

The Jisc logo consists of the word "Jisc" in white, sans-serif font, centered within a solid orange square. The background of the slide is a teal-colored image of a woman with curly hair and glasses, looking slightly to the right. The image has a digital, data-like aesthetic with faint lines and patterns overlaid on it.

Jisc

# Workshop\_49

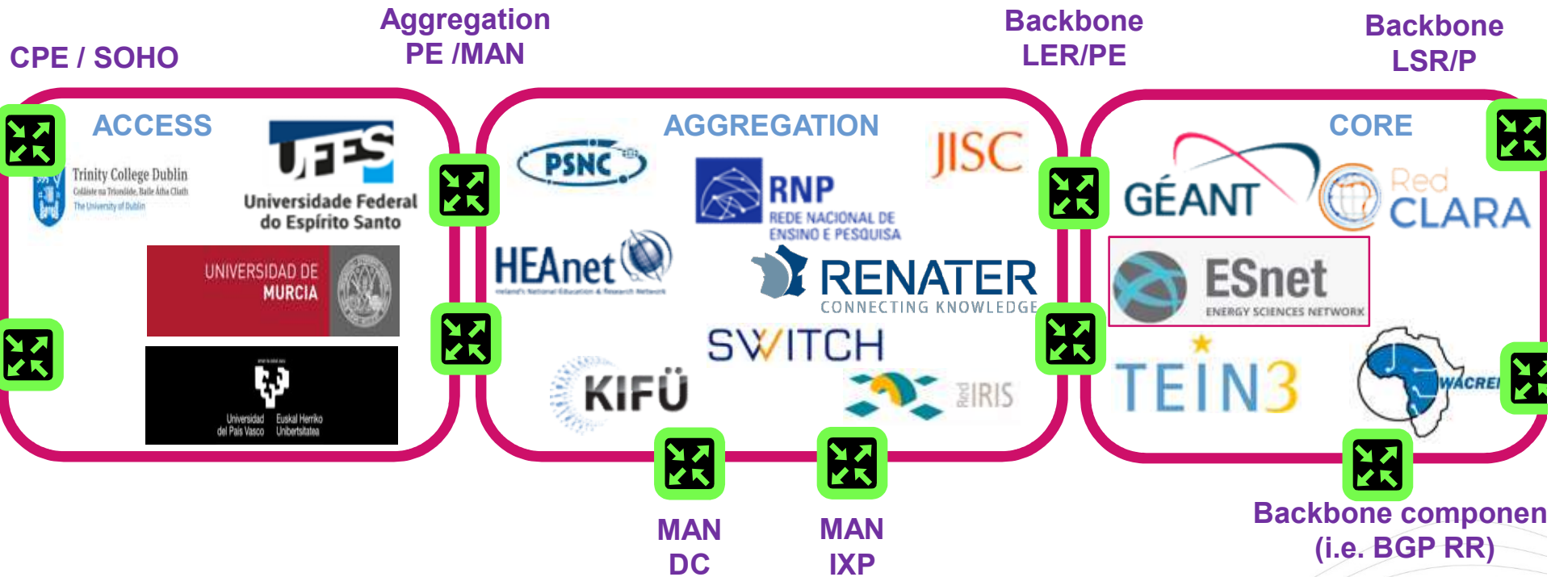
## Router for Academia Research Education (RARE) RARE/freeRtr in a nutshell

Jordi Ortiz – University of Murcia

## RARE@GN4-3

- EC Funded
- **Tying** open-source control plane software to an open-source **programmable data plane**
- Result is a feature rich network platform:
  - Running at hardware **line-rate**
  - Can run in commodity hardware
  - DIY/**Hackable**/Customizable Router
  - Control plane independence. Right now FreeRtr supported





**IPv4 and IPv6 compliant !**



## RARE targets addressed

- RARE p4 targets



bmv2 software switch



**Programmable Ethernet ASIC**

on WEDGE-BF100-32X



**under study**

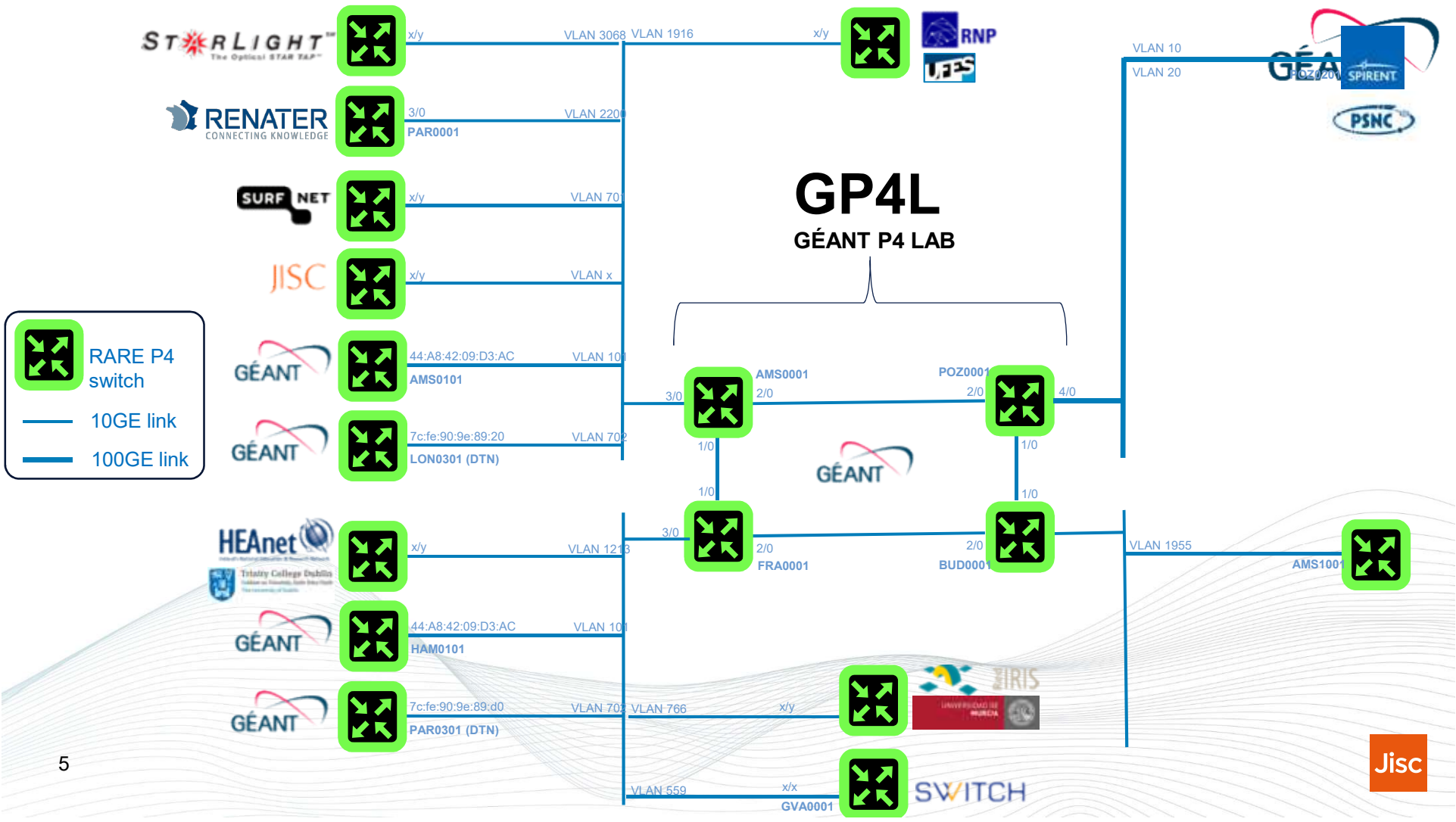
- RARE Network Programmable targets



Broadcom **under study**

- RARE p4 discussion emulation targets





# We are ready to roll into production

- Automated testing
- 3rd party testing via Spirent usage
  - (thanks to PSNC@WB team)
- P4 profile calibration
- DPDK currently in operation SOHO
- Production deployment



- Work in progress production deployment





RARE freeRouter  
@rare\_freerouter

Did you already transferred 1 petabytes of data in 2.5h ?

Traducir Tweet

wedge32#show interfaces hwsummary | include up | summary

column	summary	average
coL0	0	0
coL1	0	0
coL2	970659454143153	44120884270234
coL3	963740394232483	43806301556021
coL4	0	0

wedge32#show platform | include up  
uptime: since 2021-03-05 20:32:37, for 02:34:58  
reload: code#2=upgrade finished

wedge32#

11:13 p. m. · 5 mar. 2021 · Twitter Web App

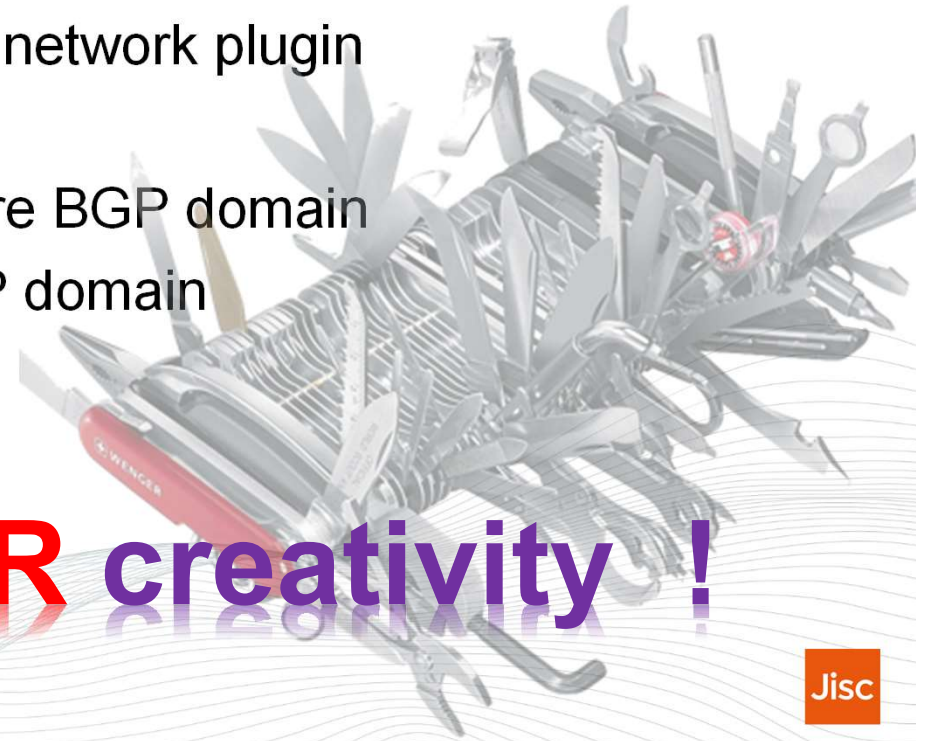
# Practical uses #xxx The sky is the limit



- Automation integration
- IXP with MPLS core
- ToR router combined to BGP aware network plugin
- Spine/Leaf DC router
- Global BGP monitoring for your entire BGP domain
- Global IGP guard for your entire IGP domain
- BGP flowspec aware anti DDOS
- AAA servers (TACACS, RADIUS)

• ...

**We need YOUR creativity !**





## More info:

Contact us: [rare-users@lists.geant.org](mailto:rare-users@lists.geant.org)

@rare\_freerouter



- About RARE: <https://wiki.geant.org/display/RARE/Home>
- Complete feature list per platform  
<https://wiki.geant.org/display/RARE/Complete+feature+list>
- Want to develop on P4 hardware? Access our GP4L (Intel NDA needed)  
<https://wiki.geant.org/display/RARE/Laboratory+Manual>
- Want to play at home? Sure! Try SOHO  
<https://wiki.geant.org/pages/viewpage.action?pageId=148090404>

# Thank you

# Workshop\_49

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