

Automated Everything

Setting up an openQRM Cloud
LOADays 2013, Antwerp/Belgium

Hello, audience! :-)



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About this workshop

- 3 hour hands-on tutorial
- A look at what makes an admin's life hard - and how to get over it
- Demonstration: Setting up an openQRM Private Cloud
- Automating it all: DNS, IP & Config Management, Monitoring, HA, Billing
- Self-Service Cloud Portal - Handing over day-to-day operations to your users

We all know the technical pain.

- Network Access. DNS. IP Addresses. Storage. OS Installs. Configuration. Backup. Security. Updates. Patches. High-Availability Disasters. Monitoring. Alerting. Documentation. Compliance.

○



Technical aspects to deal with:

- Lots of systems, applications, admin tools and scripts to use and maintain
- Unstandardized HW and SW stacks, lots of customization, „Shadow IT“
- Choosing the right tool, avoiding black boxes, vendor barriers and dead-ends
- Admin's best friend - Hardware failure

And we all know corporate politics pain.

- Repetitive manual tasks, leading to demotivation and human errors
- Rigid processes, outdated documentation
- Inflexible Corporate Policies, long-term contracts, waiting periods
- IT being blamed for business deficits



We're dealing with
long-established complexity.



There's a way out!

- Argument for a cultural change! Tear down barriers!
- Avoid black-boxes, embrace Open Standards, Open Source
- (Re-)Design your infrastructure for failure and eliminate SPOFs
- Take physical and virtual machines under control - run a Private Cloud
- Establish IT Self-Service for your users
- Automate all the things!

Don't worry, just take the jump!





DEMO: Setting up an openQRM Private Cloud

*Please download the
openQRM Admin Guide for all use cases and setup instructions:
<http://www.openqrm-enterprise.com/adminguide>*

Pain #1: Deployment/Config of System/Apps



Pain #2: IP and DNS Management



Pain #3: Monitoring & Alerting



Want to try out yourself?

Feel free to experiment yourself, using the GPLv2 licensed openQRM Community Edition.

It is available for download at:

<http://www.openqrm-enterprise.com/community-edition.html>



You need to go the extra Enterprise mile?

Automate, rationalize and integrate even more, using the extended Commercial openQRM Enterprise Edition.

More Information:

<http://www.openqrm-enterprise.com/enterprise-edition.html>



Additional Enterprise Edition features

- LDAP authentication for centralized user management
- Fine-grained permission and role administration
- Cloud Zones – manage globally distributed, decentralized datacenters
- Fully automated IP space, network and VLAN management
- Support for bonding of network interfaces
- Hardware fencing for reliable high-availability
- Out-of-Band management (IPMI) to save power consumption and cost
- i-doit CMDB integration for automated DC documentation



Cloud Zones

Firefox browser window showing the openQRM Cloud Zones interface. The address bar displays the URL: https://openqrm.agdev.org/cloud/zones/user/index.php?cloud_zones=3.

The interface includes a navigation menu with the following items: Admin, Create, Requests, Systems, Account, Zones, Transactions, and Portal. The current view is "Admin - The Administrator Cloud Zone".

On the left, a table displays details for the "Admin" cloud zone:

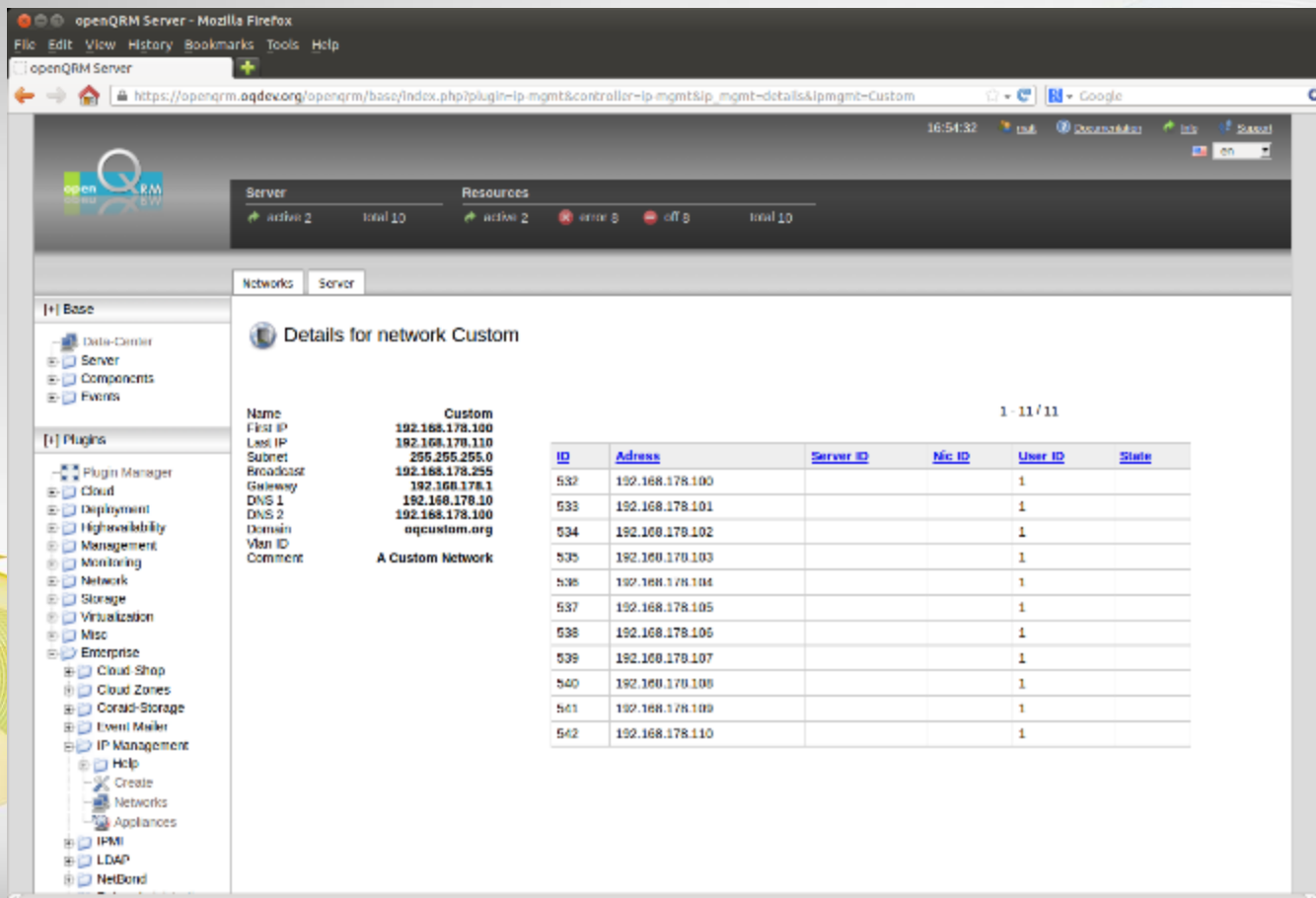
Status	
Name	Admin
Contact	michael.bun@openqrm-enterprise.com
State	Germany
City	Cologne
Department	Administrator
Comment	The Administrator Cloud Zone
Domain	adminnot.org
Hostnames	adaboos-matt (unix id)

On the right, a map view shows the location of Cologne, Germany, with a red pin labeled "Admin". The map includes a search bar and a "Map" button.

At the bottom, the footer text reads: "openQRM Enterprise Cloud Zones - © 2012 openQRM Enterprise GmbH".



IP Management [1]



The screenshot shows the openQRM Server web interface in a Mozilla Firefox browser. The URL is https://openqrm.oqdev.org/openqrm/base/index.php?plugin=ip_mgmt&controller=ip_mgmt&ip_mgmt-details&ip_mgmt-Custom. The interface displays a summary of server resources and a detailed view of the 'Custom' network.

Server Resources Summary:

Category	Active	Total
Server	2	10
Resources	2	10
Errors	3	3
Off	3	3

Details for network Custom

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ID	Address	Server ID	Nic ID	User ID	State
532	192.168.178.100			1	
533	192.168.178.101			1	
534	192.168.178.102			1	
535	192.168.178.103			1	
536	192.168.178.104			1	
537	192.168.178.105			1	
538	192.168.178.106			1	
539	192.168.178.107			1	
540	192.168.178.108			1	
541	192.168.178.109			1	
542	192.168.178.110			1	

Network Details:

- Name: Custom
- First IP: 192.168.178.100
- Last IP: 192.168.178.110
- Subnet: 255.255.255.0
- Broadcast: 192.168.178.255
- Gateway: 192.168.178.1
- DNS 1: 192.168.178.10
- DNS 2: 192.168.178.100
- Domain: oqcustom.org
- Vlan ID: (empty)
- Comment: A Custom Network

IP Management [2]

The screenshot shows the openQRM Server web interface in Mozilla Firefox. The browser address bar displays the URL: `https://openqrm.oqdev.org/openqrm/base/index.php?plugin=ip_mgmt&controller=ip_mgmt&ip_mgmt-configure&ip_mgmt[-2]`. The page title is "openQRM Server".

The interface features a top navigation bar with "Server" and "Resources" tabs. Below this, a status bar shows "active 2" and "total 10" for both categories. The main content area is titled "Server IP Configuration for app2410261257".

On the left, a sidebar menu lists various components and plugins. The "IP Management" section is expanded, showing options like "Create", "Networks", and "Appliances".

The main configuration area displays the "Appliance ID" as "2". Below this, there are two dropdown menus for "Nic 0" and "Nic 1". The "Nic 0" dropdown is currently set to "Admin - 10.20.10.160". The "Nic 1" dropdown is set to "none". A list of available IP addresses is shown below the dropdowns, with "QAnetwork - 10.10.20.53" highlighted.

At the bottom of the configuration area, there are two buttons: "submit" and "cancel".



Questions?



Thanks for your time!

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