



# Cloud Core in the PRAXIS Application

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# About Us

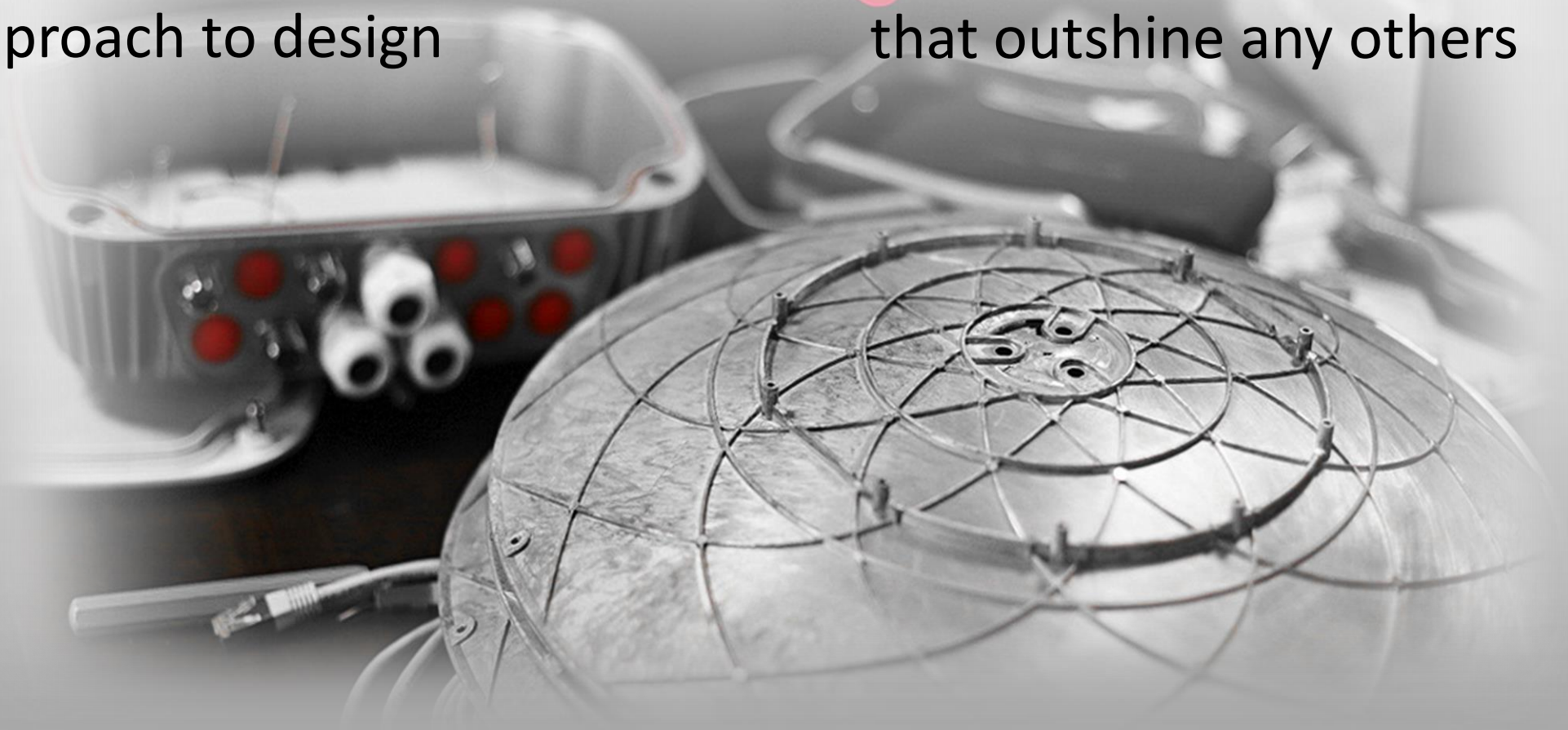
# Who We Are

- Team of talented people delivering wireless products
- Our products are designed for WISPs and System Integrators
- We are based in Slovakia
- Brand RF elements was established in 2003
- 32 staff members



# What We Do

- We design and manufacture wireless products
- We have our own distinctive approach to design
- We believe in innovation and creativity
- Our goal is to deliver products that outshine any others





# 1. About Us

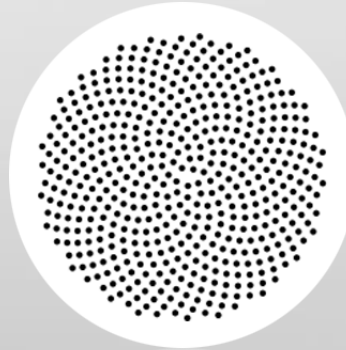
**Our Approach is based on Five Principles**



**Simplicity**



**Functionality**



**Aesthetics**



**Cost Effectiveness**



**Honesty**

# CloudCore Router

## Knowing product line and functions

# CCR1016-12G

## Entry Cloud Core router



**16 Core CPU @ 1,2GHz with a 12 Gigabit switchable ports and super low power consumption usually about 24W**

- Full featured L6 ROS
- Optimal usage as a middle range company core router, firewall, QOS service, VPN server
- Excellent cost / performance value

# Inside – OUT

Wide possibilities? Ultimate solution?

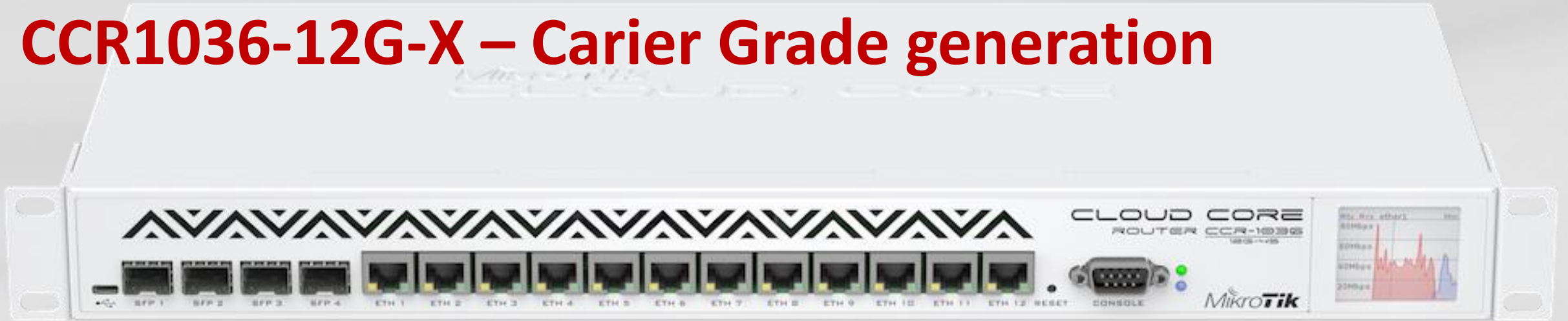
Are mostly overexposed with a too extensive configuration for example few thousand mangle/firewall/Queue configuration and L7 witch will start to overload CPU and causing problems with a client's having high latency or DNS responds.

In this CCR configuration you have to be caution to not use extensive rules, OR create an optimization of rules.

Ideal usage as a medium router or a gateway, with ideal functions for a company VPN / IPSEC and up to hundreds of the Queue rules plus functions like DNS WEB Proxy



# CCR1036-12G-X – Carrier Grade generation



**36 Core Networking CPU @ 1,2GHz**

**12 Gigabit switchable ports - 4 SFP ports**

**Each port has separate CPU assigned**

**Consumption usually about 48W /maximal 58W/**

**IPSEC HW acceleration enabled, fixed PPP services, IPv6**

**For a Middle range company**

# Inside – OUT

**Wide possibilities – yes WE HAVE!**

**Highly usable as a main router for a medium ISP , capable of handling up to thousand Mangle / Firewall / Queue rules**

**About L7 rules you have to be cautious because some rules can cause high CPU usage.**

**Rumors! Most of the user is mixing experience with the RUMORS.**

**LOAD new Software and RESET actual RUMOR counter to ZERO**

## CCR1036-12G-X – CARRIER Grade generation

In last 2months really improved performance in the

- PPP tunnels - increased number of the PPP tunnels are now working without problems with speed
- IP-SEC hardware support accelerating aes-cbc, md5, sha256
- SimpleQueue performance boost
- Switching with a OpenFlow

**Improved VPN server with a Dynamic Simple queue.**

**It is confirmed in real life that it will handle 1200 PPP clients with a Dynamic Simple Queues, without slowing service for the clients, with they are consuming UP to 400Mbps throughput.**

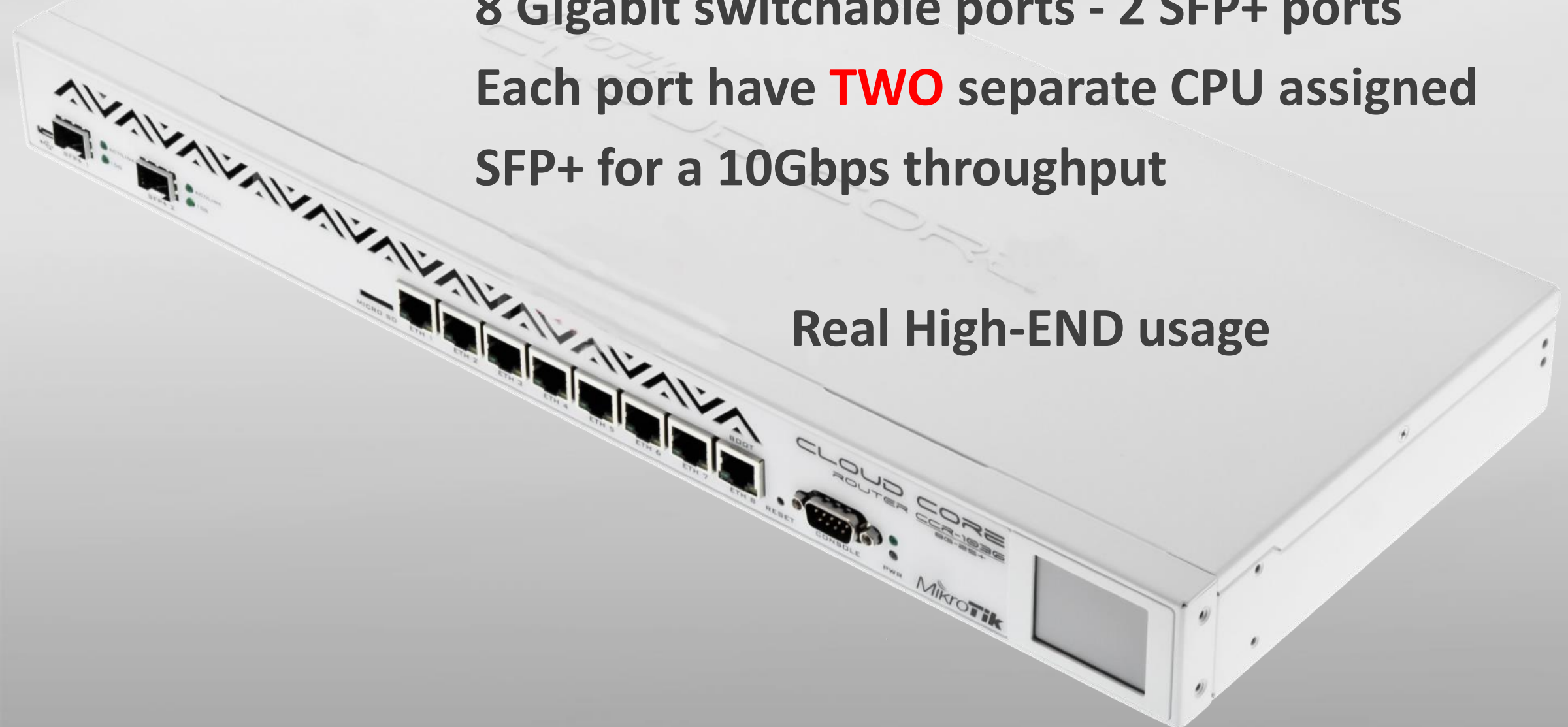
# CCR1036-8G-X – 2 X performance per port

36 Core Networking CPU @ 1,2GHz

8 Gigabit switchable ports - 2 SFP+ ports

Each port have **TWO** separate CPU assigned  
SFP+ for a 10Gbps throughput

Real High-END usage





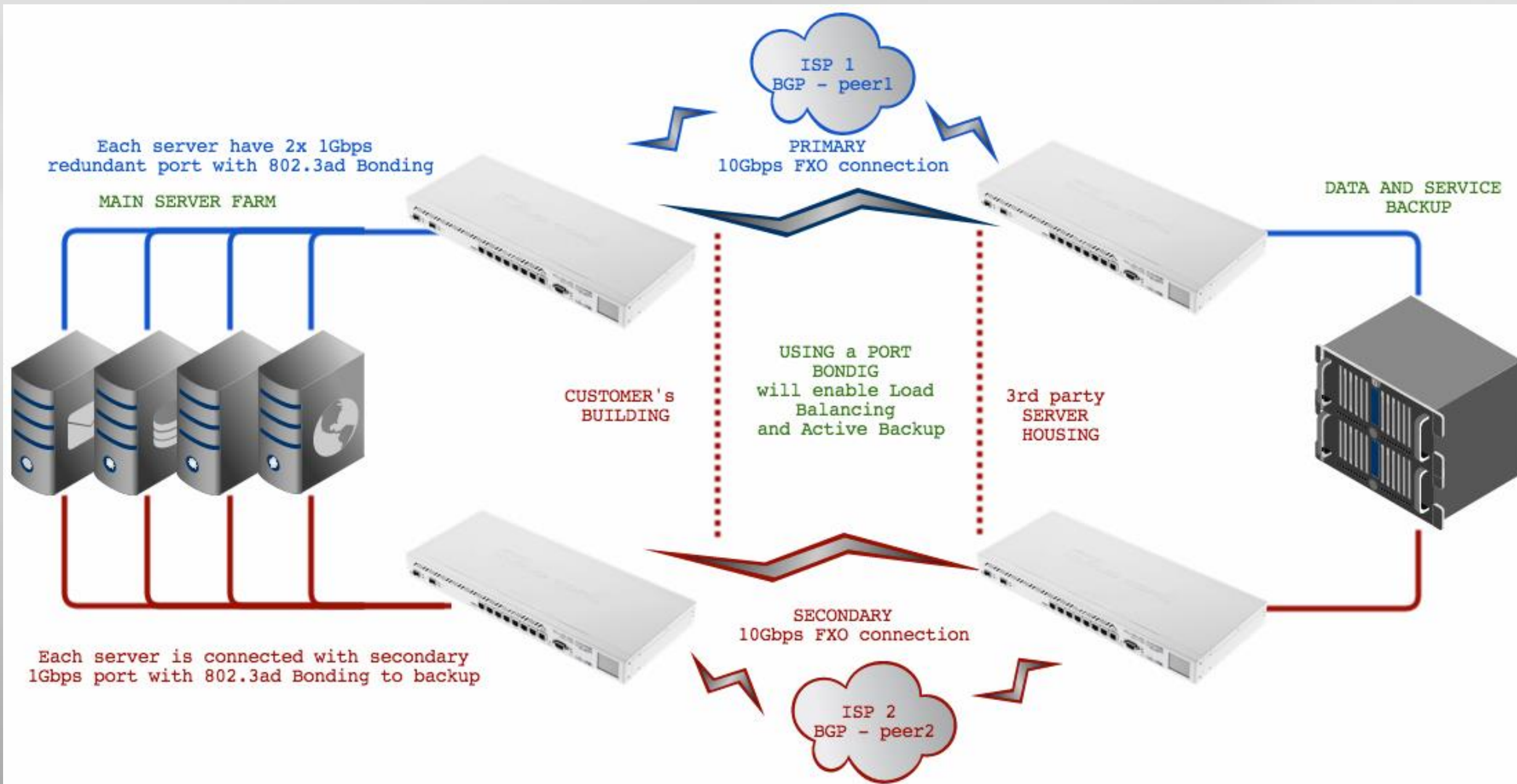
## CCR1036-8G-X – DataCenter core router

When I was implementing these routers to our customer, I do have to admit that at the first I was not sure, how they will be able to use all functions that it offers.

But I was mistaken the word is really asking about solutions like we adapted. And used in praxis.

On line real data mirroring and full Data and Application backup on long distance up to 10km from Customer Building provide excellent and 100% fail safe environment.

# CCR1036-8G-X – DataCenter core router



# **Inside – OUT**

**Wide possibilities – GET MORE!**

**Cloud Core ROUTER will provide your solutions with solid and stable building platform.**

**Evolving functionality and usability with every update**

**Full featured L6 even in entry model CCR**

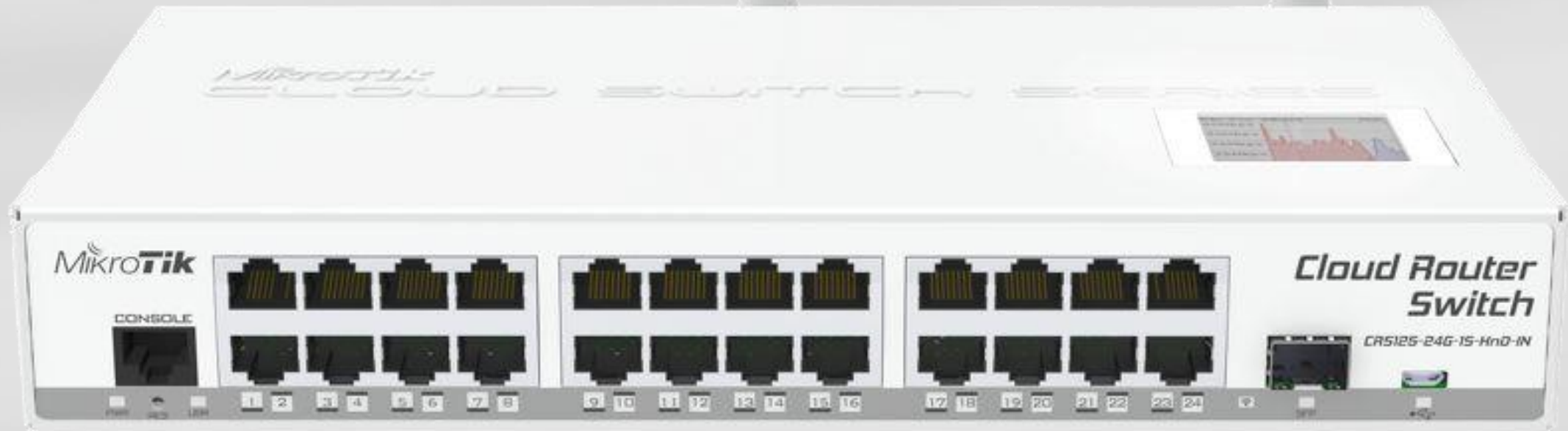
**Nice support trough [wiki.mikrotik.com](https://wiki.mikrotik.com)**

# Cloud Router Switch

## Knowing product line and functions



## CRS125-24-1S-2HnD-IN switch and router ?



24port Switch with a full L3 management

Wi-Fi Client/AP and SFP port are part of the switch but they can be take out from a switch and used as a routed uplink with NAT or anny MikroTik router OS functionality

In this case it is in DESKTOP size and you do have a LCD, USB and Console features as a standard.

# CRS125-24-1S-RM



A long time we waited to get switch with a full L3 management for an enterprise segment, loaded with functionality.

Features we waited for like Port Switching and Mirroring, VLAN's and L2 rules, MAC user table, and L3

Maybe a small hint for future development most used configuration is with a 2 SFP ports for a ring configuration.

## Inside – OUT

**In this solution where the switch ports are independent from internal ports you have to be cautious about assigning right functionality to right port**

**For example:**

- VLANS you can set them to internal port ether10 but if you want to have it on ether10 you have to unplug ether10 from switch**
- Or connect the VLAN through CPU which is connecting SWITCH CHIP with ROS functions**
- Or manage VLANS in the special SWITCH menu**

# CloudCore application in RL



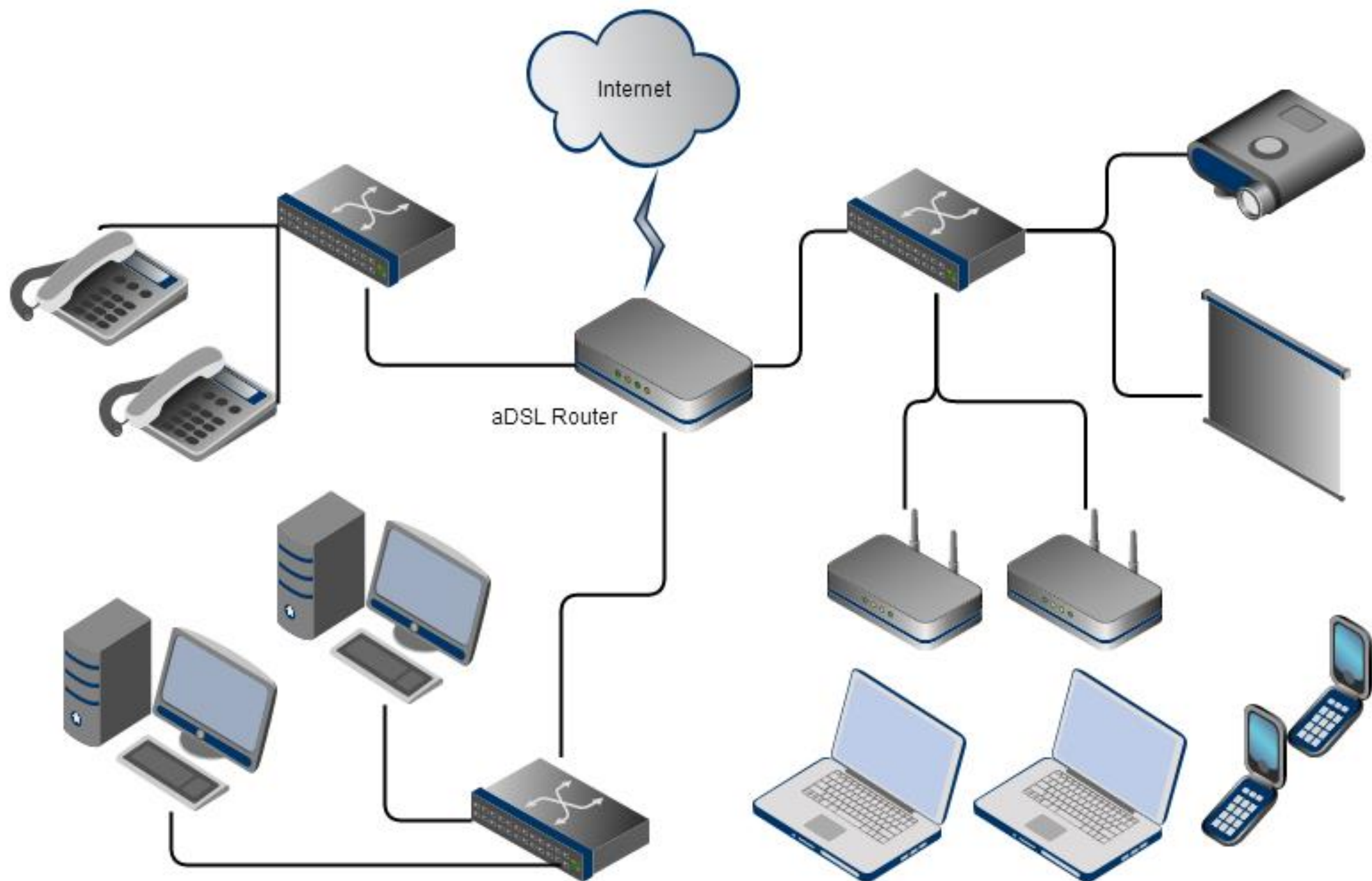
## Application ideal for the school

When I got mine first Cloud Switch Router in a minute I had idea how solve one problem with rebuilding network at school where I do help.

In school have focus to have a really high security measures, because students gain knowledge about security and internal attack is mostly dangerous than others.

On other hand financing is a problem.

Before they got non manageable port switches and standard AP = low security, high cost and high consumption, high service cost and only 100mbps internal speed.



## **Propositions:**

**Student's limited network with controller and logging**

**Teachers high security log-in**

**Cable network for devices - projector, interactive table..**

**IP-telephony – wireless**

**9x teachers and staff members**

## **Solution:**

**First we have to count devices:**

**9x IP-phones 7x wired and 2x Wi-Fi**

**2x projector/table**

**2x wireless Notebook**

**9x teachers PC**

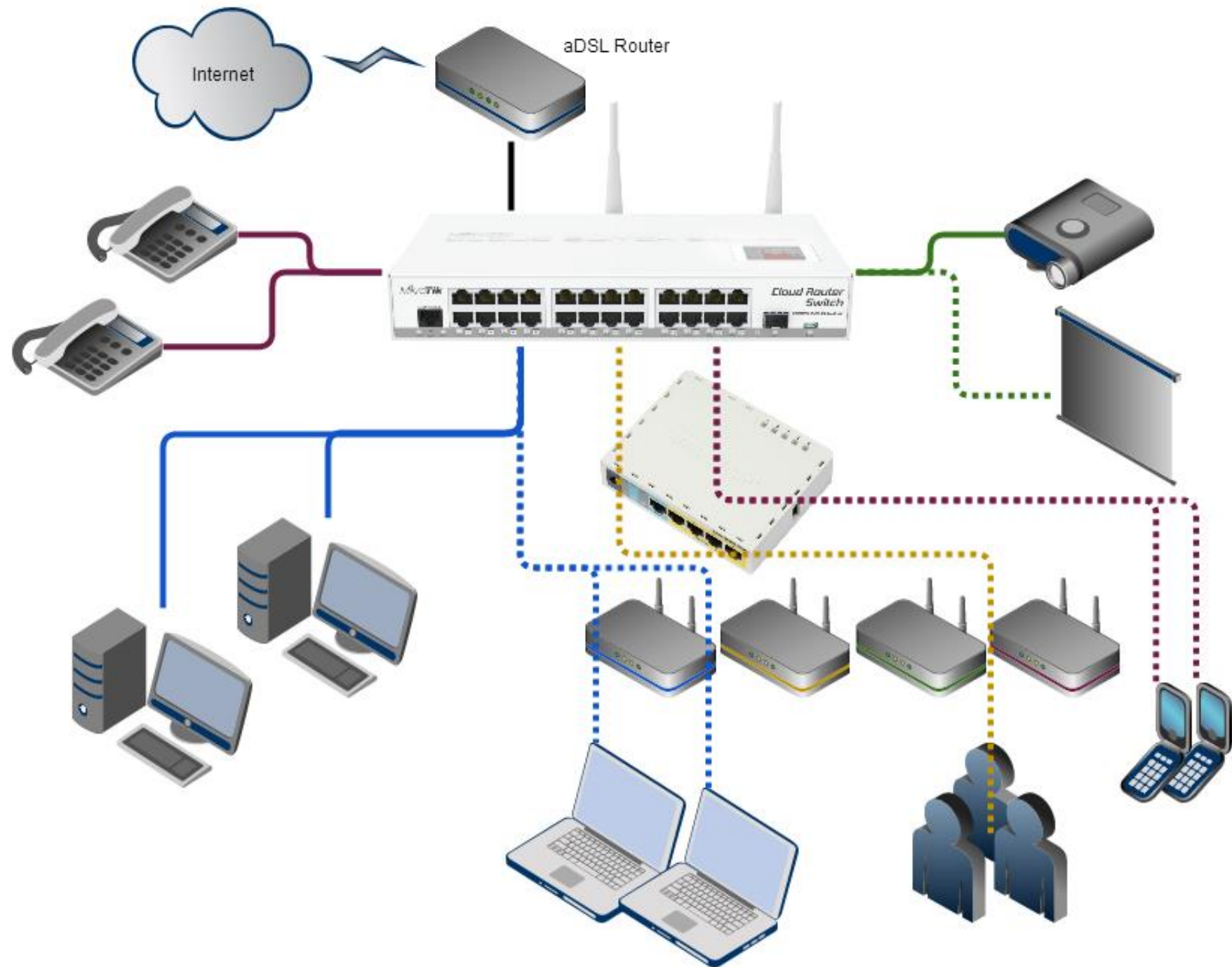
**1xpublic internet PC**

**Numerous others students Wi-Fi**

**4x other mikrotik AP's**

**Together 21 wired devices and xxy wireless devices**





## **Solution:**

**1x CRS125-24-1S-2HnD**

**1x RB750U POE manager for APs**

**4x RB411 with antenna's**

**Vlan1 - student - ssid student**

**Vlan2 - teacher - ssid teacher**

**Vlan3 - devices - ssid internal**

**Vlan4 - IP-telephony - ssid sip**

**Hot-spot installed on the  
vlan1 for students, using  
usermanager to log activity.**

**Teacher of information  
after 2h of training is able to  
manage student accounts and  
network access.**



**Thank You For Your Attention**