

Network management system (NMS)

Brief description

Content

FEATURES.....	3
System concept.....	3
Web-interface.....	4
NMS integration.....	6

FEATURES

- All data is stored in the database
- Postgres is used as database backend
- NMS is scalable and can support thousands of devices
- Zero configuration concept. Just register device in NMS server
- Zero configured VPN between server and each devices to secure data exchange and provide remote access
- Integrated and preconfigured Zabbix server
- Ready to run with minimal additional configuration
- Capability to integrate with our AAA-server, WAC and hotspot controllers.

System concept

NMS inherit main system concept which can be generally described as hierarchical relationships:

- System owner
- One or more service providers or served networks

Providers have authorized operators. Rights of individual operators in the system are adjustable.

There are several web interface levels in the system (see the diagram below):

- Access for system owners (root).
- Access for providers
- Restricted access for operator

NMS has built-in and preconfigured OpenVPN server which in a conjunction with OpenVPN client in firmware provides zero configured VPN network between the server and each device.

VPN is used to secure communication between server and managed devices and to provide remote access for each device to operators.

NMS support deploy of settings to managed devices. NMS provides three levels of

settings:

1. Settings from root level are applicable to all devices.
2. Settings from provider level are applicable only for devices from one network.
3. Individual settings for concrete device.

NMS supports automatic backup and restoration for configuration files for managed devices, also as automatic firmware upgrade.

NMS supports map view of managed devices. Operator can specify location of device within registration and (or) within regular management. Gogle map is used for map view.






Zabbix is integrated within NMS and used for monitoring and notification purposes. No additional configuration for Zabbix is required.

Configuration process is similar to device registration in NMS and required minimal data (e.g. credentials).

Web-interface

NMS has powerfull web-interface to manage the system. Below are screenshots for some functions of NMS.

Network map view in NMS

#	Title	Address	URL	Location	Responsible person	Type	Ping	Multiuser	Last action	SNMP version	Options
1	NETSHe_DR344	192.168.25.178	http://192.168.25.178:5556/app/cp/			NAS	N	N	2016-05-12 00:37:28	0	    

Total: 1

Basic settings which will be deployed to all devices

Control Center-4.0 Basic system settings - Mozilla Firefox

https://hc.stasoft.net/app/suite/root/index.php?q=core.bs.config

Data | DialIn | Reports | **NMS** | Settings

- Network Interfaces
- Remote device schedule settings
- Base device settings
- Time settings
- Access concentrator
- Remote system log

Basic settings | **RADIUS client set**

Main service host DNS-name: * hc.stasoft.net

Logging level: * 6

Log buffer size: * 100

Save

* Filling of highlighted fields is mandatory!

https://hc.stasoft.net/app/suite/root/index.php?q=core.bs.config#

Integrated Zabbix – main page

Dashboard - Mozilla Firefox

https://hc.stasoft.net/app/suite/nms/zabbix/dashboard.php

Monitoring | Inventory | Reports | Configuration | Administration

Dashboard | Overview | Web | Latest data | Triggers | Events | Graphs | Screens | Maps | Discovery | IT services

History:

PERSONAL DASHBOARD

Favourite graphs

List is empty

Graphs »

Favourite screens

List is empty

Screens »

Favourite maps

Network = STASOFT = map

Maps »

Status of Zabbix

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (monitored/not monitored/templates)	25	1 / 1 / 23
Number of items (monitored/disabled/not supported)	67	67 / 0 / 0
Number of triggers (enabled/disabled)[problem/unknown/ok]	17	17 / 0 [0 / 0 / 17]
Number of users (online)	2	1
Required server performance, new values per second	0.89	-
PHP gettext	no	PHP gettext extension missing (PHP configuration parameter --with-gettext)

Updated: 00:40:53

System status

Host group	Disaster	High	Average	Warning	Information	Not classified
Network = NETSHe =	0	0	0	0	0	0

Updated: 00:40:53

Host status

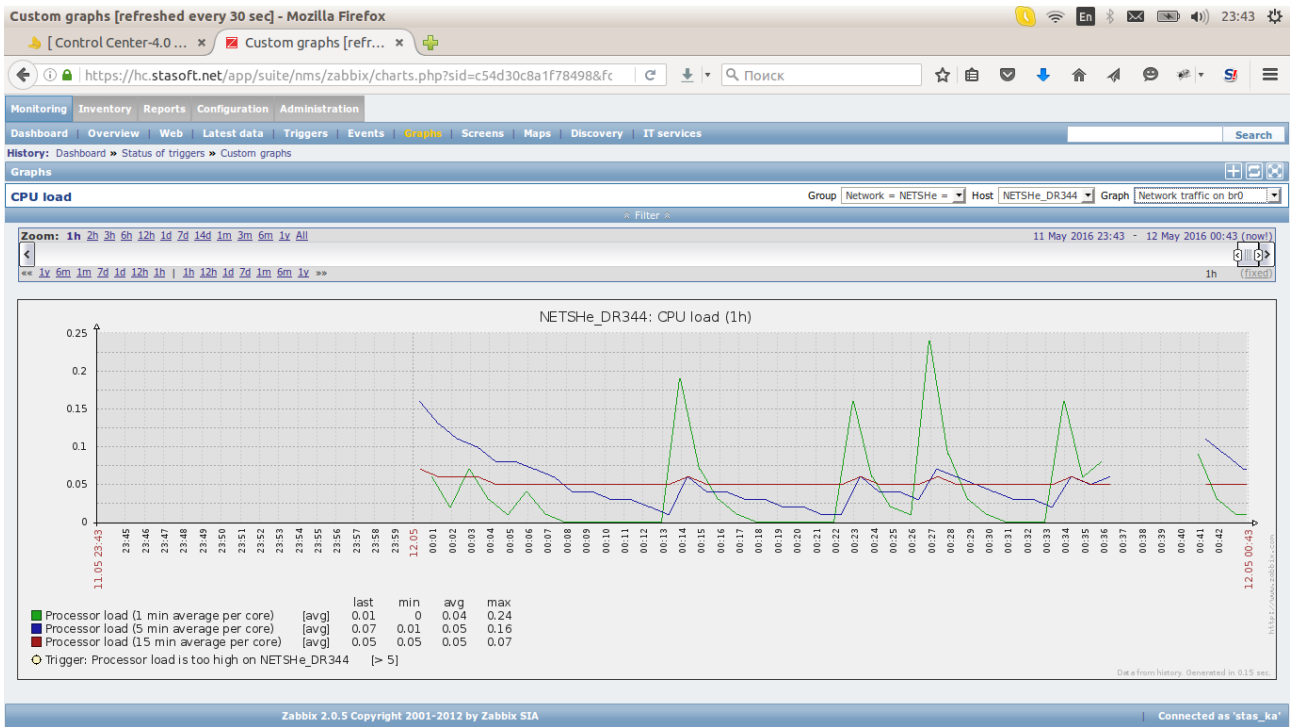
Host group	Without problems	With problems	Total
Network = NETSHe =	1	0	1

Updated: 00:42:00

Last 20 issues

Host	Issue	Last change	Age	Info	Ack	Actions
------	-------	-------------	-----	------	-----	---------

Graphs from Zabbix



NMS integration

NMS is integrated with our firmware, hotspot and wireless access controllers. It can be integrated with other systems by the request.