



MADNET

uvek povezani

Dude Reborn & CHR on Citrix,
real case study

MUM, Beograd, 10. oktobar 2016

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Uvek povezani

„MadNet“ d.o.o.

- Osnovan 2001. godine
- Prvi 11Mbps wireless servis provajder
- Prva bazna stanica KarlNet TurboCell (na Lucent Orinoco hardveru)
- Prvi ISO 9001:2008 sertifikovani ISP
- Prvi MikroTik ruter v2.7 😊

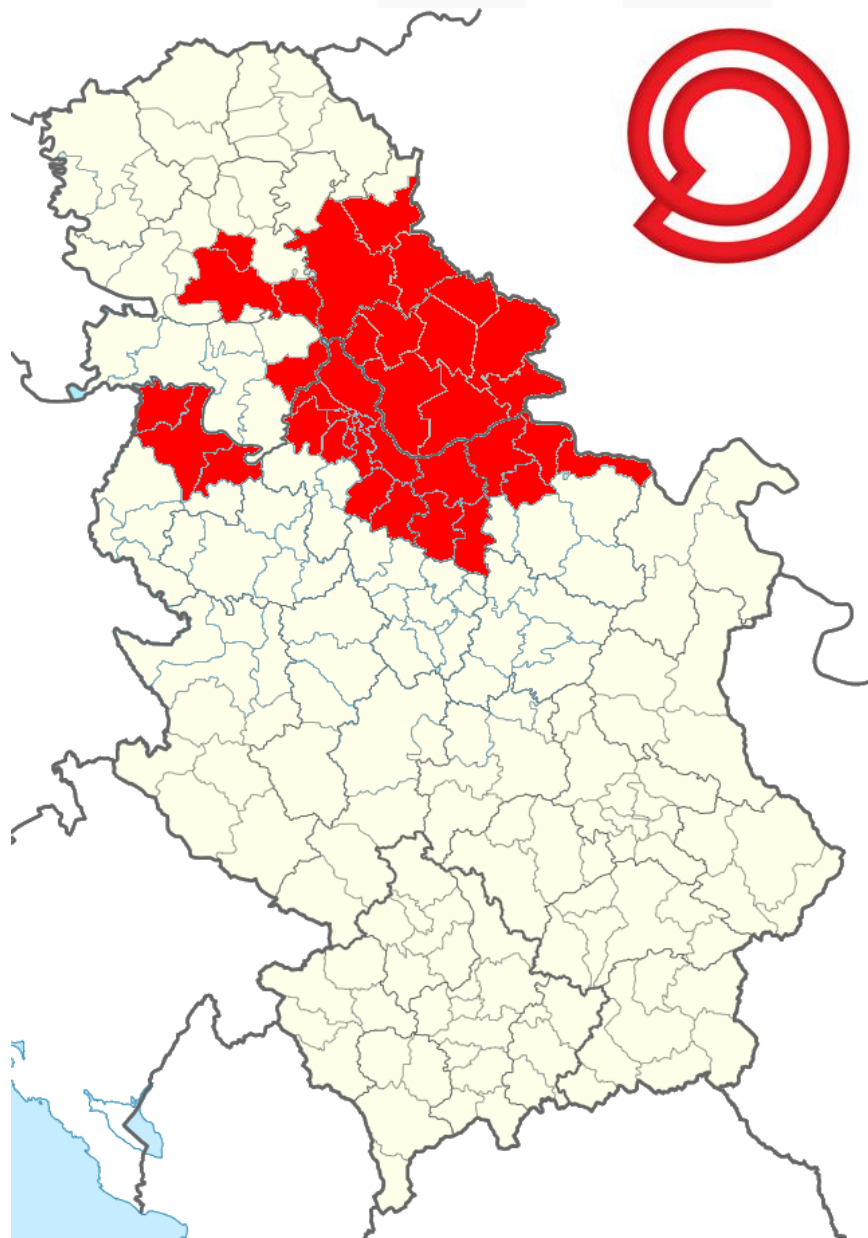
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Uvek povezani

„MadNet“ d.o.o.

- Trenutno serviramo skoro 4Gbps saobraćaja
- Wireless, FTTH, ADSL pristup
- Triple-play usluga (internet, IPTV, telefon)
- In-house IPTV rešenje

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Uvek povezani

Ko sam ja?

- Miroslav Mandrino
- 15+ godina u IT svetu
- 10 + godina računarske mreže
- 3+ godina fokus na sigurnost u mrežama
- Madnet i Mikrotik 2 + godine

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Šta ćete danas videti videti a šta ne...

Da:

- Prikaz instalacije Dude-a v6 na CHR platformi I Xen Serveru
- Prikaz nekih od mogućnosti Dude-a
- Poređenje v6 i v4 i diskusiju o prednostima novog rešenja

Ne:

- Prezentaciju o mrežnom monitoringu i zašto nam je potreban
- Prikaz instalacije Citrix XEN servera i mgmt software-a
- Manual za Dude / Prezentaciju o korišćenju dude-a
- Prikaz Madnet mreže

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Dude, šta je i kratka istorija ...

- FREE network monitoring by Mikrotik
- Dude v3.5 - Januar 2010
- Dude v4.0beta3 iz 2011!!!
- Alternative:
 - Uglavnom plaćene (PRTG Network Monitor, SolarWinds Network Performance Monitor)
 - Kompleksnost podešavanja (Nagios, NetXMS)
 - Vreme implemtacije (Nagios, Zabbix),
 - Mikrotik podržan samo preko SNMP-a

Spectral SCAN samo Dude!

Dude 6.34 - Dec 04, 2015



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Dude v4 vs v6 na papiru ...

Mikrotik: Ne predlaže upgrade na v6.37, osim za testiranje!!!

Duga lista izmena:

- *) arm - added Dude server support;
- *) Refactored functions (background changes).
- *) The Dude admins now rely on ROS users. User requires dude policy to connect to server;
- *) The Dude now uses ROS log. Requires dude topic to be added in log rules;
- *) Removed data based commit interval change option in server settings;
- *) Added comment option for servers in client loader window;
- *) Added back log panel in client;
- *) Various optimizations for server/client;
- *) Various fixes and optimizations for db commit related issues. Now dude will warn user in form of log entry if there is too much commits queuing up. This will most likely point towards problem with storage drive write performance, asking user to move db to some faster storage medium;
- *) Various performance improvements on server side background tasks;
- *) Removed some legacy setting that were no longer relevant as the dude users are now controlled by ROS AAA;
- *) Server package is now made smaller. Client side content upgrade is now removed from it and is downloaded straight from our cloud. So workstations on which client is used will require access to wan. Alternatively upgrade must be done by reinstalling the client on each new release;
- *) Added - Check-box in dude client loader settings to allow upgrade/downgrade without prompting user each time;



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Dude v4 vs v6 na papiru ...

- *) When device is added it will now have the same ROS login credentials as for the user in currently logged in client by default;
- *) Optimizations for larger setups where most monitored devices use secure mode; *) Added - Check-box in dude client loader settings to allow upgrade/downgrade without prompting user each time;
- *) When device is added it will now have the same ROS login credentials as for the user in currently logged in client by default;
- * Optimizations for larger setups where most monitored devices use secure mode;
- *) Fixed - Client crash on version upgrade, if client had previously already connected to some server;
- *) Fixed - Various server crashes;
- *) Fixed - Various memory leaks;
- *) Fixed - 100% load on one cpu core by dude process on server startup in some cases;
- *) Fixed - Server crash that could happen on server disable event;
- *) Fixed - Server adds some latency to when monitored device is pinged from server;
- *) Fixed - Client - local pinger broken; (it still does require the client to used with admin permissions)
- *) Fixed - Dude loader preferences menu "auto connect at startup" check-box seems to be ignored;
- *) Fixed - Importing db from v4 removes assigned icons from devices/device-types;
- *) Fixed - Memory related default function no longer work;
- *) Fixed problem with sqlite storing it's tmp data on system disk even if dude store is located on another disk. Now vacuum tmp data is located in dude store and should no longer cause problems on server hosts with small system disk;



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Dude v4 vs v6 na papiru ...

- *) Fixed - Agent re-connection problems;
- *) Fixed - Mac to Ip lookup;
- *) Fixed - Auto-discovery feature for devices behind remote Agents;
- *) Fixed - Access of ROS tab for devices behind remote Agents;
- *) Fixed - Client crash which occurred when in device management window in snmp tab under interface section any of interfaces where double clicked for detailed view;
- *) Fixed - Auto-discovery tool has problems with typical homeAP/CPE setups that has snmp enabled (only one of many devices gets discovered. Due to identical LAN networks);
- *) Fixed - Outages cannot be removed by "remove resolved" button;
- *) Fixed - Link label does not show correct link speed when ROS mastering type is used, in place of 1G it shows 10M;
- *) Fixed - diff64 function broken;
- *) Fixed - Cannot add static element to map shows "no netmap" in status field;
- *) Fixed - Server syslog port cannot be changed back to default if it has been changed one to something else;
- *) Fixed - Server cannot upgrade device is it is running old ROS version: 5.26, 6.7. Error: "router packages unknown";
- *) Fixed - Various problems with snmp probes;
- *) Fixed - "..." button function in link configuration menu;
- *) Fixed - ROS package list displaying in Devices -> ROS tab -> Devices sub-tab;

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Zašto novi Dude?

- Na ivici resursa
- Živi projetak 6.34 – Jan 2016
- „Bezbolna“ migracija
- Bolje radi? Omogućava rast ?

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Zašto CHR - Cloud Hosted Router?

- Centralizovani monitoring (XenMonitoring)
- Lakše upravljanje resursima (RAM, Disk)
- Manja kompleksnost u odnosu na linux+wine + dude
- Cena: CentOS + XEN=FREE
- Mikrotik – odnos cena i kvalitet
- CHR = ruter

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Hardver

Server:

- Intel i7 960 CPU
- 32 GB ram
- SSD

VM - vDude = linux + wine + dude4.0beta3

- 2 GB RAM
- 2CPU
- 40 GB

CHR:

- 1GB RAM
- 2CPU
- 10 GB



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Instalacija

1. Pripreme (dokumentacija, XEN, disk resize)
2. Instalacija i incijalno pokretanje Dude servisa
3. Running the Dude

Mikrotik korisni linkovi:

<http://wiki.mikrotik.com/wiki/Manual:CHR>

http://wiki.mikrotik.com/wiki/Manual:The_Dude_v6/Installation

http://wiki.mikrotik.com/wiki/Manual:The_Dude_v6/MigrationToNewDude

Image convert and resize with qemu-img:

<http://forum.mikrotik.com/viewtopic.php?t=98981>



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Pripreme

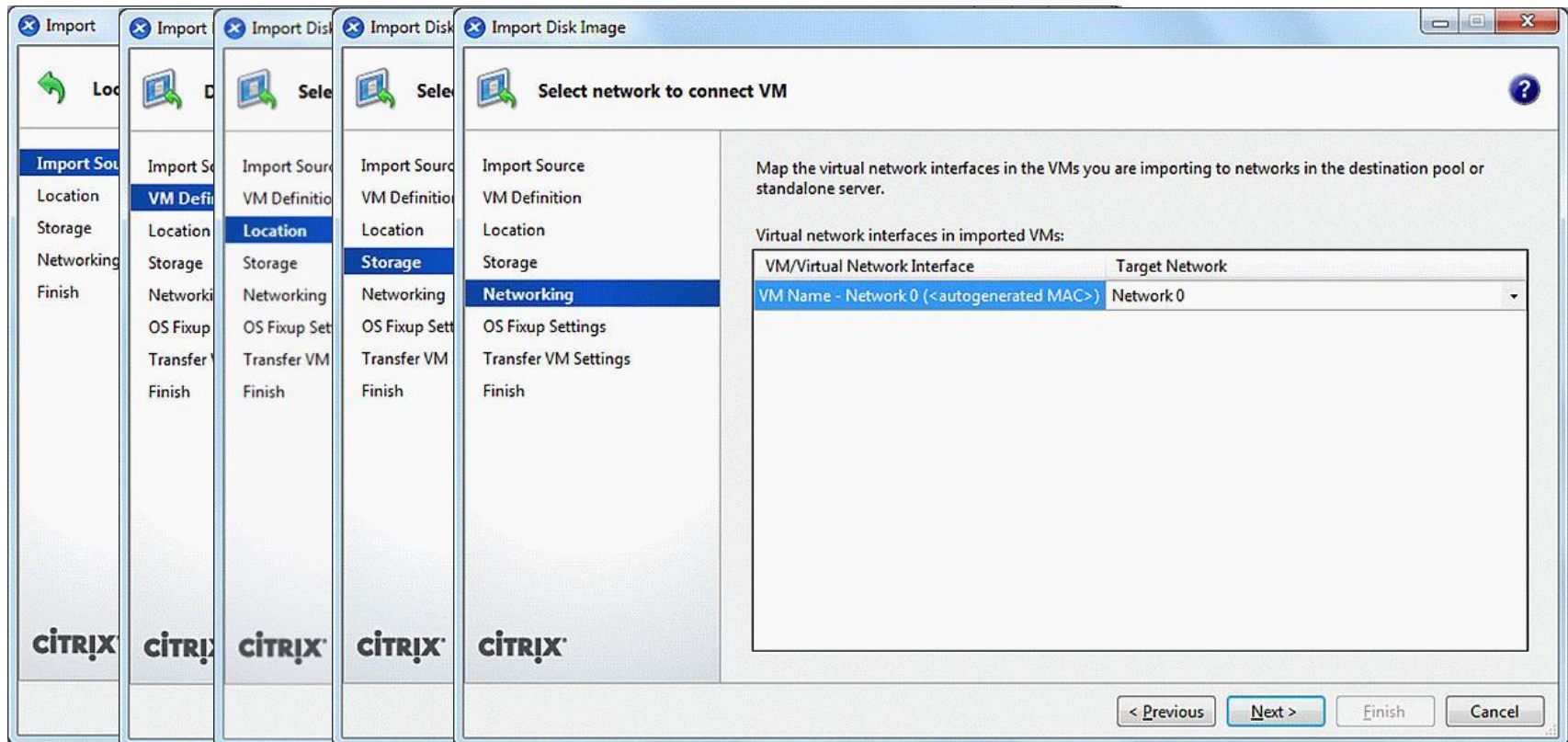
- VM import
- Mikrotik: RAW - IMG, **VMDK**, VDI, VHDX.
- Xen : OVF OVA, XVA, **VMDK**, VHD
- Image resize – qemu-img (tnx Normis)

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Instalacioni proces

- VMDK import wizard, svodi se na next next next....



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Pokretanje

- Xen Centar konzola - terminal
- WinBox
- `dude set enabled=yes`
- Dude6client!

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```
Plex86/Bochs VGABios (PCI) current-cvs 09 May 2016
This UGA/VE Bios is released under the GNU LGPL

Please visit :
. http://bochs.sourceforge.net
. http://www.nongnu.org/vgabios

cirrus-compatible UGA is detected

Processor 1: Xen(R) Virtual CPU
XS Virtual IDE Controller      Hard Drive (128MB)

iPXE (http://ipxe.org) 00:04.0 C900 PCI2.10 PMM+00100010+00111020 C900

Press F12 for boot menu.

Boot device: CD-Rom - failure: could not read boot disk

Boot device: Hard Disk - success.
Loading system with initrd
Starting...
```

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I kao rezultat:

mmandrino@10.10.2.222 (CHR) - WinBox v6.37 on CHR (x86_64)

Safe Mode

Resources

Uptime:	2d 18:26:40
Free Memory:	665.3 MiB
Total Memory:	971.1 MiB
CPU:	Intel(R)
CPU Count:	2
CPU Frequency:	3200 MHz
CPU Load:	2 %
Free HDD Space:	5.0 GiB
Total HDD Size:	6.1 GiB
Sector Writes Since Reboot:	136 077 352

Quick Set
Interfaces
Bridge
PPP
Mesh
IP
IPv6
MPLS
Routing
System
Queues
Files
Log
Radius

mmandrino@10.10.2.222 - The Dude 6.37

Preferences Help
Settings

Contents

- Address Lists
- Agents
- Charts
- Devices
- Files
- Functions
- History Actions
- Links
- Log
- Mib Nodes
- Network Maps
- Networks
- Notifications
- Panels
- Probes
- Root
- Services
- Tools

Beograd

```
graph TD; Switch[Switch] --- S1[Serijski Core uplink]; Switch --- S2[Serijski Core uplink2]; Switch --- S3[Serijski Core uplink3]; S1 --- S4[Serijski Core uplink4]; S1 --- S5[Serijski Core uplink5];
```

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Licenca – uvek važno pitanje

- Free – 1 mbps
- Aktiviranje licence iz winboxa ili konozole, umesto preko web portala - RTFM
- 1 gbps 2 meseca trial.
- Licenca – p1

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Uvoz baze, stegnite palčeve ...

- No problem – 😊

Statistika baze:

- Broj Mapa :170+
- Broj uređaja : ~2800
- Log > 6 gb

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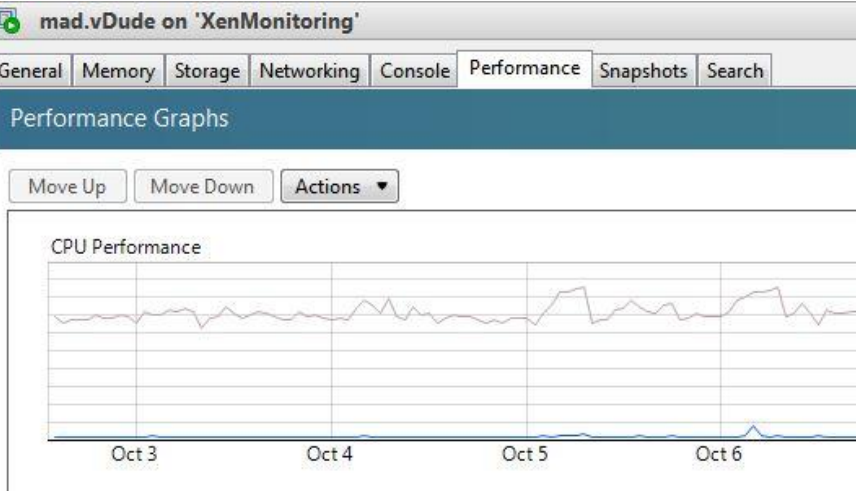
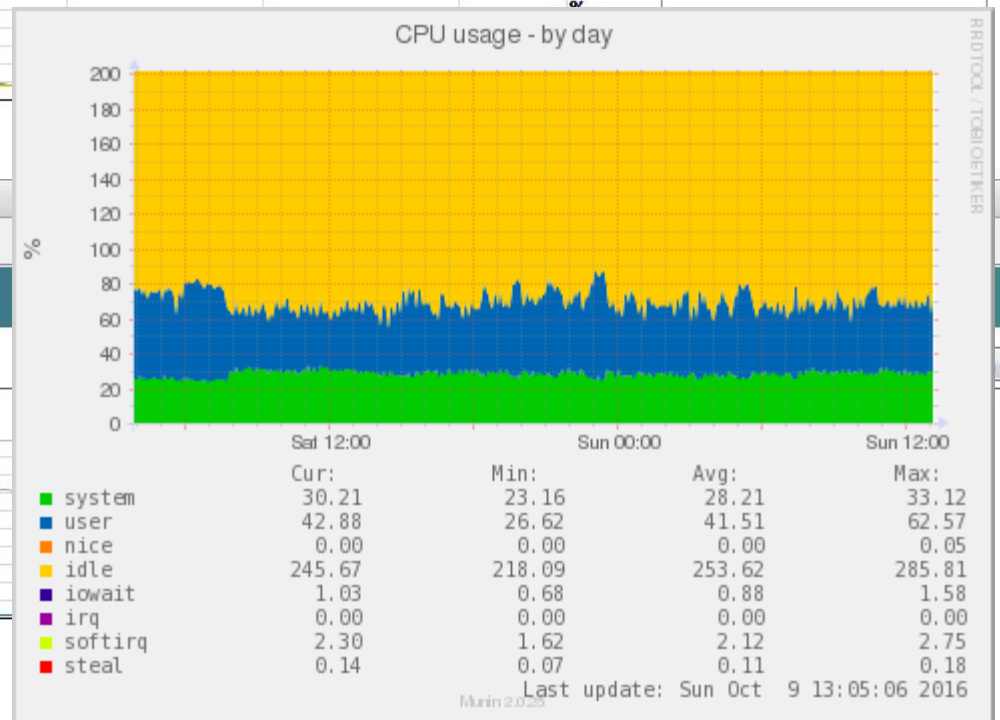
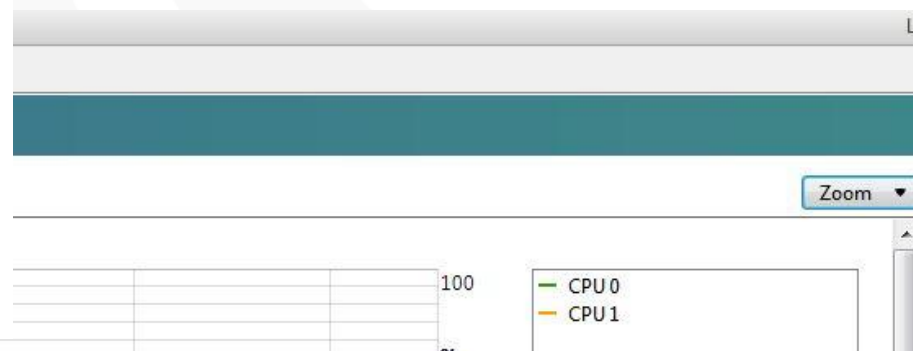
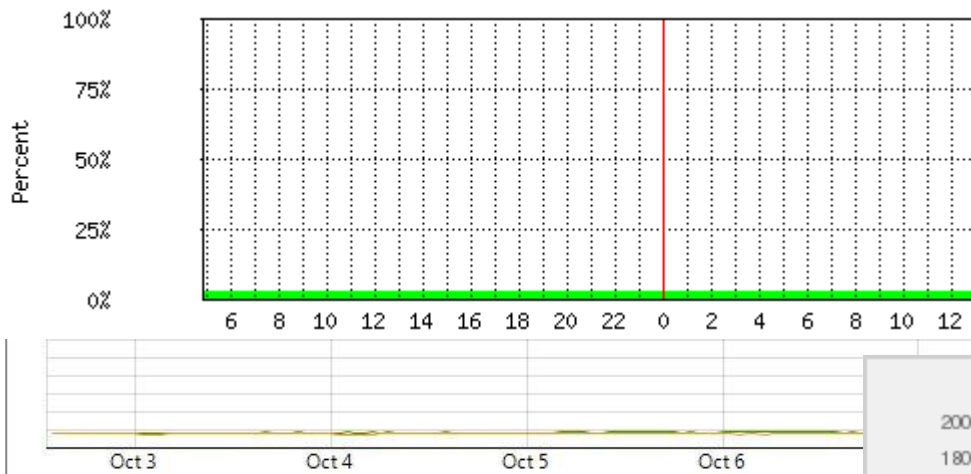
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Prednosti

- CPU
- Stabilnost
- Brži odziv
- Manji broj false positive indikacija.
- Ping sa servera radi!!!
- TCO

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Mane?

- SMS Notifikacija: nema više opcije „execute on server“ – lynx
- Execute ros comand
- Korisnička prava
- WEB

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Probali smo i na ruteru ...

- Korišćenje agenta

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Korisni linkovi

Citrix XEN VM import:

- <http://support.citrix.com/article/CTX140423>

CHR:

- <http://wiki.mikrotik.com/wiki/Manual:CHR>

Dude:

- http://wiki.mikrotik.com/wiki/Manual:The_Dude_v6/Installation
- http://wiki.mikrotik.com/wiki/Manual:The_Dude_v6/MigrationToNewDude
- <http://wiki.mikrotik.com/wiki/Category:Dude>

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Pitanja, predlozi i primedbe ?

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Hvala





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