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

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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:
    o Running at hardware line-rate
    o Can run in commodity hardware
    o DIY/Hackable/Customizable Router
    o 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
  - FPGAs under study
• RARE Network Programmable targets
  - Broadcom under study

• RARE p4 discussion emulation targets
  - TCPDUMP & Libpcap
  - DPDK Data Plane Development Kit
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
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

• 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

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