

ASTUTE-TECH

Mikrotik & the cloud

A
Ripplewave
Presentation.

hi



MIKROTIK MUM

CLASS OF 2007



Louis Murimi Njoka,
Dip. Project Management S.A.G, UK,
A+,OsX,Ios,Mikrotik, Altn,URC

Network Engineer
Project Manager
Amazon Web Services Partner.
ESET Africa Partner
Mdaemon Africa Partner
.KE/.COM Domain Registrar
US based secure Cloud/Web host
Pulseway MSP
Comodo 1 MSP
Vector ITAM
Home Automation / Smart home
Enterprise Security Specialist.

Husband
Father
Mentor
Friend

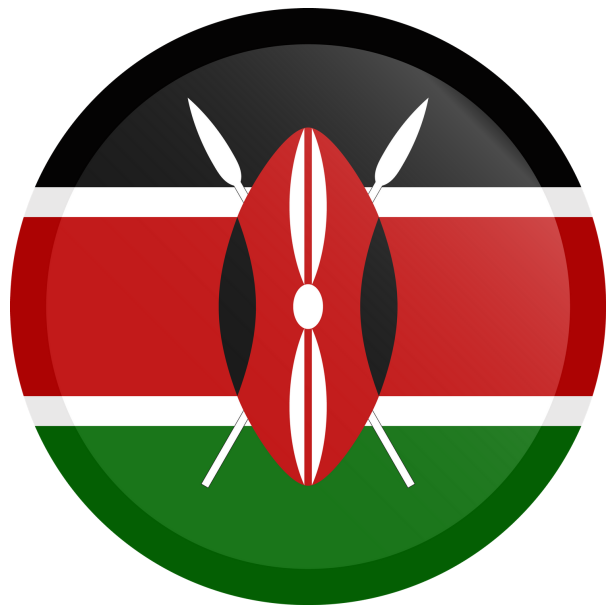
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MIKROTIK MUM

CLASS OF 2007





UAE-KM-US-LV-KE-ET-NG-GH

The 3 F's

Journey to the cloud

Before there was the cloud there was Mikrotik



MikroTik



MARCH 14, 2006
AWS LAUNCHED THE
FIRST CLOUD
SERVICE, AMAZON **S3**.



AWS HAS MORE THAN
1 MILLION
ACTIVE CUSTOMERS
PER MONTH



Best in Class



AMAZON S3
REGULARLY PEAKS
AT **MILLIONS OF**
REQUESTS PER SEC



NEW FEATURES LAUNCHED PER
YEAR (WITH MORE COMING
ALMOST **DAILY**)



AWS ALREADY HAS MORE
THAN **70** SERVICES

MORE THAN **500**
INSTITUTIONS HAVE
JOINED **AWS EDUCATE**

500

AWS IS THE FASTEST ENTERPRISE IT VENDOR
TO REACH A **\$10BILLION** RUN-RATE*

10

22 23 27



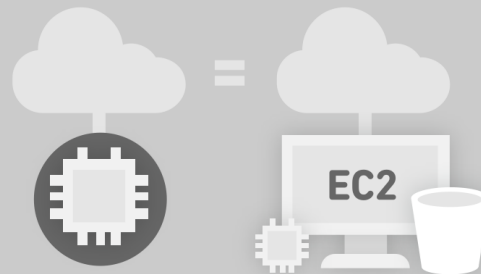
MikroTik

AMAZON RDS HAS MORE THAN
100,000 ACTIVE

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ENOUGH PEOPLE TO FILL THE
SEAHAWKS' FOOTBALL STADIUM 1.4X



ON AVERAGE, **EVERY WEEK**, AWS CUSTOMERS ARE USING MORE COMPUTE CAPACITY ON AMAZON EC2 SPOT INSTANCES THAN CUSTOMERS IN 2012 WERE RUNNING ACROSS **ALL OF AMAZON EC2**.

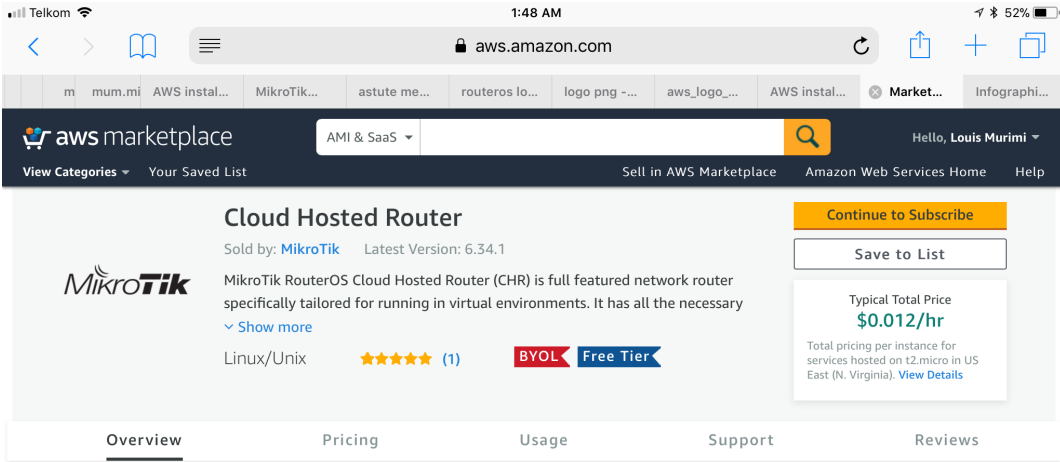
AWESOME CUSTOMERS USE ENOUGH HOURS OF AWS MARKETPLACE PRODUCTS ON AMAZON EC2 EACH MONTH TO MAKE **11,729 ROUND TRIPS** TO MARS‡



AWESOME IS COMPRISED OF **33** AVAILABILITY ZONES
ACROSS **12** GEOGRAPHIC REGIONS WORLDWIDE

MikroTik

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Product Overview

Use the CHR for protecting your cloud servers using RouterOS firewall which supports Layer7 filtering, dynamic address lists and more; for running your own VPN service or monitoring network infrastructure using The Dude! It can be used as simple to deploy HTTP proxy with domain name filtering, centralized RADIUS server for AAA (Authentication, Authorisation and Accounting). CHR itself can be used for monitoring network traffic using SNMP and monitor traffic using Traffic flow. CHR can be used as DNS cache and/or static DNS for a local network. Expand your network using BCP (Bridge Control Protocol) bridging of VLANs. CHR is a good platform for learning networking and RouterOS configuration before deployment in production.

Highlights

- The Dude server for monitoring network infrastructure, CAPsMAN server for rapid deployment of wireless networks.
- CHR supports IPsec, PPTP, SSTP, L2TP, EoIP, IPIP, OpenVPN, GRE, 6to4 and VPLS/MPLS tunnels.
- CHR can even be used for BGP peering, RIP route distribution and as an OSPF node in





Mikrotik in the cloud..

Home in the cloud!

build your biz, and do some good.

Mikrotik in the cloud..

Mirror your DC, for less

build your biz, and do some good.

Mikrotik in the cloud..

360 view in & out!!

build your biz, and do some good.

Mikrotik in the cloud..

Start for free*

build your biz, and do some good.



Use Cases

1. Dude cloud.- Monitoring

- setup amazon account = free
- spin up an ec2 instance (try the free micro)
- select the CHR AMI
- setup steps (Hint:select several interfaces)
- Adjust security groups (allow 8291, 80*, 22)

1. Dude cloud. MUM examples and steps

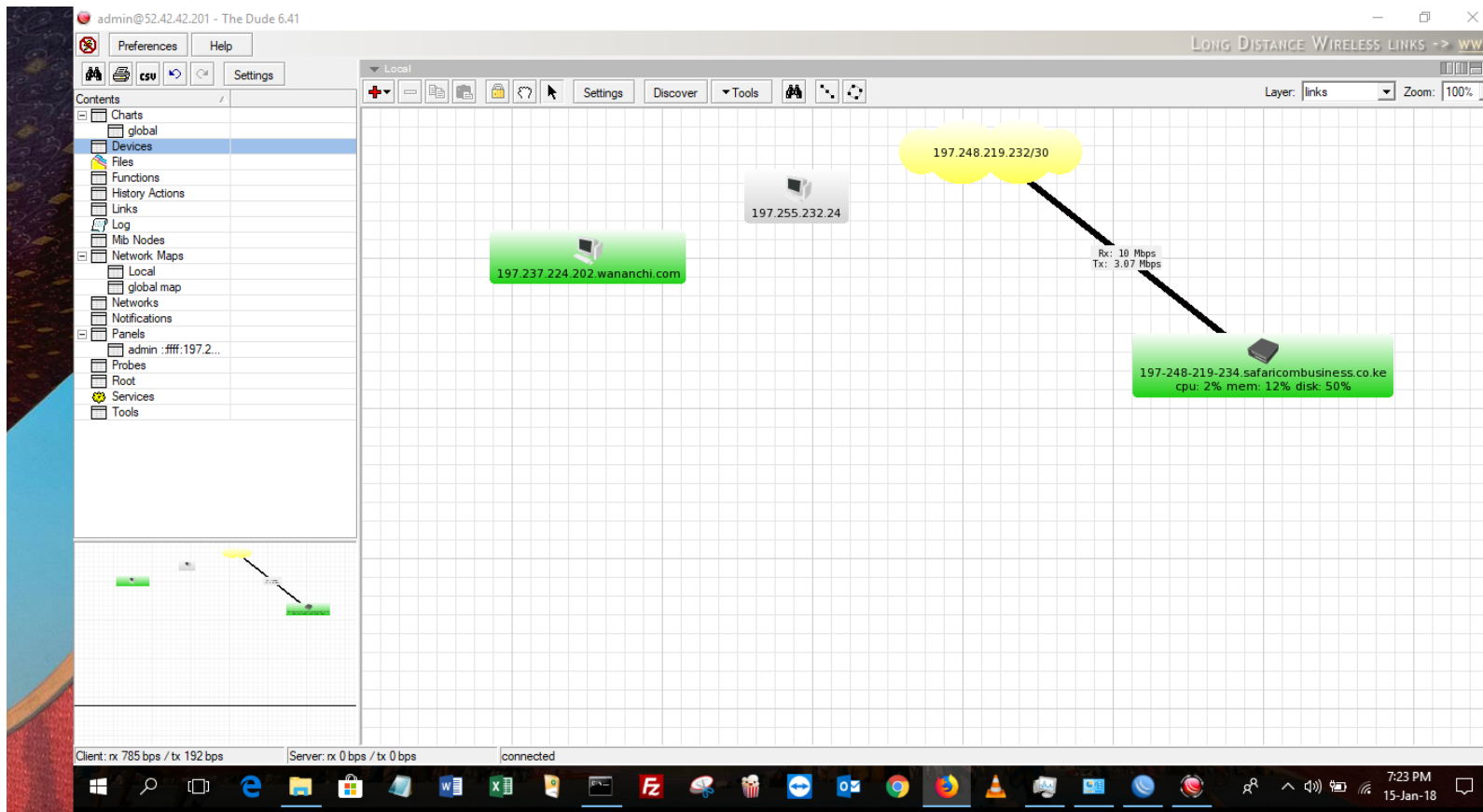
clusterz.io <https://youtu.be/DZ0daAdI-Ro>

Marc Perea <https://youtu.be/bsKM5v83cni>

Mikrotik wiki : <https://wiki.mikrotik.com/wiki/Manual:CHR>

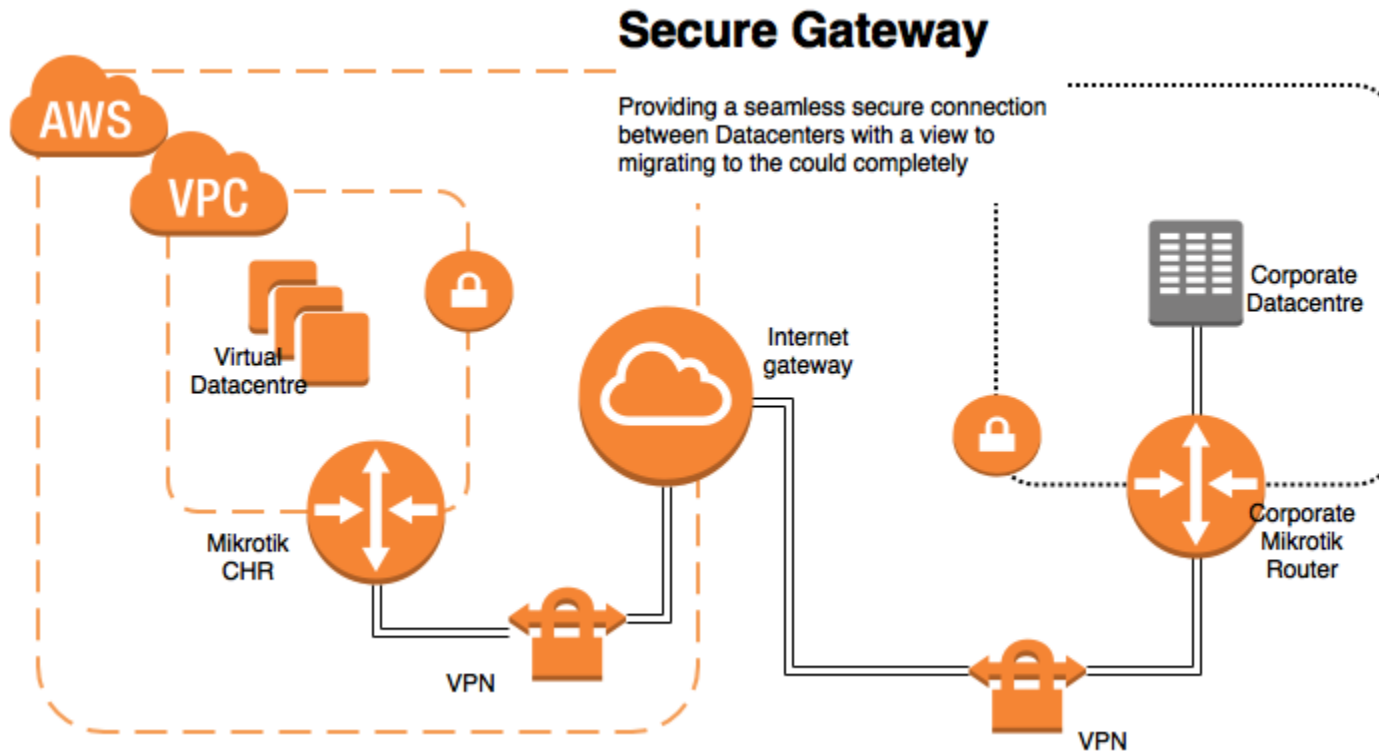
https://wiki.mikrotik.com/wiki/Manual:The_Dude_v6/The_dude_server_on_VM_CHR

Use Cases: Dude Cloud example - My test setup.



Use Cases - WIP

1. Secure VPN connection to AWS data Centre (current project)





Real World Use Cases - Aerez Introducing Marc Perea



Co-founder of MCP Networks, creators of Aerēz
Discovered Routerboard in 2009
MTCNA + MTCTCE + Trainer certified
BS + MS CS/MIS @ Minot State University,
ND Internet Service Provider Network Engineer for over a decade.
Started working on Aerēz based on MikroTik in 2015





Real World Use Cases - Aerez Introducing Marc Perea



MCP Networks:

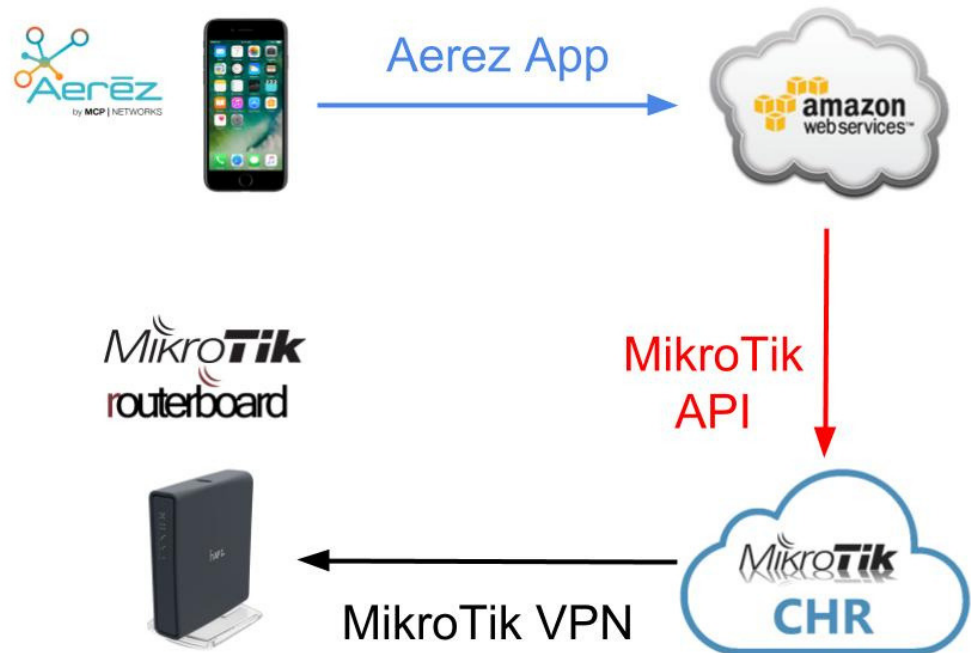
Veteran owned North Dakota company headquartered in Fargo, USA. Our mission is to make technology solutions simple! Our software helps Internet Service Providers make more money and provide better service to their subscribers.





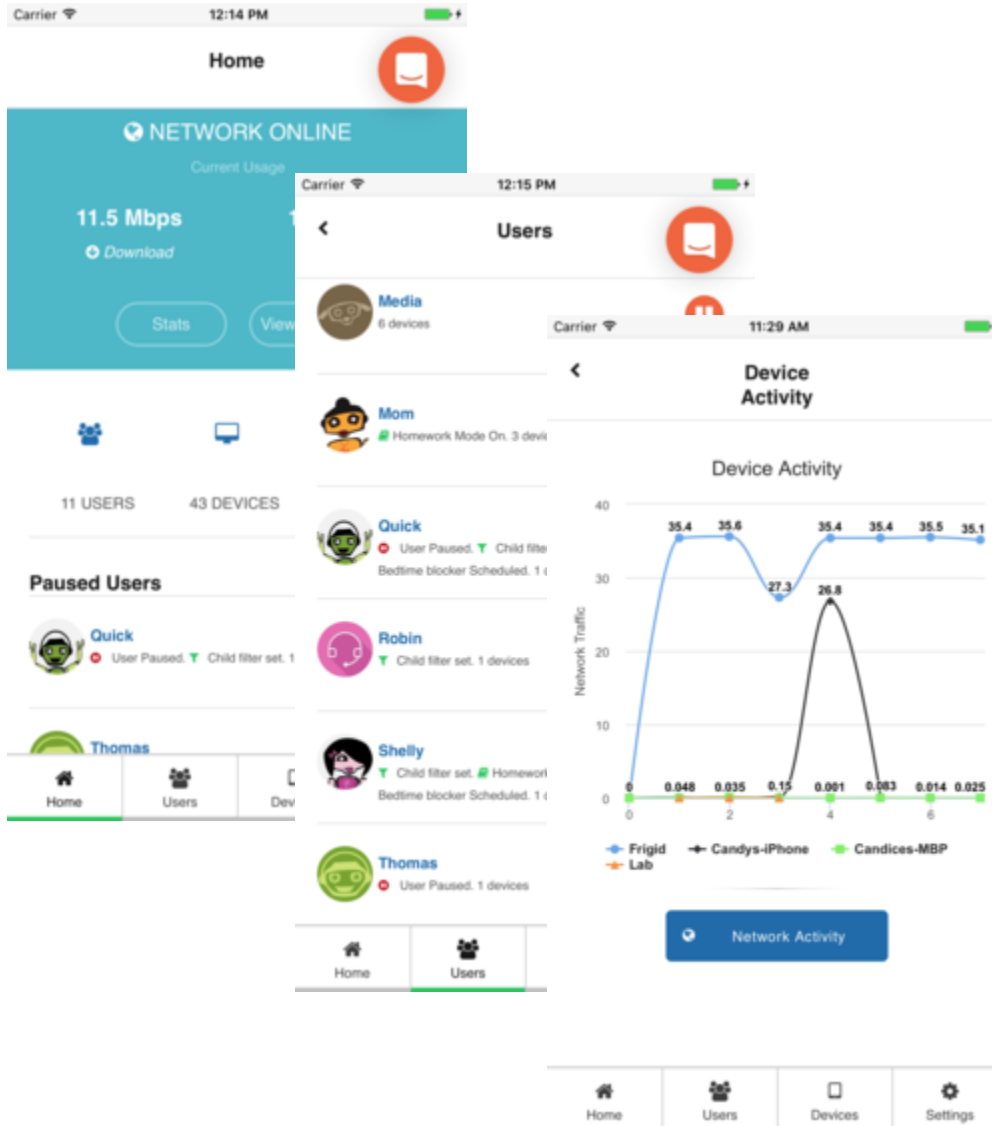
Real World Use Cases - Aerez

Aerez is a pairing of AWS web services in the cloud with the powerful and robust features of Router OS to provide a subscriber front end user interface to control the home network. Software controls the network by adjusting firewall rules or reading traffic on the fly through the MikroTik API, secured with MikroTik VPN.





Real World Use Cases - Aerez

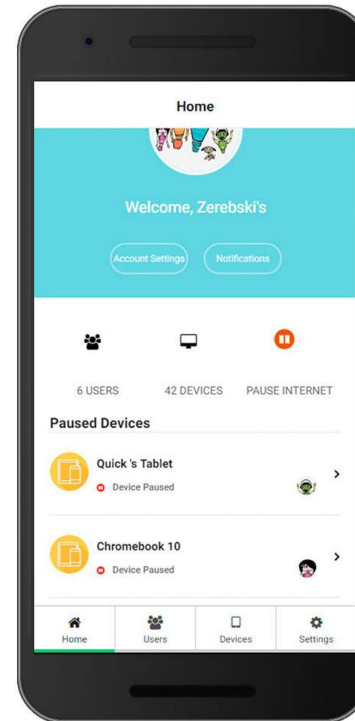


The app on the phone uses HTTPS to securely display the front end user interface which is served from AWS in the cloud. That server uses back-end software to ROS API through a VPN tunnel established between a CHR (Cloud Hosted Router) inside of the AWS cloud infrastructure, securely connecting the subscriber MikroTik router to the AWS cloud.

MikroTik



Real World Use Cases - Aerēz





The case for a hardware cloud appliance

1. End to end security.. router to cloud.
2. Cloud ready to cloud native adoption.
3. Revamping proprietary protocols to cloud services (eoip etc)
4. The ability to schedule cloud services right out of the router, eg data backups etc.
5. Develop Mikrotik apps to leverage cloud, like RD clients, key management. etc.
6. Archive the goal of “routing the world!”



Astute

adjective

*having or showing an ability to accurately assess situations or people
and turn this to one's advantage*

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RMM 4 THE CLOUD

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| +254 732 800 580

**Email: mail@ripplewave.com,
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**THANK YOU
Q&A.**



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