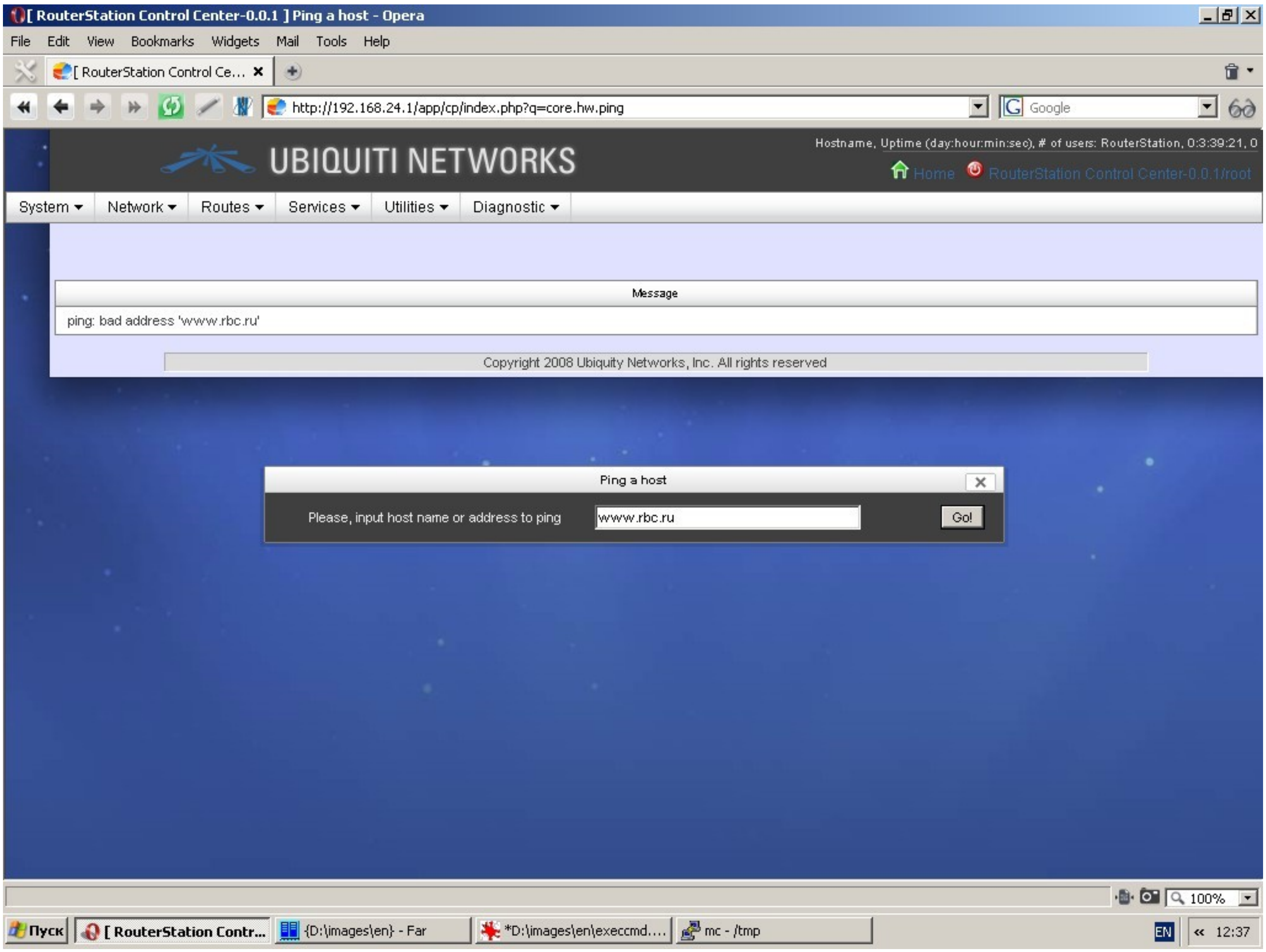

[RouterStation Control Center-0.0.1] Execute a shell command - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.hw.exec_cmd
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:38:58, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
Execute a shell command
Go!
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\factory.j...
mc - /tmp
EN
12:36

Message
/opt/rb/www/vpi

Type command for execution : pwd

Ping host

Pings specified IP-address or hostname. You will see output in table “Message”.


[RouterStation Control Center-0.0.1] Ping a host - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php?q=core.hw.ping
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:39:21, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Ping a host
Go!
12:37

Message

ping: bad address 'www.rbc.ru'

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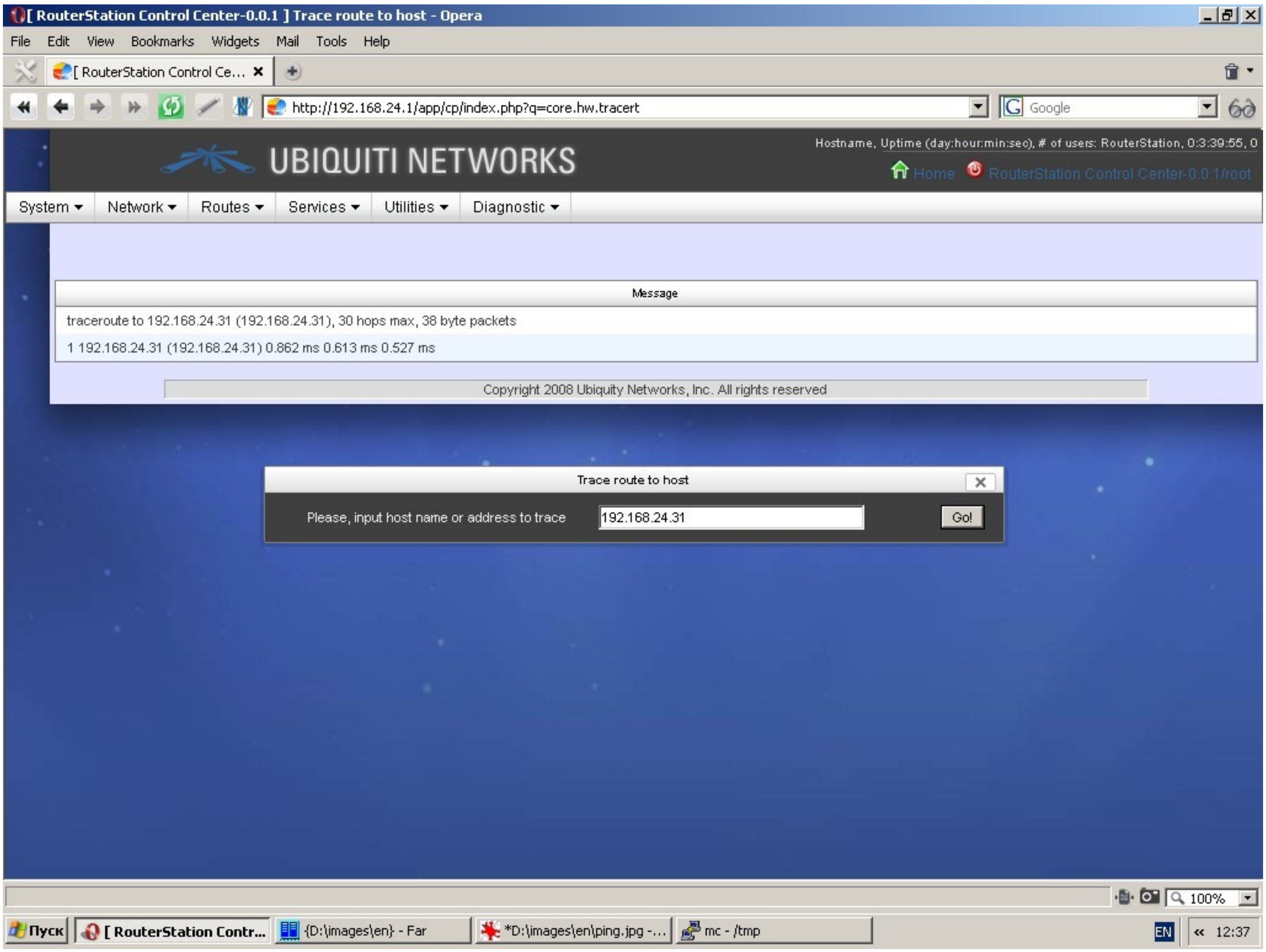
Please, input host name or address to ping: www.rbc.ru

Traceroute

Performs rout tracing of specified IP-address or hostname. You will see output in table “Message”.


[RouterStation Control Center-0.0.1] Trace route to host - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.hw.tracert
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:39:55, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\ping.jpg -...
mc - /tmp
EN
12:37

Message

```
traceroute to 192.168.24.31 (192.168.24.31), 30 hops max, 38 byte packets
1 192.168.24.31 (192.168.24.31) 0.862 ms 0.613 ms 0.527 ms
```

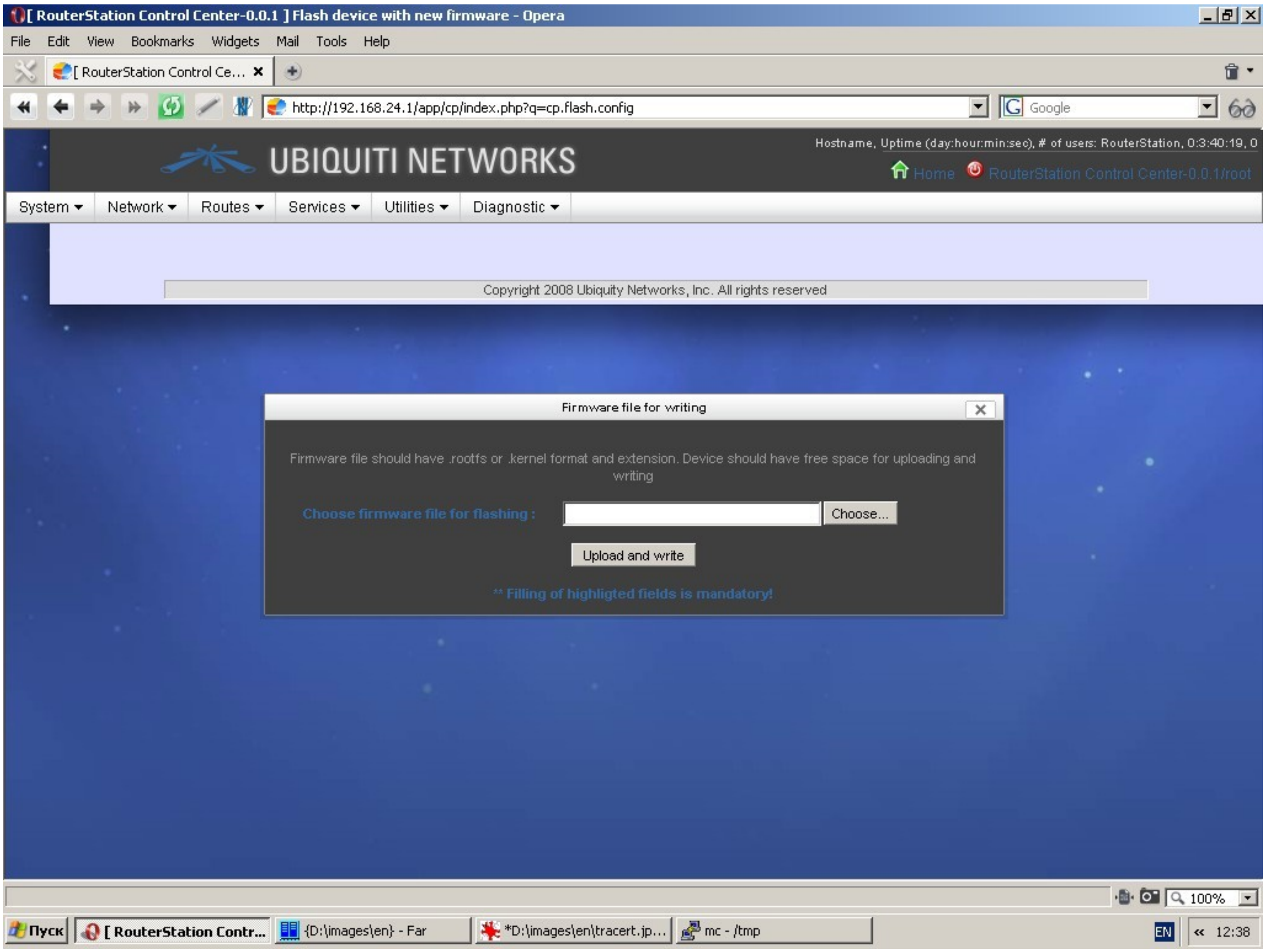
Trace route to host

Please, input host name or address to trace: 192.168.24.31

Go!

Flash firmware

The device has two partitions: for kernel and for root filesystem. You can upload a new image for one partition at a time and flash it. Thus, you can flash new firmware for the whole system in two steps only. To do this, you should have specially created images for kernel and *rootfs* partitions. If you are not sure what you are doing, please don’t ever use this function.



[RouterStation Control Center-0.0.1] Flash device with new firmware - Opera
File
Edit
View
Bookmarks
Widgets
Mail
Tools
Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=cp.flash.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:40:19, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
Пуск
[RouterStation Contr...
{D:\images\en} - Far
*D:\images\en\tracert.jp...
mc - /tmp
EN
12:38
100%

Firmware file for writing

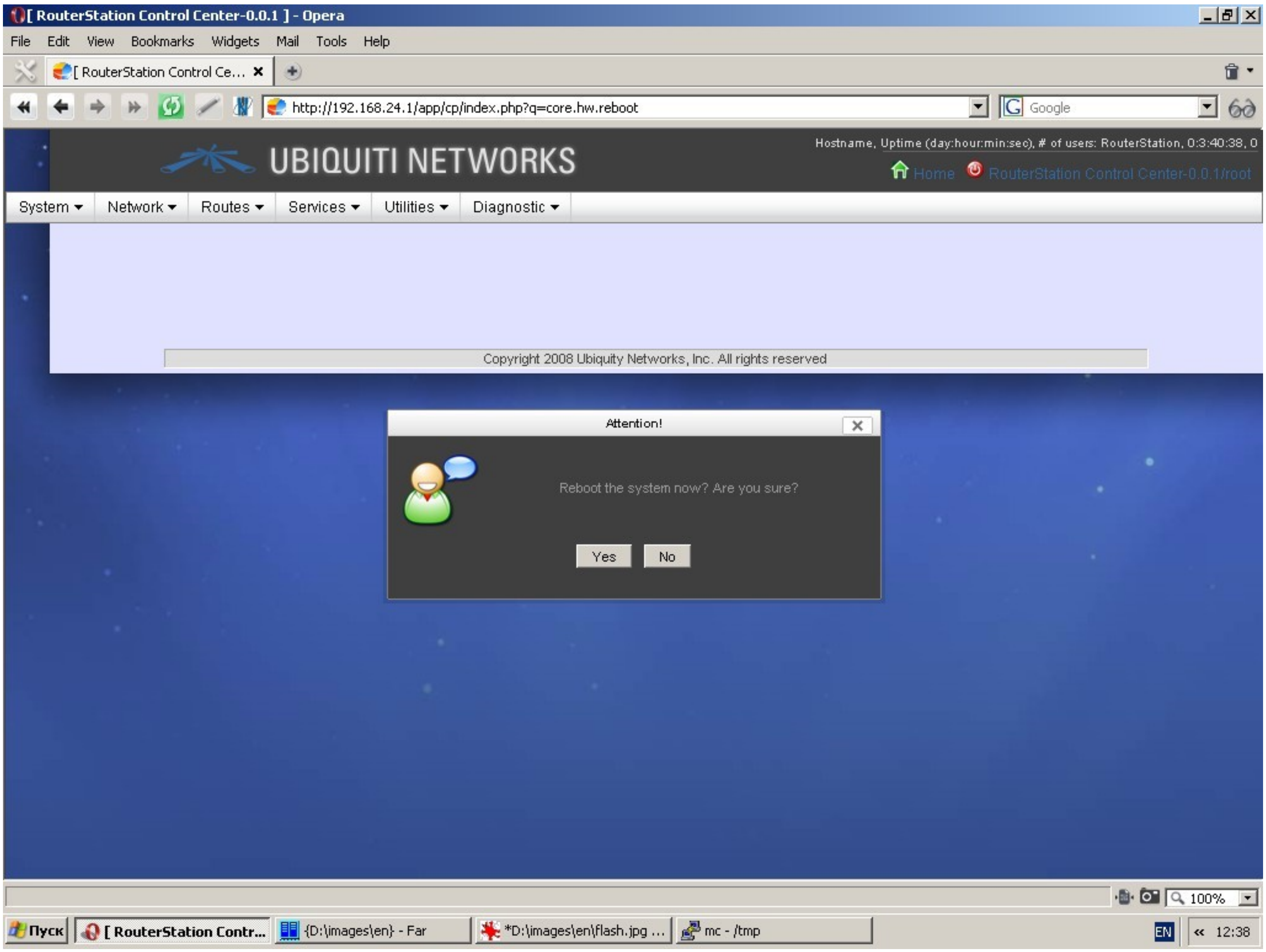
Firmware file should have .rootfs or .kernel format and extension. Device should have free space for uploading and writing

Choose firmware file for flashing :

Choose...
Upload and write

** Filling of highligted fields is mandatory!

Reboot system



[RouterStation Control Center-0.0.1] - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php?q=core.hw.reboot
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:40:38, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
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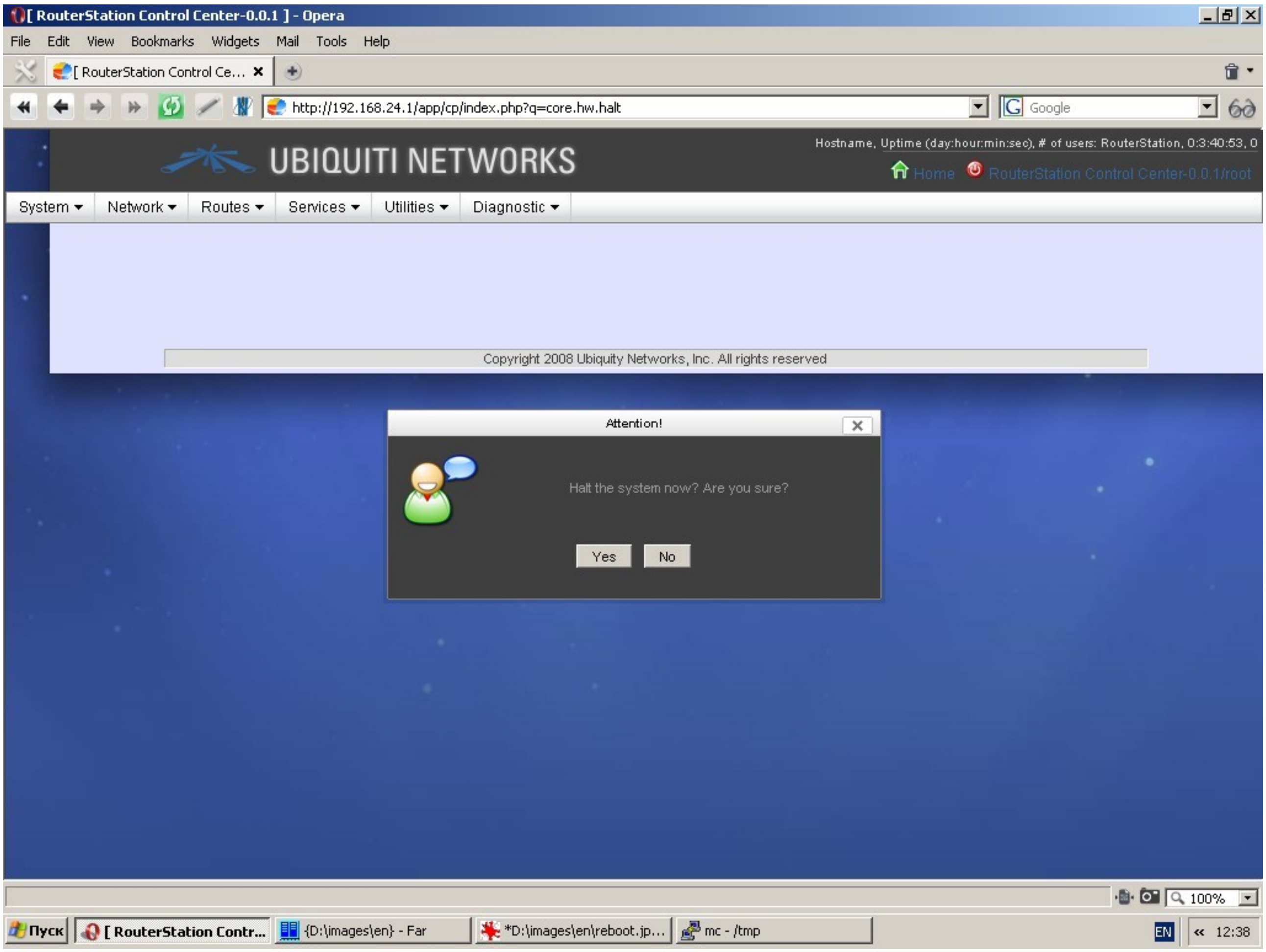
Attention!
Yes
No

Reboot the system now? Are you sure?

This function reboots the system. Please wait 2 – 3 minutes before you can relogin.

Halt system



Attention!

Halt the system now? Are you sure?

[RouterStation Control Center-0.0.1] - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php?q=core.hw.halt
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:40:53, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
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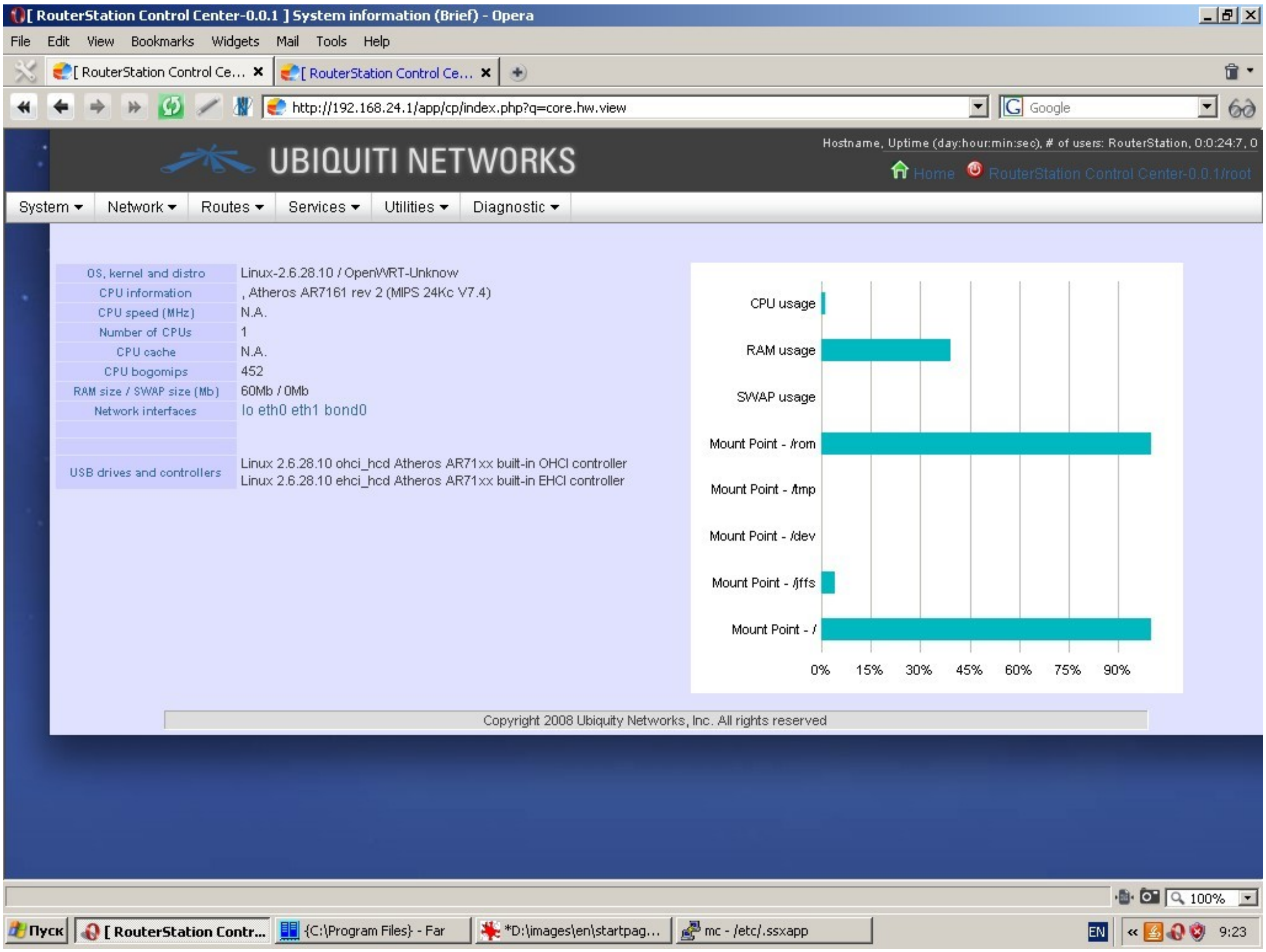
Yes
No
Пуск
12:38

This function halts the system. Once you halted the system, it can be booted only after you switched the power off and on again.

Diagnostics

Brief info

This function displays basic system and device information: OS, kernel and distributive, CPU type and parameters, RAM size, information about drives and controllers, etc. You can also see a system load chart (CPU usage, RAM usage, etc.).

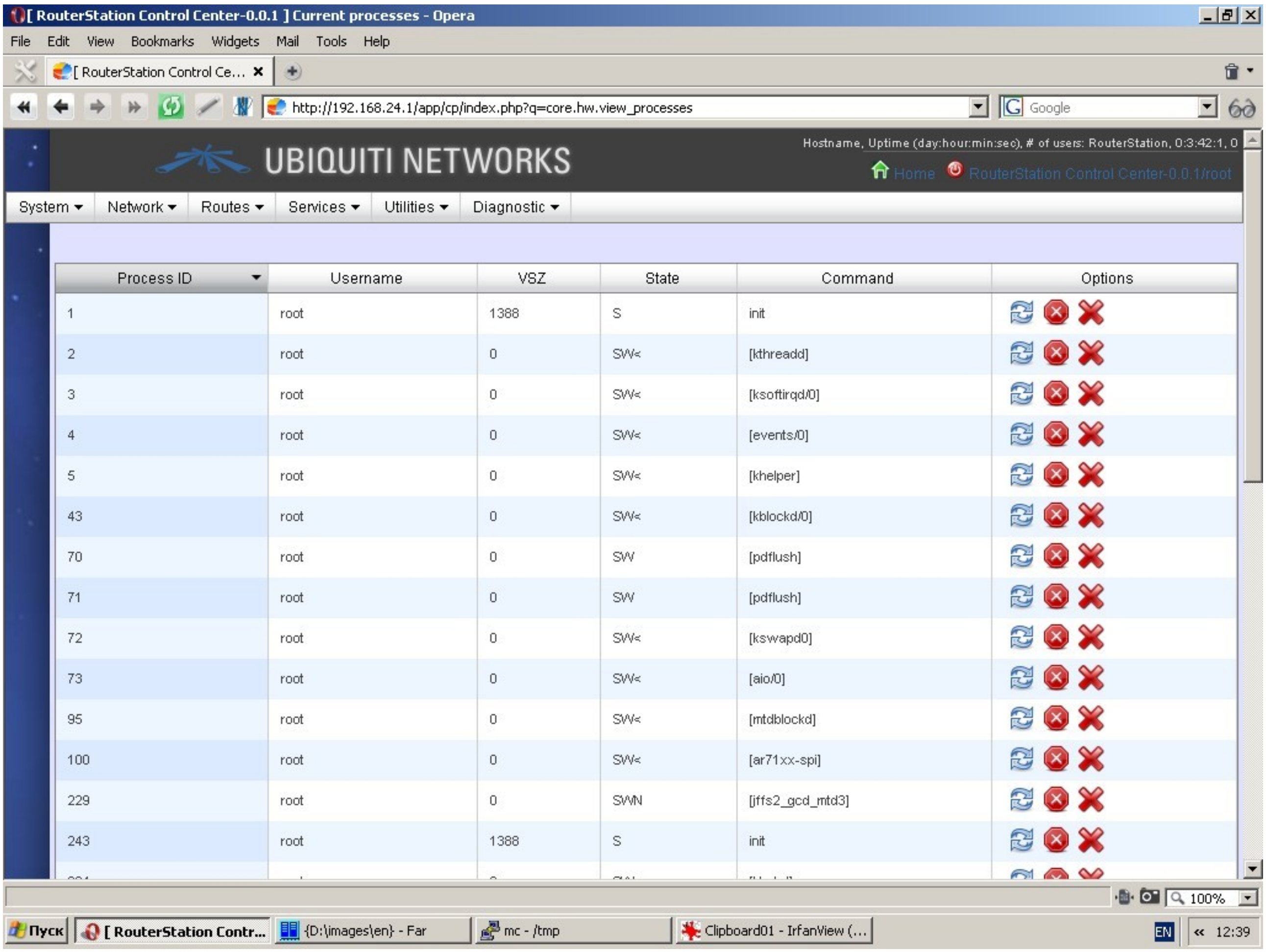


[RouterStation Control Center-0.0.1] System information (Brief) - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce…
[RouterStation Control Ce…
http://192.168.24.1/app/cp/index.php?q=core.hw.view
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:0:24:7, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
CPU usage
RAM usage
SWAP usage
Mount Point - /rom
Mount Point - /tmp
Mount Point - /dev
Mount Point - /jffs
Mount Point - /
0%
15%
30%
45%
60%
75%
90%
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{C:\Program Files} - Far
*D:\images\en\startpag...
mc - /etc/.ssxapp
EN
9:23

OS, kernel and distro	Linux-2.6.28.10 / OpenWRT-Unknow
CPU information	, Atheros AR7161 rev 2 (MIPS 24Kc V7.4)
CPU speed (MHz)	N.A.
Number of CPUs	1
CPU cache	N.A.
CPU bogomips	452
RAM size / SWAP size (Mb)	60Mb / 0Mb
Network interfaces	lo eth0 eth1 bond0
USB drives and controllers	Linux 2.6.28.10 ohci_hcd Atheros AR71xx built-in OHCI controller Linux 2.6.28.10 ehci_hcd Atheros AR71xx built-in EHCI controller

Processes

This function displays running processes in list-form (ps ax). You can send one of the following three signals at a time to any listed process: HUP, TERM and KILL. Please use these signals with utmost care.


[RouterStation Control Center-0.0.1] Current processes - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
Google
UBIQUITI NETWORKS
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
mc - /tmp
Clipboard01 - IrfanView (...
EN
12:39

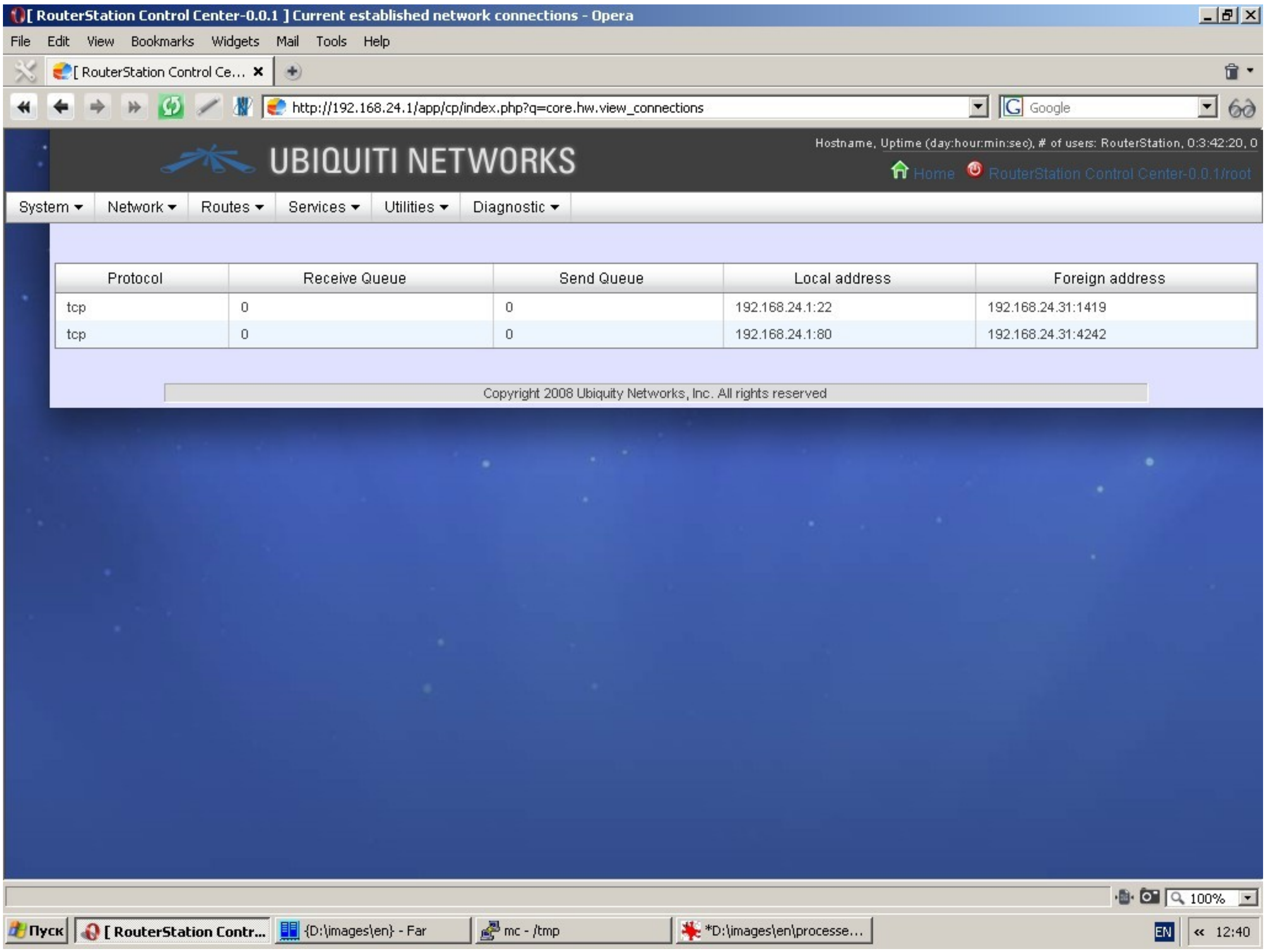
http://192.168.24.1/app/cp/index.php?q=core.hw.view_processes

Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:42:1, 0

Process ID	Username	VSZ	State	Command	Options
1	root	1388	S	init	⟳ ⊗ ✗
2	root	0	SW<	[kthreadd]	⟳ ⊗ ✗
3	root	0	SW<	[ksoftirqd/0]	⟳ ⊗ ✗
4	root	0	SW<	[events/0]	⟳ ⊗ ✗
5	root	0	SW<	[khelper]	⟳ ⊗ ✗
43	root	0	SW<	[kblockd/0]	⟳ ⊗ ✗
70	root	0	SW	[pdflush]	⟳ ⊗ ✗
71	root	0	SW	[pdflush]	⟳ ⊗ ✗
72	root	0	SW<	[kswapd0]	⟳ ⊗ ✗
73	root	0	SW<	[aio/0]	⟳ ⊗ ✗
95	root	0	SW<	[mtdblockd]	⟳ ⊗ ✗
100	root	0	SW<	[ar71xx-spi]	⟳ ⊗ ✗
229	root	0	SWN	[jffs2_gcd_mtd3]	⟳ ⊗ ✗
243	root	1388	S	init	⟳ ⊗ ✗

Connections

This function displays a list of established connections (netstat -na). The output is refreshed automatically.


[RouterStation Control Center-0.0.1] Current established network connections - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php?q=core.hw.view_connections
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:42:20, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic

Protocol	Receive Queue	Send Queue	Local address	Foreign address
tcp	0	0	192.168.24.1:22	192.168.24.31:1419
tcp	0	0	192.168.24.1:80	192.168.24.31:4242

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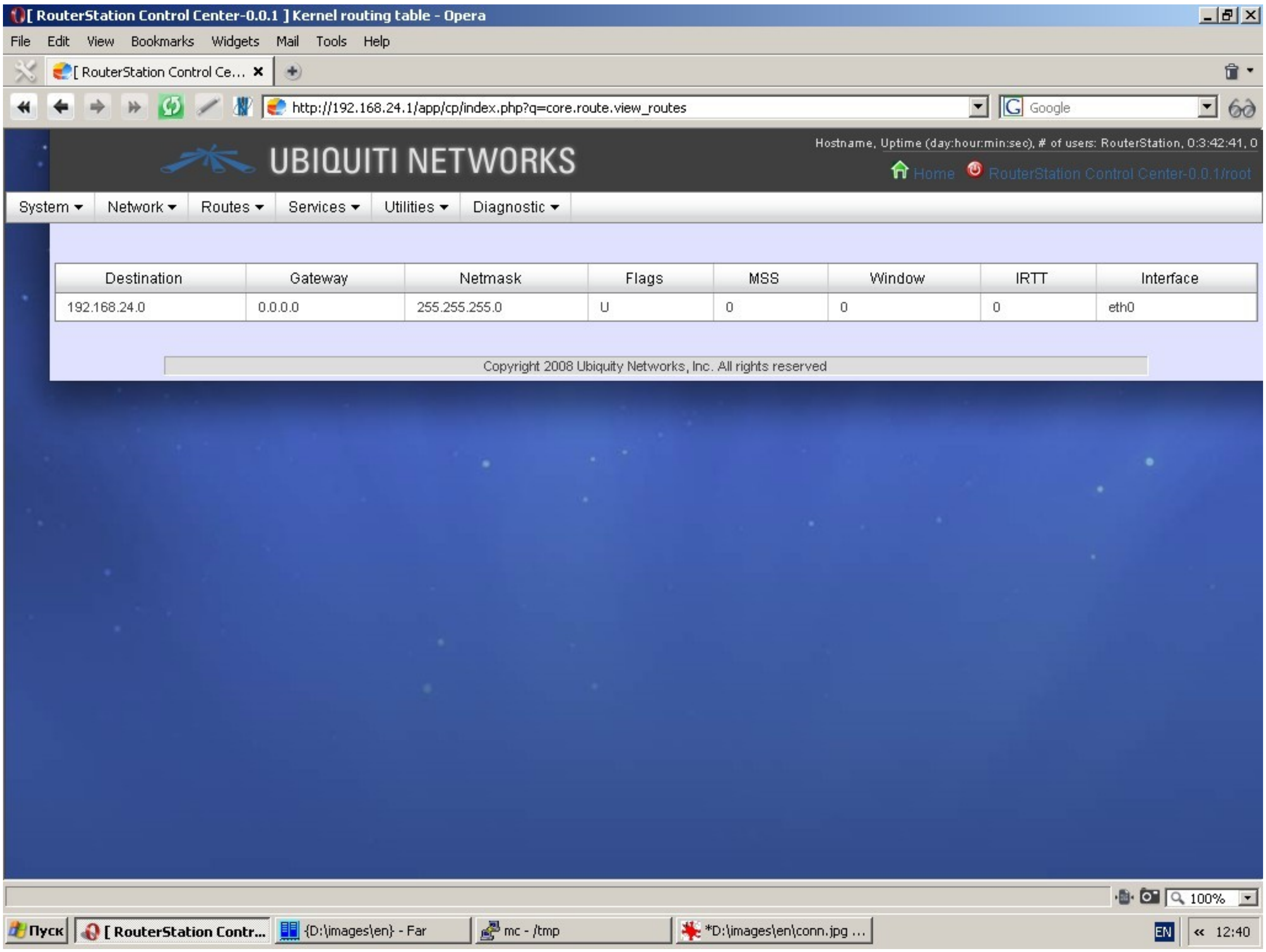
Routes

This function displays kernel route table in list-form (netstat -nr). The output is refreshed automatically.


[RouterStation Control Center-0.0.1] Kernel routing table - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.route.view_routes
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:42:41, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
mc - /tmp
*D:\images\en\conn.jpg ...
EN
12:40

Destination	Gateway	Netmask	Flags	MSS	Window	IRTT	Interface
192.168.24.0	0.0.0.0	255.255.255.0	U	0	0	0	eth0

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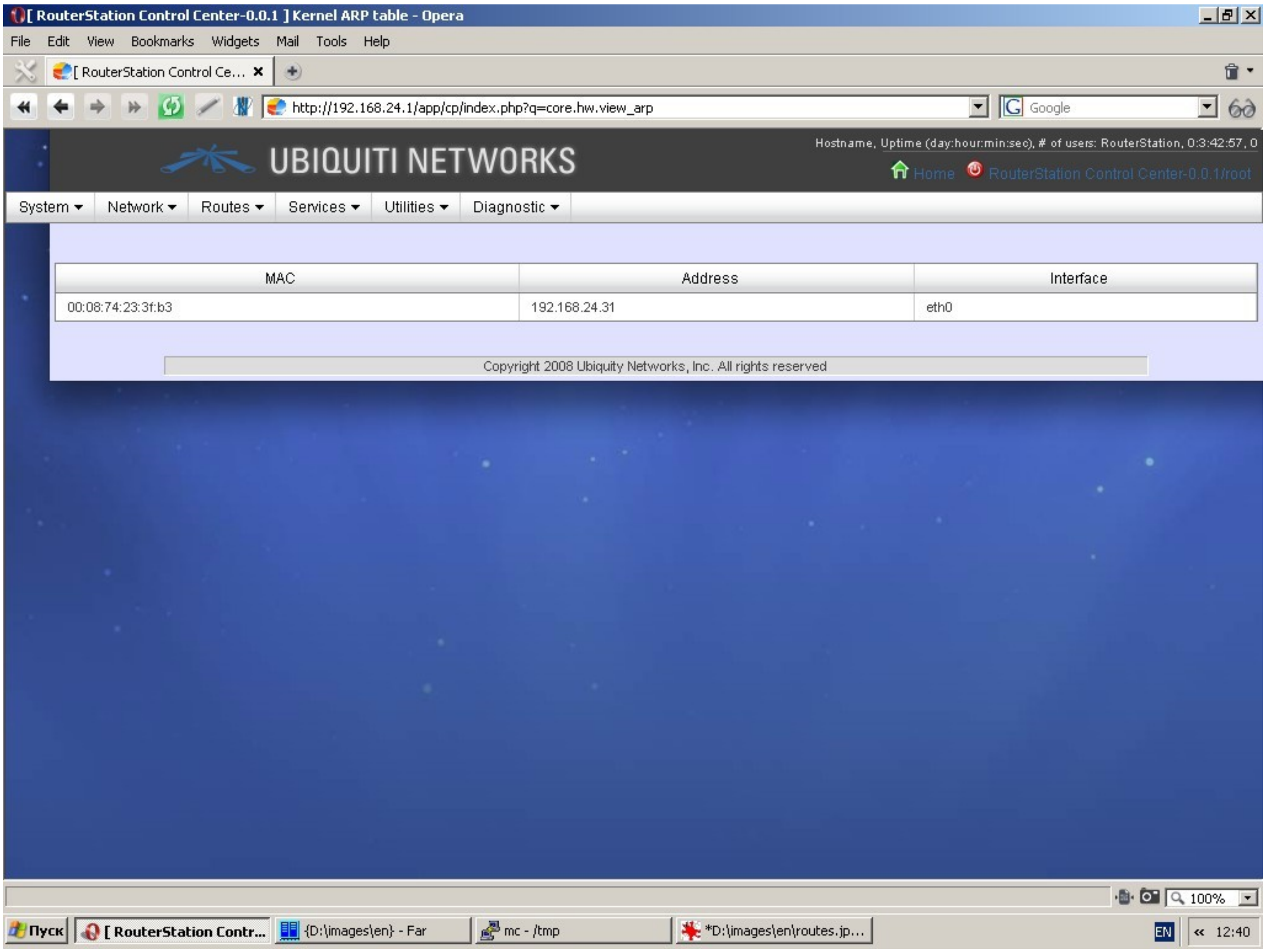
ARP table

This function displays kernel ARP table in list-form (successfully resolved pairs of MAC-address and IP-address). The output is refreshed automatically.


[RouterStation Control Center-0.0.1] Kernel ARP table - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.hw.view_arp
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:42:57, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
mc - /tmp
*D:\images\en\routes.jp...
EN
12:40

MAC	Address	Interface
00:08:74:23:3f:b3	192.168.24.31	eth0

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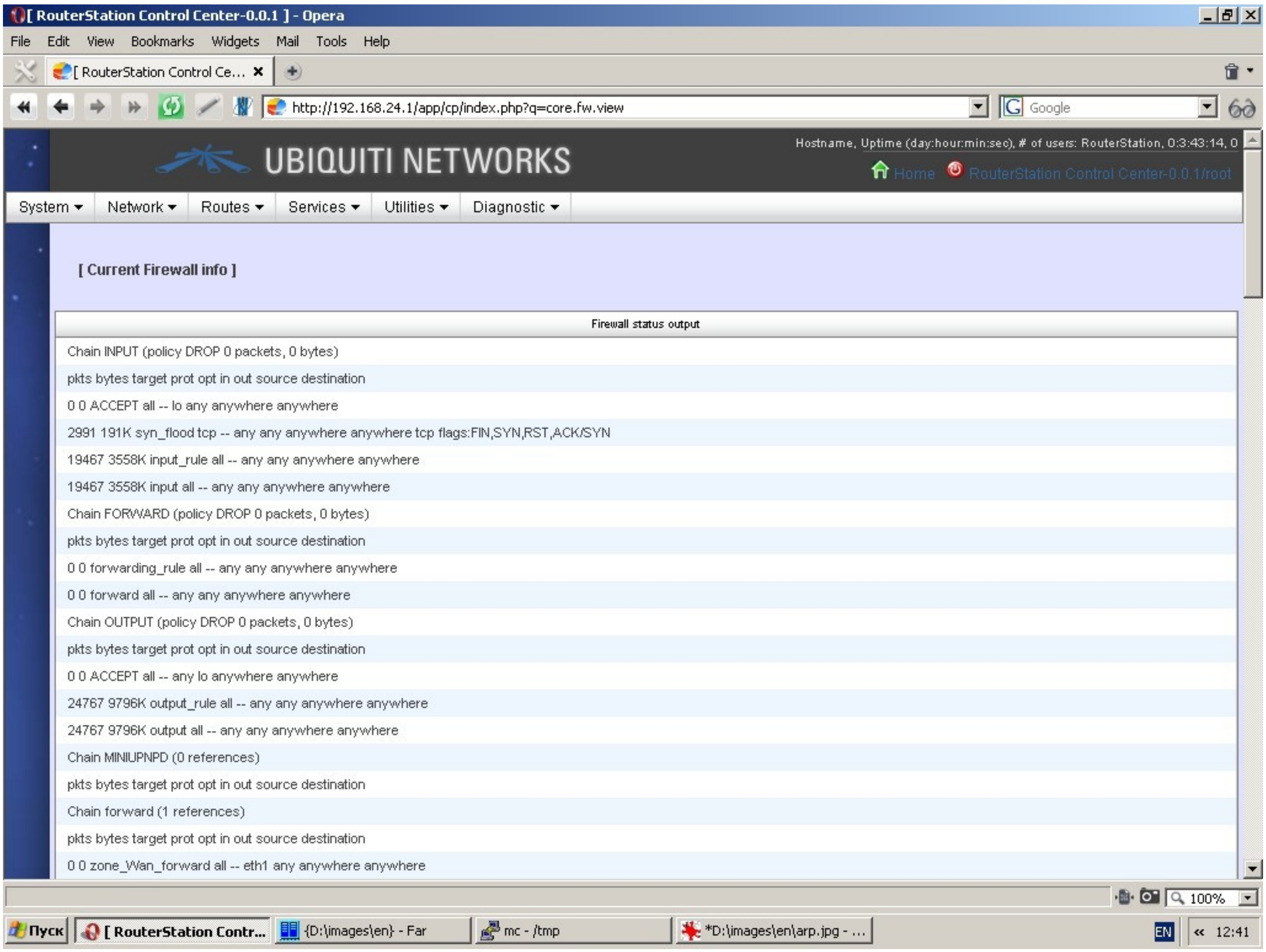
Firewall tools

This function displays current rules for all chains (iptables -vL).


[RouterStation Control Center-0.0.1] - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.fw.view
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:43:14, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
mc - /tmp
*D:\images\en\arp.jpg - ...
EN
12:41

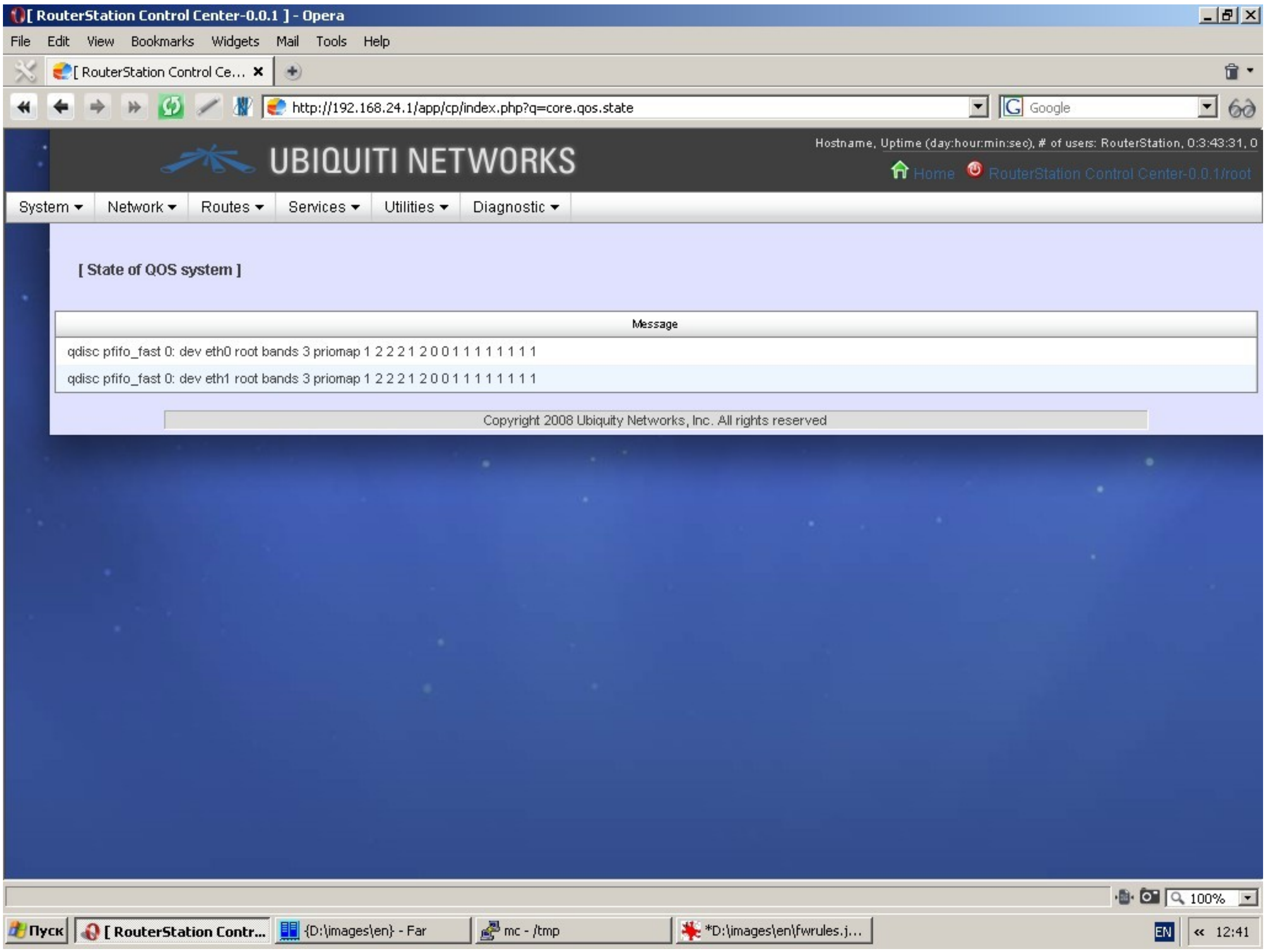
[Current Firewall info]

Firewall status output

```
Chain INPUT (policy DROP 0 packets, 0 bytes)
pkts bytes target prot opt in out source destination
0 0 ACCEPT all -- lo any anywhere anywhere
2991 191K syn_flood tcp -- any any anywhere anywhere tcp flags:FIN,SYN,RST,ACK/SYN
19467 3558K input_rule all -- any any anywhere anywhere
19467 3558K input all -- any any anywhere anywhere
Chain FORWARD (policy DROP 0 packets, 0 bytes)
pkts bytes target prot opt in out source destination
0 0 forwarding_rule all -- any any anywhere anywhere
0 0 forward all -- any any anywhere anywhere
Chain OUTPUT (policy DROP 0 packets, 0 bytes)
pkts bytes target prot opt in out source destination
0 0 ACCEPT all -- any lo anywhere anywhere
24767 9796K output_rule all -- any any anywhere anywhere
24767 9796K output all -- any any anywhere anywhere
Chain MINIUPNPD (0 references)
pkts bytes target prot opt in out source destination
Chain forward (1 references)
pkts bytes target prot opt in out source destination
0 0 zone_Wan_forward all -- eth1 any anywhere anywhere
```

QOS state

This function displays current traffic management rules.


[RouterStation Control Center-0.0.1] - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.qos.state
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:43:31, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
mc - /tmp
*D:\images\en\fwrules.j...
EN
12:41

[State of QOS system]

Message
qdisc pfifo_fast 0: dev eth0 root bands 3 priomap 1 2 2 2 1 2 0 0 1 1 1 1 1 1 1 1
qdisc pfifo_fast 0: dev eth1 root bands 3 priomap 1 2 2 2 1 2 0 0 1 1 1 1 1 1 1 1

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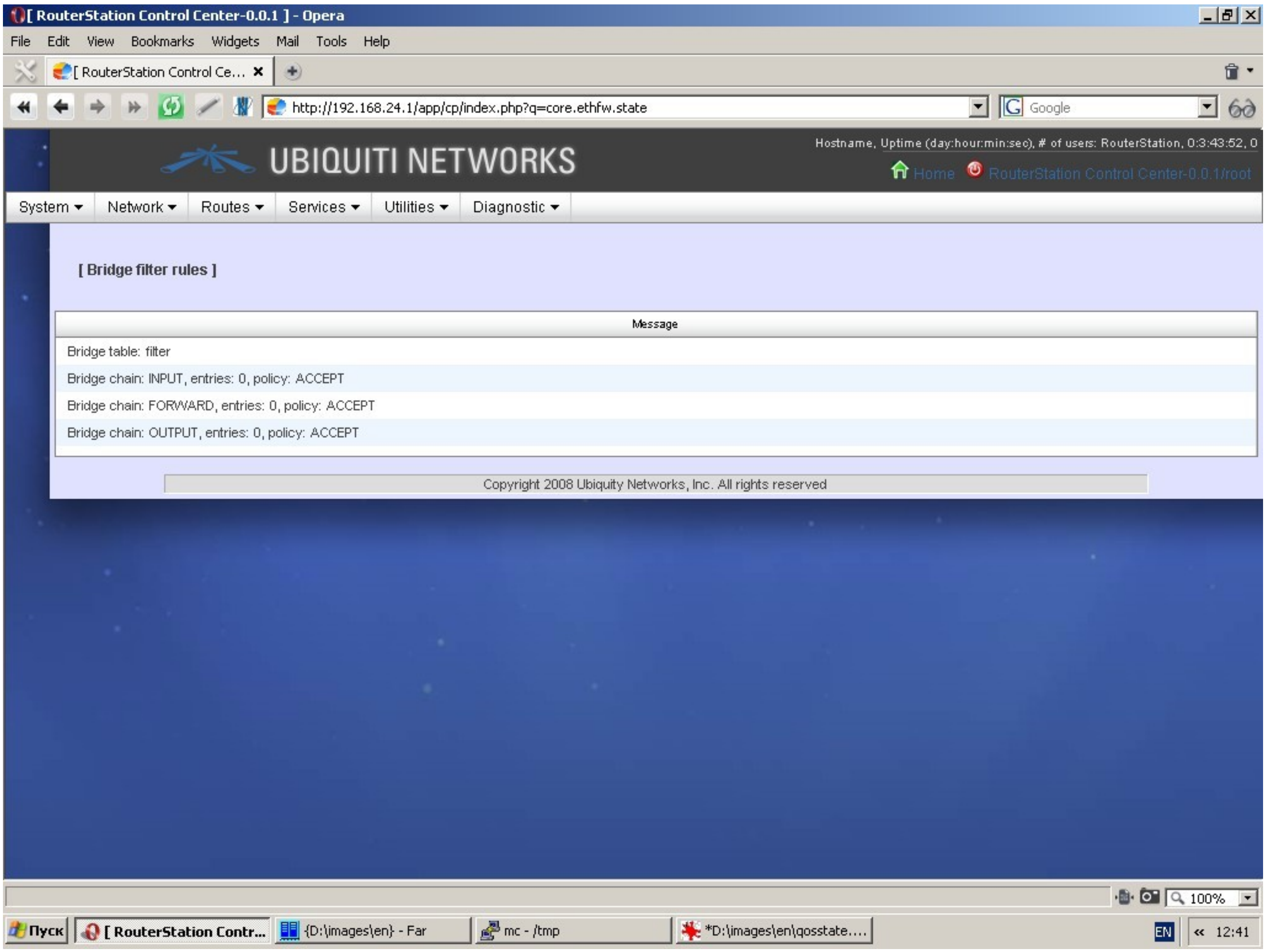
Bridge filtering state

This function displays current bridge filtering state (ebtables -vL)

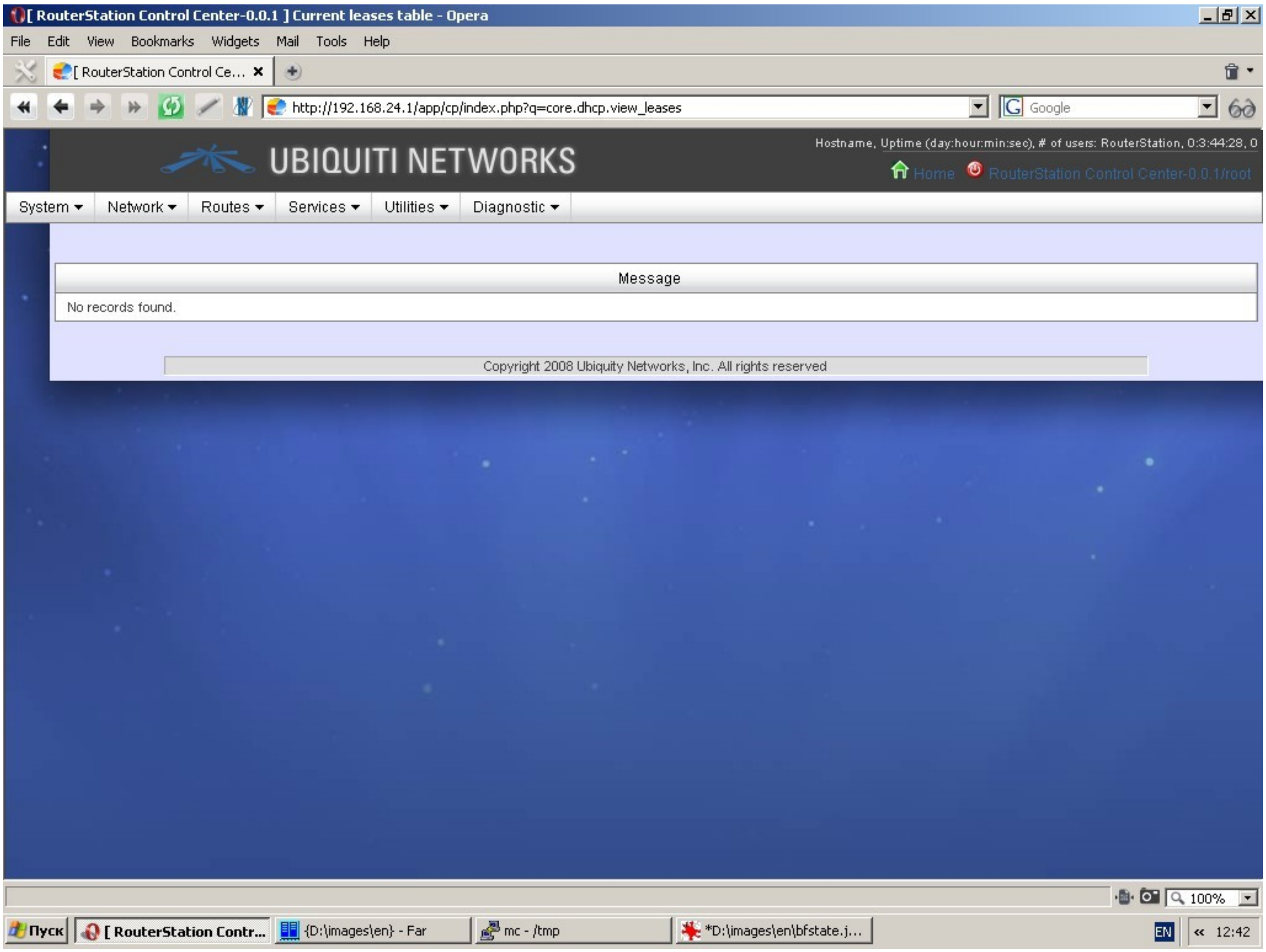

[RouterStation Control Center-0.0.1] - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php?q=core.ethfw.state
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:43:52, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
mc - /tmp
*D:\images\en\qosstate....
EN
12:41

[Bridge filter rules]

Message
Bridge table: filter
Bridge chain: INPUT, entries: 0, policy: ACCEPT
Bridge chain: FORWARD, entries: 0, policy: ACCEPT
Bridge chain: OUTPUT, entries: 0, policy: ACCEPT

DHCP leases

This function displays IP-addresses and their MAC-addresses leased through DHCP server.



[RouterStation Control Center-0.0.1] Current leases table - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.dhcp.view_leases
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:44:28, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
mc - /tmp
*D:\images\en\bfstate.j...
EN
12:42

Message
No records found.

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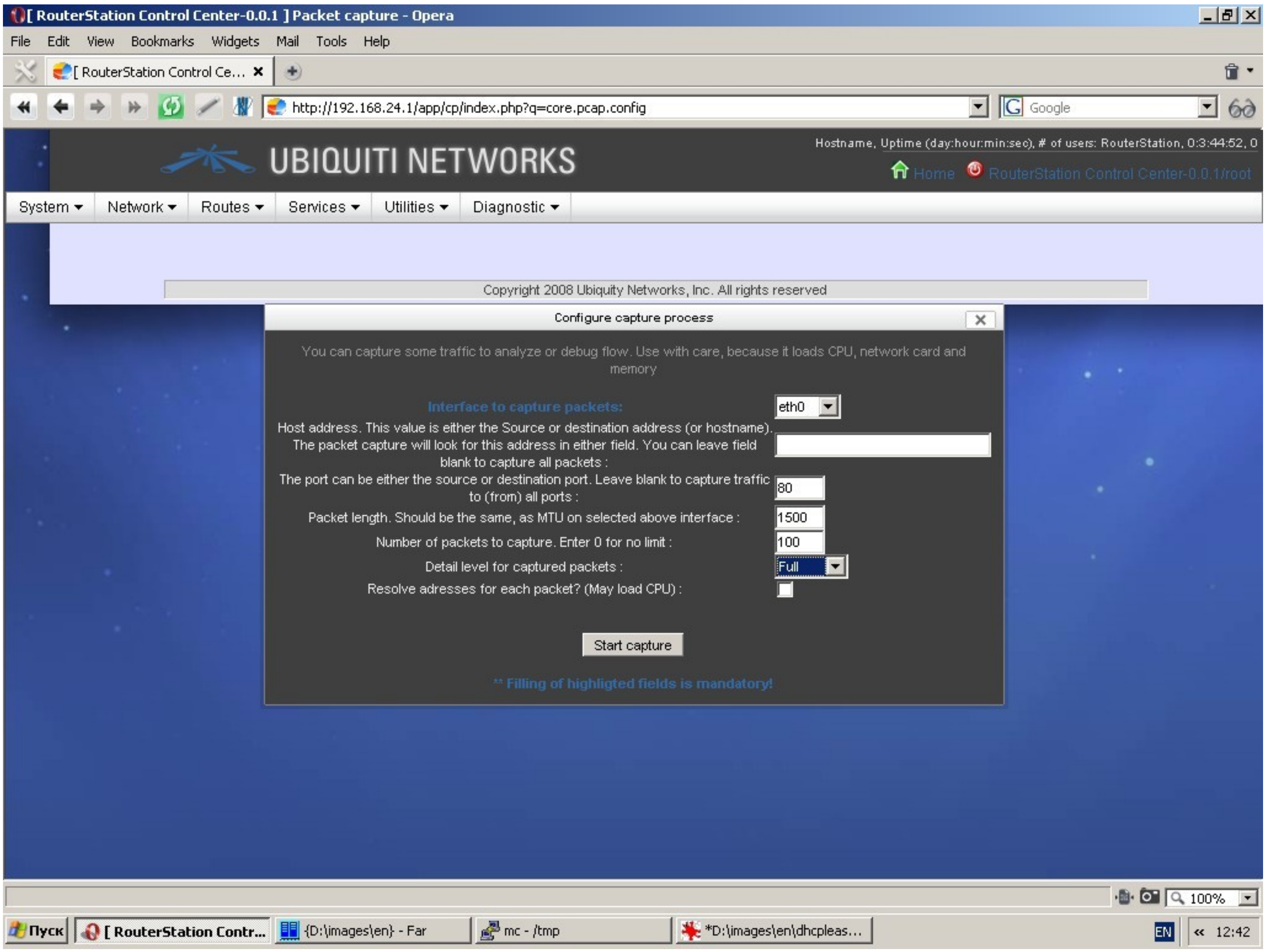
Packet capture

You can capture some traffic to analyze or debug flow. Use this function with care, because it loads CPU, network card and memory.


[RouterStation Control Center-0.0.1] Packet capture - Opera
File Edit View Bookmarks Widgets Mail Tools Help
http://192.168.24.1/app/cp/index.php?q=core.pcap.config
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:44:52, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Copyright 2008 Ubiquity Networks, Inc. All rights reserved
Configure capture process
Start capture
100%
Пуск
12:42

You can capture some traffic to analyze or debug flow. Use with care, because it loads CPU, network card and memory

Interface to capture packets: eth0

Host address. This value is either the Source or destination address (or hostname). The packet capture will look for this address in either field. You can leave field blank to capture all packets :

The port can be either the source or destination port. Leave blank to capture traffic to (from) all ports : 80

Packet length. Should be the same, as MTU on selected above interface : 1500

Number of packets to capture. Enter 0 for no limit : 100

Detail level for captured packets : Full

Resolve adresses for each packet? (May load CPU) : □

** Filling of highligted fields is mandatory!

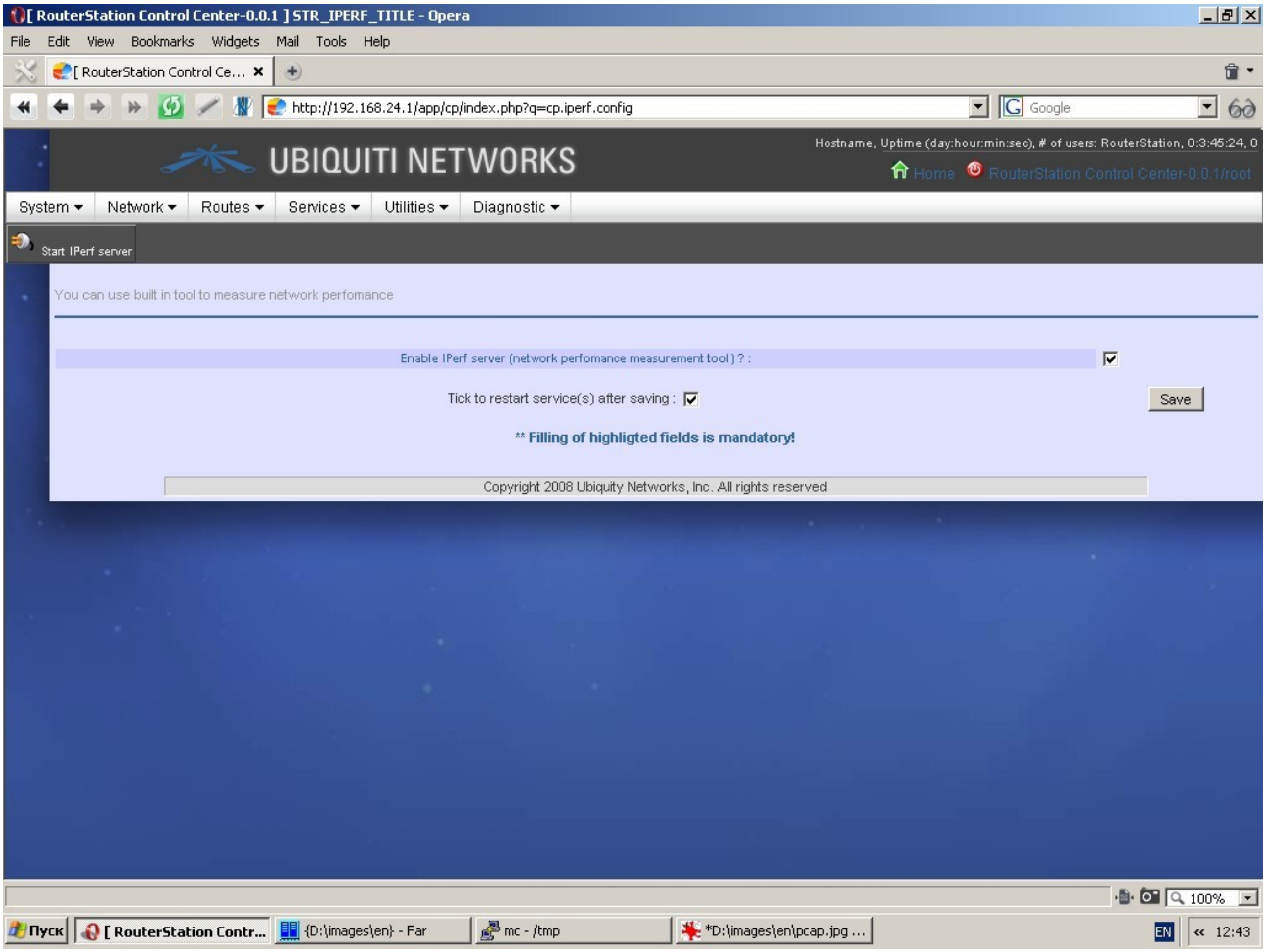
In fact, this function uses *tcpdump* software to capture and analyze traffic.
To set up this function you must specify an interface to capture packets. As an option, you can also specify a fully qualified domain name or an IP-address. In this case the system will capture only the packets, in which source or destination matches the entered IP-address (in terms of IP v4 protocol). In the event an IP-address is not specified, the system will capture all traffic flowing through the given interface and matching other values (if any).
You can also specify port number as an extended criterion for traffic capture. In this case the system will capture packets, in which source port or destination port mach the specified value.
Make sure the value "Packet length" matches MTU size for a selected interface.
Specify the number of packets to capture. "0" is to be used for an unlimited number. Capture process can be halted only by clicking the "Stop capture" button.
You should detail level for captured packets other than "Normal" used by default and, as an option, resolve IP-addresses for each packet. Remember that this option is operational only if a fully qualified domain name is specified in the field "Host address". Using this option may extremely load the CPU.

General recommendations for traffic capture system:
Try to type in exact IP-addresses and ports. Don't use the option of resolving addresses for each packet. Specify the number of packets to capture.

When the capture process is halted, you can download the file with captured and processed traffic to a local PC.

Network performance measurement server

The system uses *Iperf* software in server mode. You can measure network performance by launching *Iperf* in client mode from a connected PC.



[RouterStation Control Center-0.0.1] STR_IPERF_TITLE - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=cp.iperf.config
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:45:24, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
Start IPerf server
Save
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
mc - /tmp
*D:\images\en\pcap.jpg ...
EN
12:43

You can use built in tool to measure network perfomance

Enable IPerf server (network perfomance measurement tool) ? : ☑

Tick to restart service(s) after saving : ☑

** Filling of highligted fields is mandatory!

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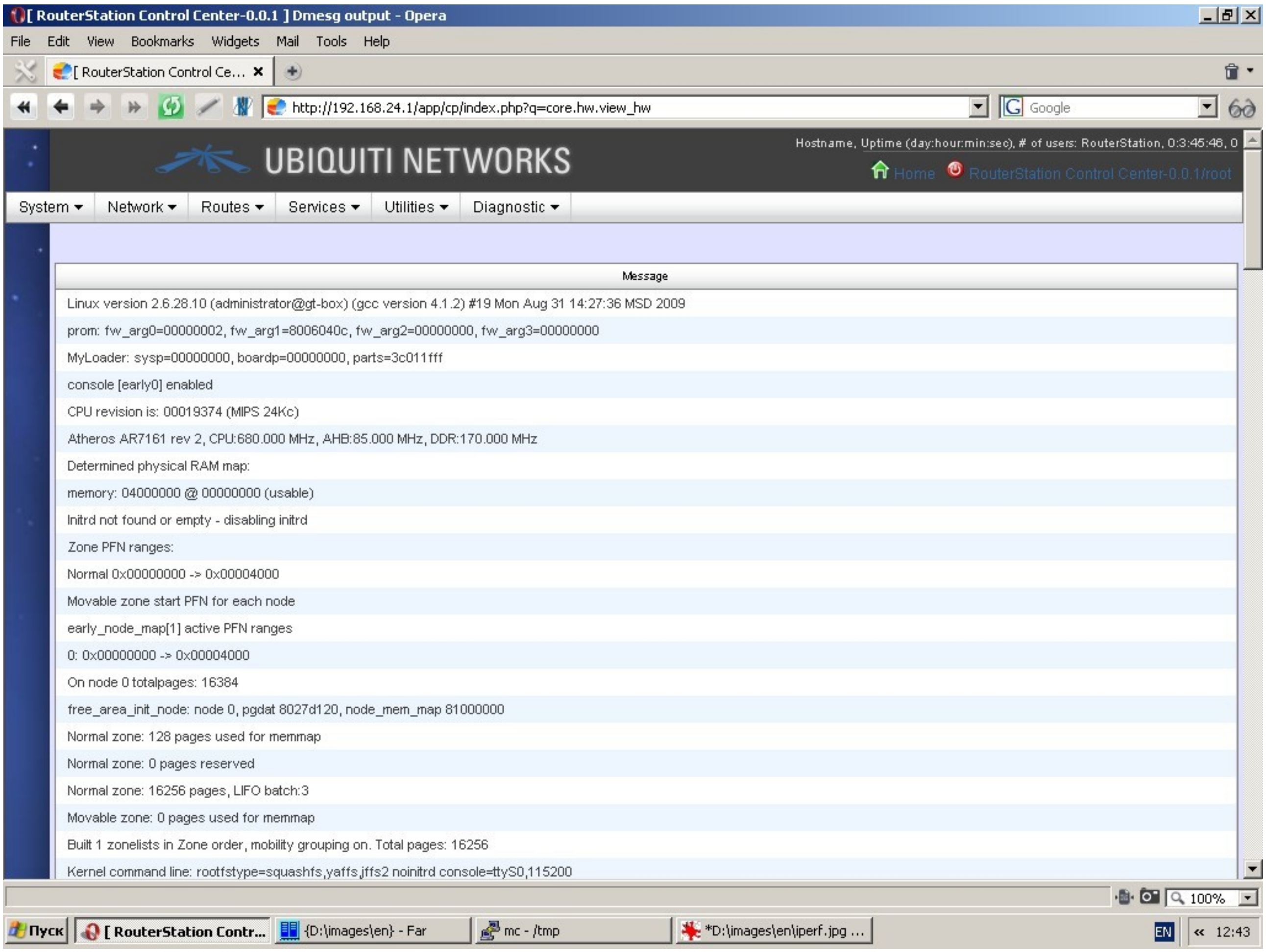
System logs

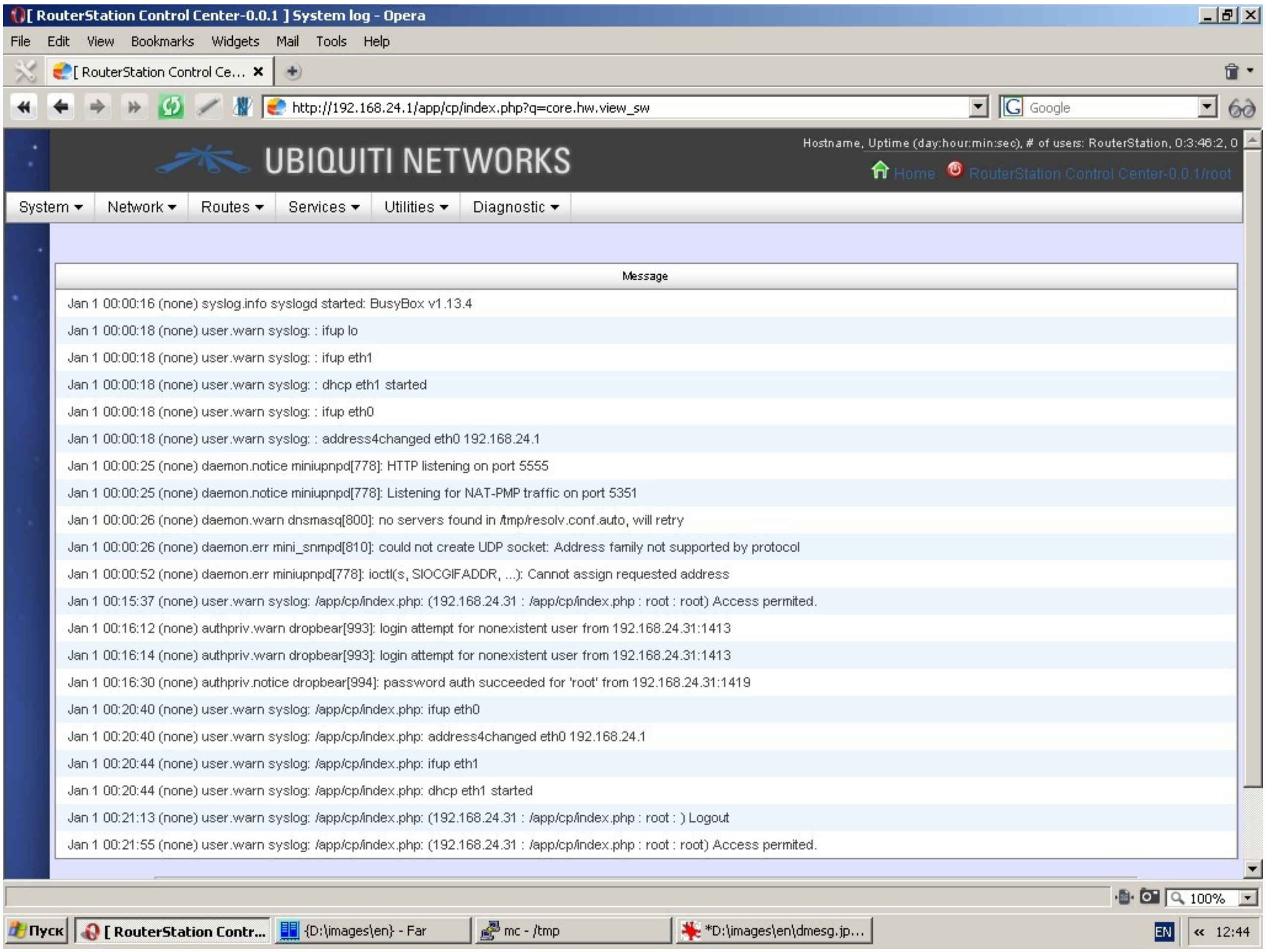
Hardware log displays *dmesg* output.


[RouterStation Control Center-0.0.1] Dmesg output - Opera
File Edit View Bookmarks Widgets Mail Tools Help
[RouterStation Control Ce...
http://192.168.24.1/app/cp/index.php?q=core.hw.view_hw
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:45:46, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
mc - /tmp
*D:\images\en\iperf.jpg ...
EN
12:43

Message

```
Linux version 2.6.28.10 (administrator@gt-box) (gcc version 4.1.2) #19 Mon Aug 31 14:27:36 MSD 2009
prom: fw_arg0=00000002, fw_arg1=8006040c, fw_arg2=00000000, fw_arg3=00000000
MyLoader: sysp=00000000, boardp=00000000, parts=3c011fff
console [early0] enabled
CPU revision is: 00019374 (MIPS 24Kc)
Atheros AR7161 rev 2, CPU:680.000 MHz, AHB:85.000 MHz, DDR:170.000 MHz
Determined physical RAM map:
memory: 04000000 @ 00000000 (usable)
Initrd not found or empty - disabling initrd
Zone PFN ranges:
Normal 0x00000000 -> 0x00004000
Movable zone start PFN for each node
early_node_map[1] active PFN ranges
0: 0x00000000 -> 0x00004000
On node 0 totalpages: 16384
free_area_init_node: node 0, pgdat 8027d120, node_mem_map 81000000
Normal zone: 128 pages used for memmap
Normal zone: 0 pages reserved
Normal zone: 16256 pages, LIFO batch:3
Movable zone: 0 pages used for memmap
Built 1 zonelists in Zone order, mobility grouping on. Total pages: 16256
Kernel command line: rootfstype=squashfs,yaffs,jffs2 noinitrd console=ttyS0,115200
```

System log shows the contents of the log-file */var/log/messages*.



[RouterStation Control Center-0.0.1] System log - Opera
File
Edit
View
Bookmarks
Widgets
Mail
Tools
Help
[RouterStation Control Ce…
http://192.168.24.1/app/cp/index.php?q=core.hw.view_sw
Google
UBIQUITI NETWORKS
Hostname, Uptime (day:hour:min:sec), # of users: RouterStation, 0:3:46:2, 0
Home
RouterStation Control Center-0.0.1/root
System
Network
Routes
Services
Utilities
Diagnostic
100%
Пуск
[RouterStation Contr...
{D:\images\en} - Far
mc - /tmp
*D:\images\en\dmesg.jp...
EN
12:44

Message

```
Jan 1 00:00:16 (none) syslog.info syslogd started: BusyBox v1.13.4
Jan 1 00:00:18 (none) user.warn syslog: : ifup lo
Jan 1 00:00:18 (none) user.warn syslog: : ifup eth1
Jan 1 00:00:18 (none) user.warn syslog: : dhcp eth1 started
Jan 1 00:00:18 (none) user.warn syslog: : ifup eth0
Jan 1 00:00:18 (none) user.warn syslog: : address4changed eth0 192.168.24.1
Jan 1 00:00:25 (none) daemon.notice miniupnpd[778]: HTTP listening on port 5555
Jan 1 00:00:25 (none) daemon.notice miniupnpd[778]: Listening for NAT-PMP traffic on port 5351
Jan 1 00:00:26 (none) daemon.warn dnsmasq[800]: no servers found in /tmp/resolv.conf.auto, will retry
Jan 1 00:00:26 (none) daemon.err mini_snmpd[810]: could not create UDP socket: Address family not supported by protocol
Jan 1 00:00:52 (none) daemon.err miniupnpd[778]: ioctl(s, SIOCGIFADDR, ...): Cannot assign requested address
Jan 1 00:15:37 (none) user.warn syslog: /app/cp/index.php: (192.168.24.31 : /app/cp/index.php : root : root) Access permited.
Jan 1 00:16:12 (none) authpriv.warn dropbear[993]: login attempt for nonexistent user from 192.168.24.31:1413
Jan 1 00:16:14 (none) authpriv.warn dropbear[993]: login attempt for nonexistent user from 192.168.24.31:1413
Jan 1 00:16:30 (none) authpriv.notice dropbear[994]: password auth succeeded for 'root' from 192.168.24.31:1419
Jan 1 00:20:40 (none) user.warn syslog: /app/cp/index.php: ifup eth0
Jan 1 00:20:40 (none) user.warn syslog: /app/cp/index.php: address4changed eth0 192.168.24.1
Jan 1 00:20:44 (none) user.warn syslog: /app/cp/index.php: ifup eth1
Jan 1 00:20:44 (none) user.warn syslog: /app/cp/index.php: dhcp eth1 started
Jan 1 00:21:13 (none) user.warn syslog: /app/cp/index.php: (192.168.24.31 : /app/cp/index.php : root : ) Logout
Jan 1 00:21:55 (none) user.warn syslog: /app/cp/index.php: (192.168.24.31 : /app/cp/index.php : root : root) Access permited.
```

How to build OpenWRT based firmware with NETSHe for Ubiquity RouterStation

Note: This document describes only the firmware assembly steps, which differ from standard firmware assembly procedure for OpenWRT Kamikaze.

For standard firmware image assembly procedures please refer to Ubiquity web sites (http://wiki.ubnt.com/wiki/index.php/RouterStation_OpenWRT_Setup_Guide http://www.ubnt.com/forum/showthread.php?p=54837) and OpenWRT web site (http://wiki.openwrt.org/doc/howto/buildroot https://dev.openwrt.org/wiki/GetSource).
We proceed from the assumption, that you are aware of the manner and procedure of firmware assembly based on OpenWRT tools.
Further all references to filesystem will be made with regards to Kamikaze root directory.

1. Create directory for OpenWRT Kamikaze and change current directory (e. g. *cd ~; mkdir kamikaze; cd kamikaze*)
2. Download OpenWRT source code (*svn co svn://svn.openwrt.org/openwrt/trunk*)
3. Download source code of OpenWRT packages (*svn co svn://svn.openwrt.org/packages*)
4. Update source tree (svn up)
5. Download archives from http://stasoft.net/files/netshe-openwrt-build.tar.bz2 and http://stasoft.net/files/php5-openwrt-build.tar.bz2
6. Besides, you can also download a configuration file for image assembly http://stasoft.net/files/ubnt-rs-openwrt-config. This file was created for a development version of OpenWRT and represents a slice at a given date. You may have troubles with current or future slices of development version. Use this file only as a sample.
7. Ignore this step if you have not completed step 6. Otherwise, copy downloaded file to kamikaze root under the name *.config* (e. g. *cp ~/ubnt-rs-openwrt-config ~/kamikaze/trunk/.config*)
8. Remove php5 directory in packages/lang directory (e. g. *rm -rf ~/kamikaze/packages/php5*)
9. Unpack archive *php5-openwrt-build.tar.bz2* to directory *packages/lang* (e. g. *cd ~/kamikaze/packages/lang; tar -xjf ~/php5-openwrt-build.tar.bz2*).
10. Make sure that directory *packages/lang/php5* exists.
11. Unpack archive *netshe-openwrt-build.tar.bz2* to directory *packages/admin* (e. g. *cd ~/kamikaze/packages/admin; tar -xjf ~/netshe-openwrt-build.tar.bz2*).
12. Make sure that directory *packages/admin/netshe* exists.
13. Change directory to *kamikaze* (e. g. *cd ~/kamikaze*)
14. Create a symbolic link from *trunk/package* to directory *packages* (e. g. *ln -sf packages ~/kamikaze/trunk/package/packages*)
15. Change directory to *trunk* (e. g. *cd ~/kamikaze/trunk*)
16. Type in *make menuconfig*
17. Choose *Atheros AR71XX/AR7240/AR913x* from Target System menu (if you don’t use our config file).
18. Choose *Ubiquity RouterStation* from Target System menu (if you don’t use our config file).
19. In *Adminisration* menu put asterisk at item *netshe* (if you don’t use our config file).
20. Choose additional software packages and build options.
21. Type in and execute *make* to assembly image.
22. Flash assembled software to device as described in User Manual.