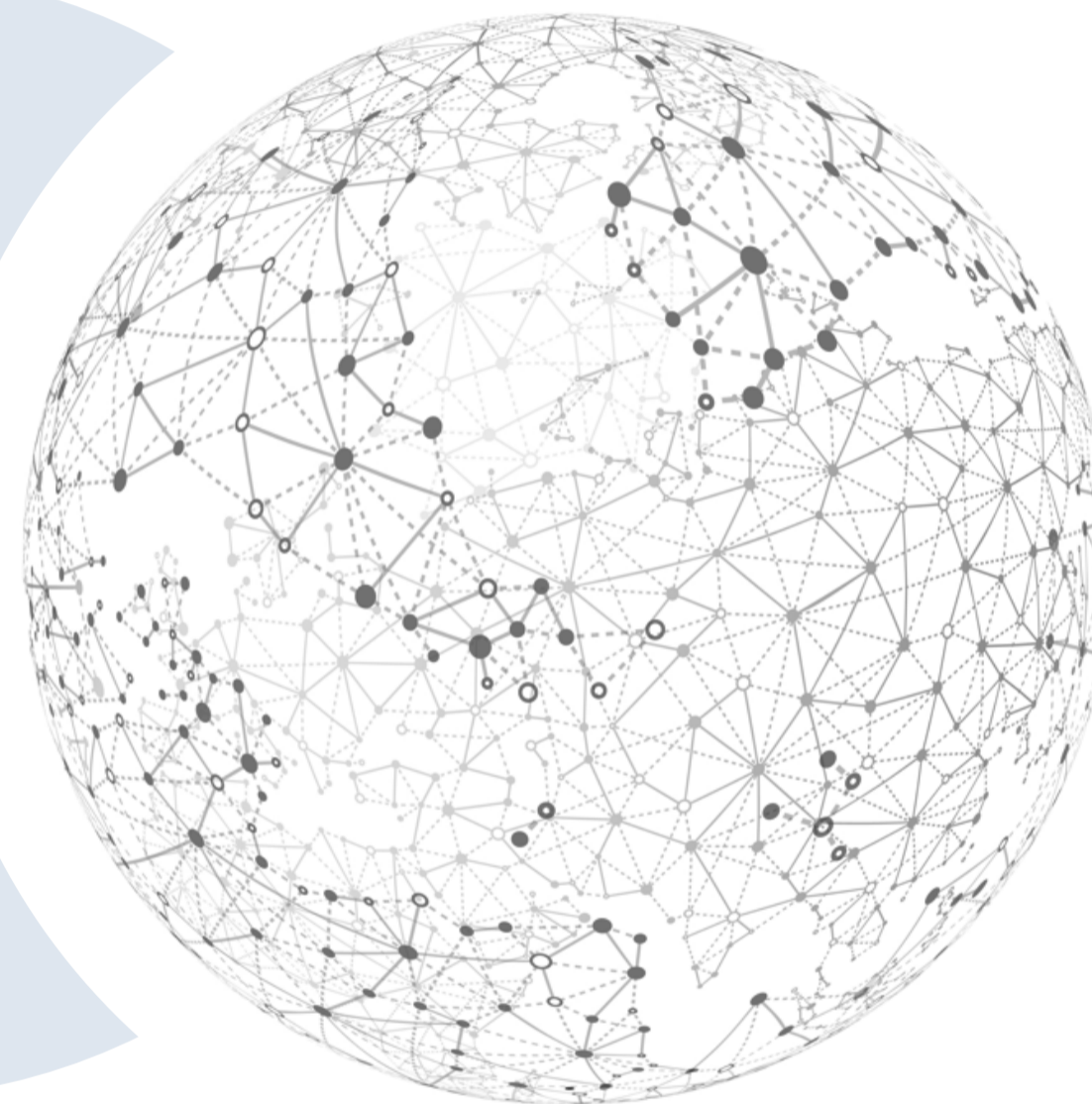
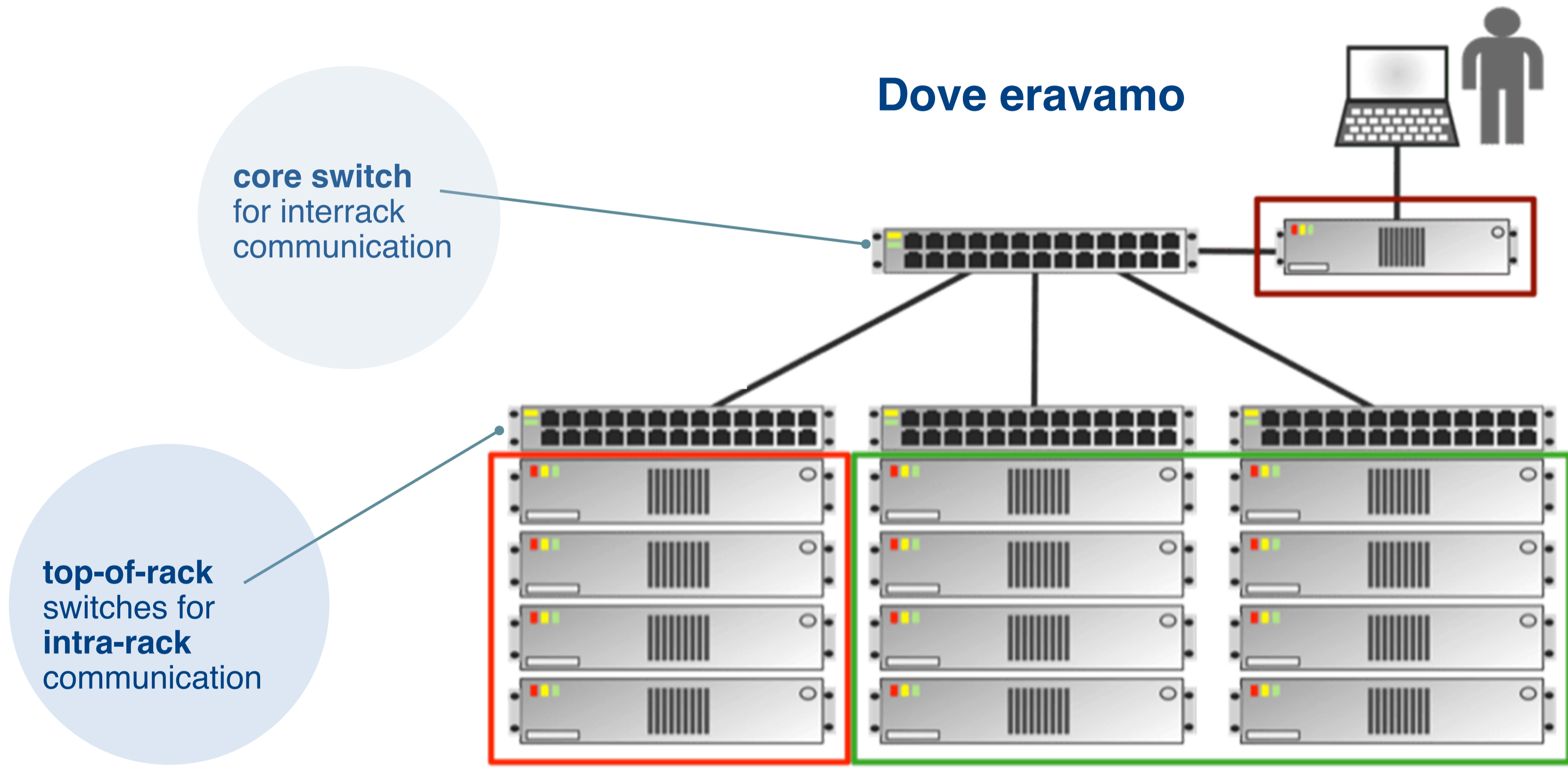


Buongiorno

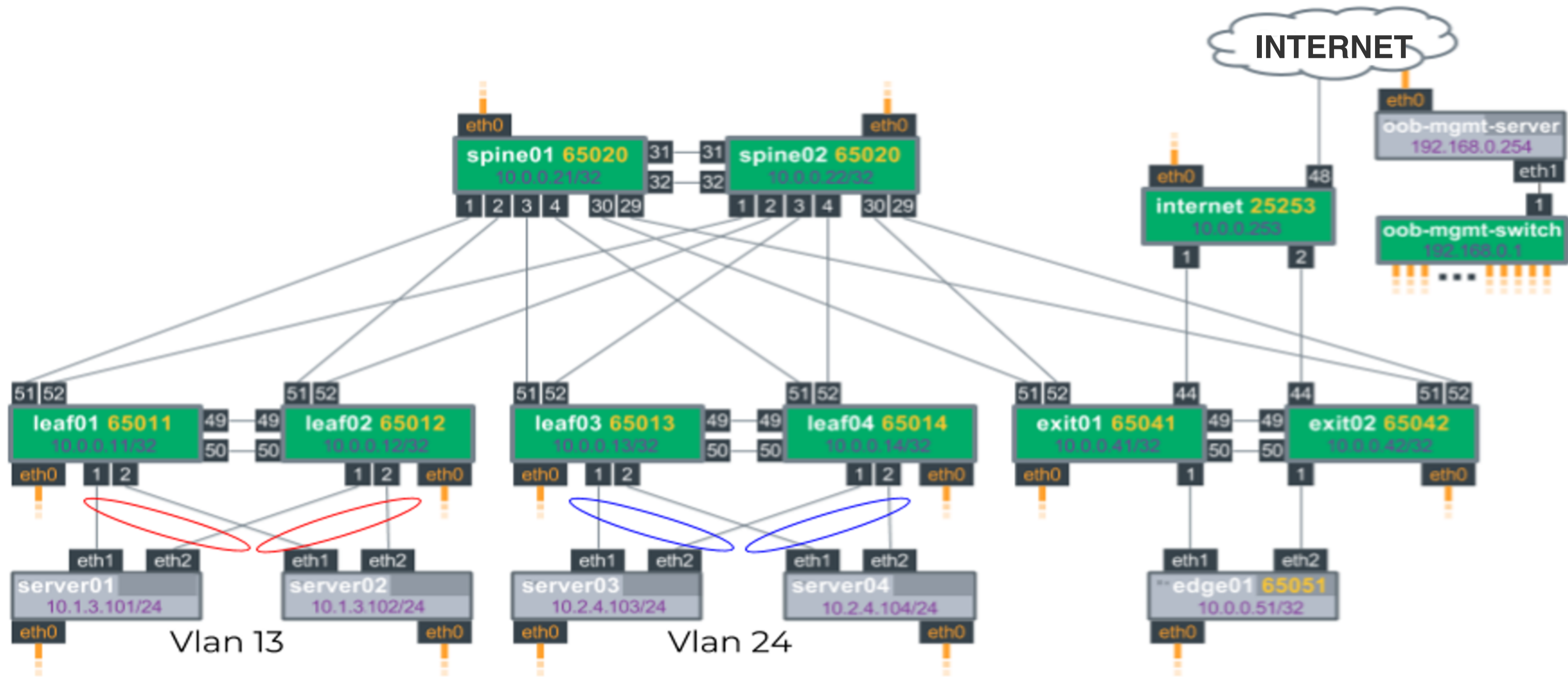


La multiutility a prova di futuro!

# I Parte Virtualizzazione del Network Datacenter



# La nuova topologia: CLOS (Charles Clos)



WHOLESALE

FT WINERY  
*Tour*

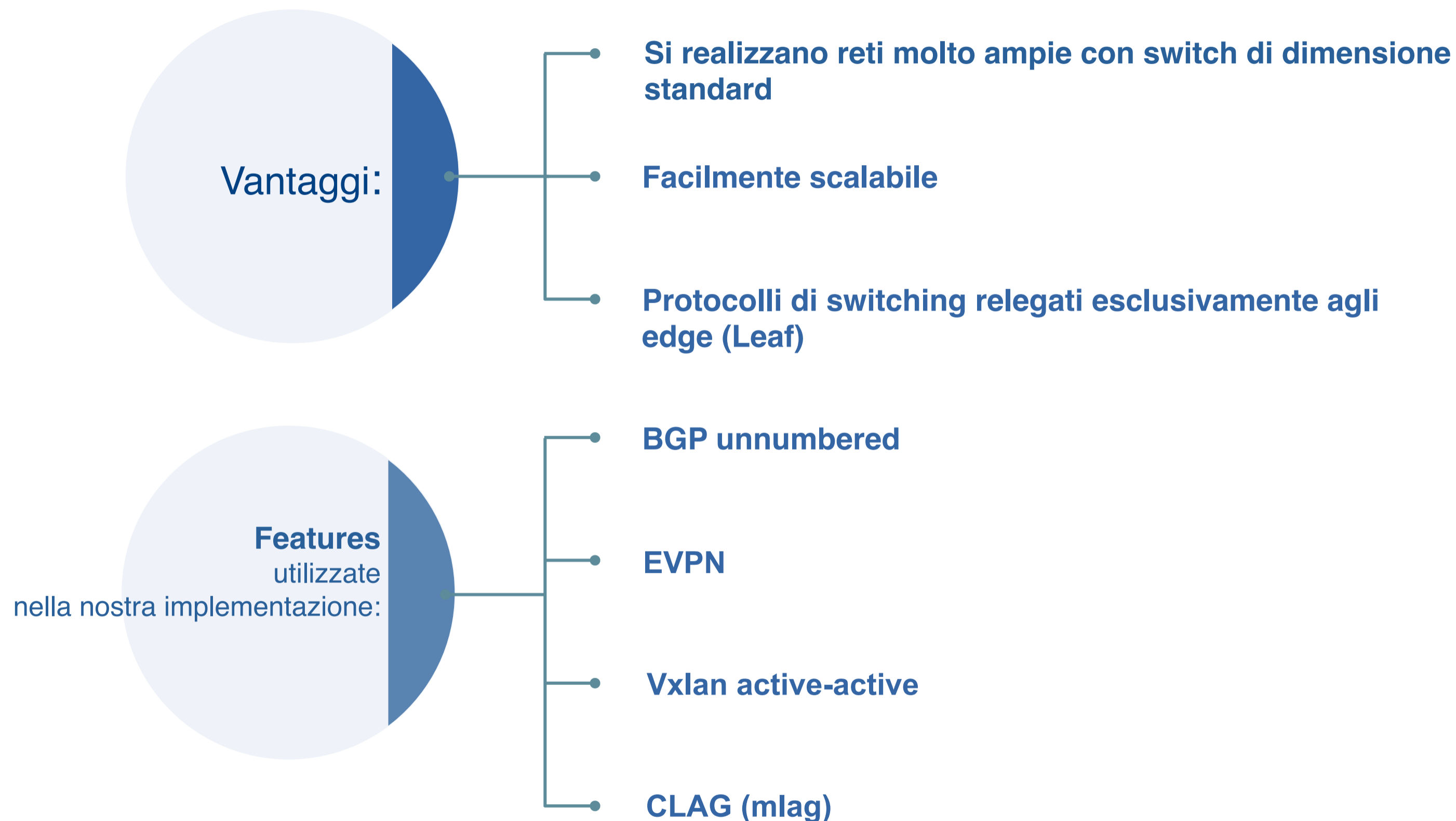
Rosario Pingaro

Virtualizzazione del Network ed Hw-offload

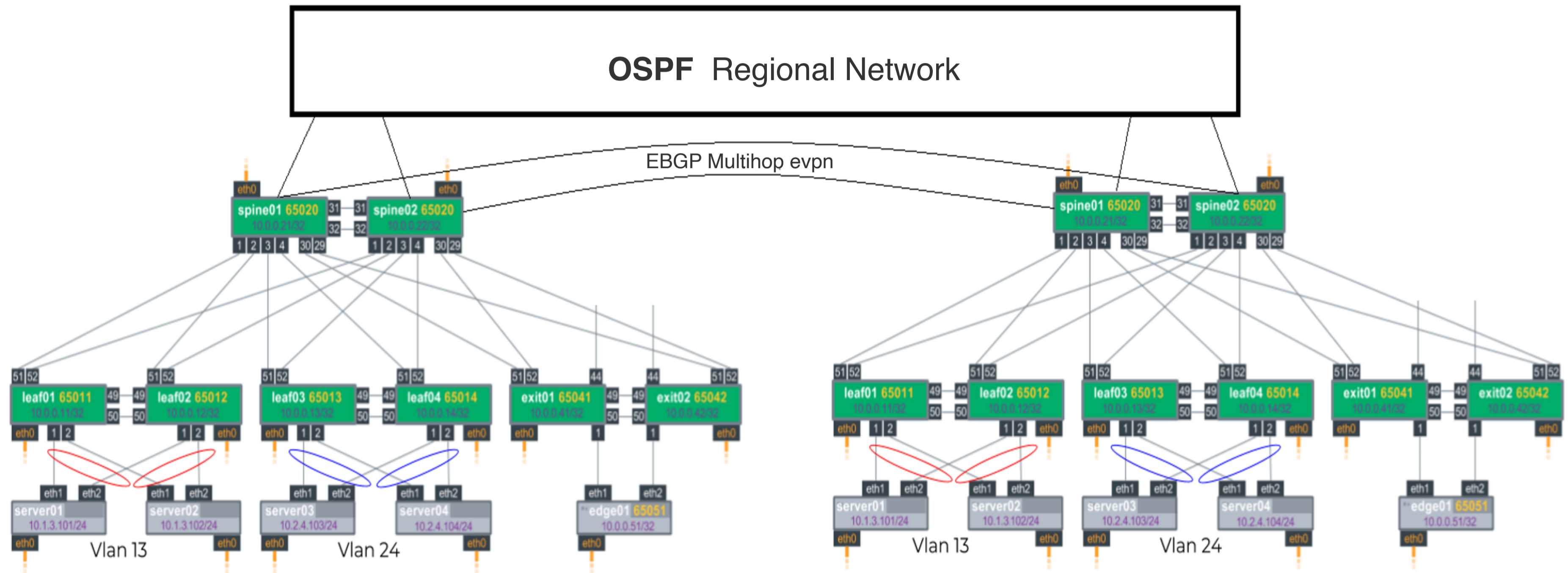




# La nuova topologia: CLOS



# Estensione del network in ambito geografico



WHOLESALE

FT WINERY  
*Tour*

Rosario Pingaro

Virtualizzazione del Network ed Hw-offload



## II Parte Hw-offload La soluzione Mikrotik

**CCR2216-1G-12XS-2XQ**

- 2 Porte 100 GBps
- 12 Porte 25 GBpd
- 16 Cores arm 64 2000mhz
- Switch Marvell 98 DX8525

60k-120k IPv4 routes

64k IPv4 hosts

15k-20k IPv6 routes

32k IPv6 hosts

WHOLESALE

FT

WINERY

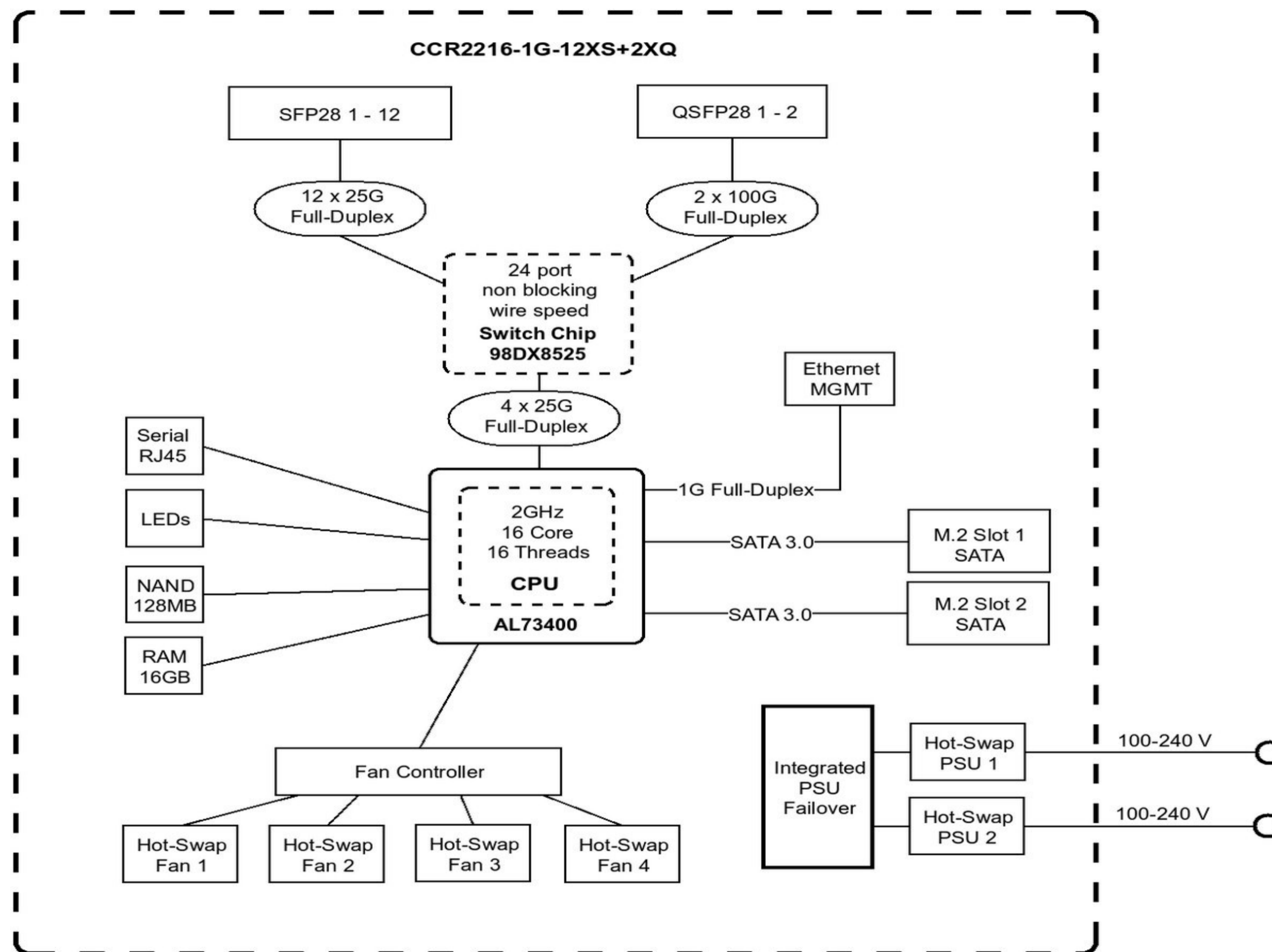
Tour

*Rosario Pingaro*

Virtualizzazione del Network ed Hw-offload



# Hw-offload La soluzione Mikrotik



Rosario Pingaro  
Virtualizzazione del Network ed Hw-offload





# Hwoffload La soluzione Mikrotik

Attenzione nella configurazione

## Gestione dei prefissi da accelerare tramite routing filter:

```
add chain=in_from_namex disabled=no rule="set suppress-hw-offload yes; "
add chain=in_from_namex disabled=no rule="if (bgp-as-path 32934 ) { set suppress-hw-offload no;}"
add chain=in_from_namex disabled=no rule="if (bgp-as-path 20940 ) { set suppress-hw-offload no;}"
add chain=in_from_namex disabled=no rule="if (bgp-as-path 16509 ) { set suppress-hw-offload no;}"
add chain=in_from_namex disabled=no rule="if (bgp-as-path 15169 ) { set suppress-hw-offload no;}"
add chain=in_from_namex disabled=no rule="if (bgp-as-path 54113 ) { set suppress-hw-offload no;}"
```

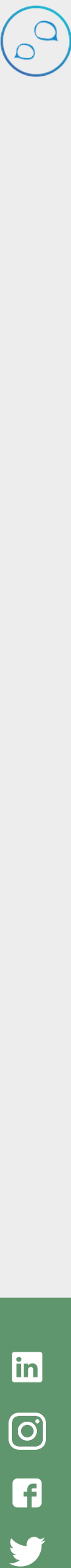
## Configurazione vlan su bridge per essere gestite in hardware:

Bridge			
Bridge	Ports	Port Extensions	VLANs
bridge			101, 109, 199, 300, 303, 400, 404, 405, 407, 409, 411, 507, 1000
D bridge			1

R	bridge	Bridge	1500	9570
R	vlan101	VLAN	1500	9566
R	vlan109-Mix	VLAN	1500	9566
R	vlan199-Bari	VLAN	1500	9566
R	vlan300	VLAN	1500	9566
R	vlan303	VLAN	1500	9566
R	vlan400	VLAN	1500	9566
R	vlan404	VLAN	1500	9566
R	vlan405	VLAN	1500	9566
R	vlan407	VLAN	1500	9566
R	vlan409	VLAN	1500	9566
R	vlan411	VLAN	1500	9566
R	vlan507	VLAN	1500	9566
R	vlan1000	VLAN	1500	9566



Rosario Pingaro  
Virtualizzazione del Network ed Hw-offload





# Hwoffload La soluzione Mikrotik

## Limiti attuali

- BGP: assenza BFD
- BGP: ha ancora delle mancanze estetiche  
(es. prefissi ricevuti da un peer)
- BGP: in rare occasioni si innescano dei memory leak
- HW-Offload: mancata visualizzazione del traffico sulle vlan

WHOLESALE

FT

WINERY

Tour

*Rosario Pingaro*

Virtualizzazione del Network ed Hw-offload



 **Grazie per l'attenzione!**



Convergenze Innovation Center

[convergenze.it](http://convergenze.it)

**Convergenze S.p.A. Società Benefit**  
Via Seliano, 2 Capaccio Paestum (SA)

[info@convergenze.it](mailto:info@convergenze.it)  
numero verde 800 987 787



*Rosario Pingaro*  
Virtualizzazione del Network ed Hw-offload

