



snabb.co

Snabb NFV

Neutron at 100 Gbps

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Agenda

Hello!

TeraStream: an awesome project we are supporting

Challenges we discovered for OpenStack networking

How we solved them: Snabb NFV

Open source FTW

Introduction (me)

Aussie in Switzerland (Berner Oberland)

Open source networking developer @ snabb.co

Networking startup guy (15 years)

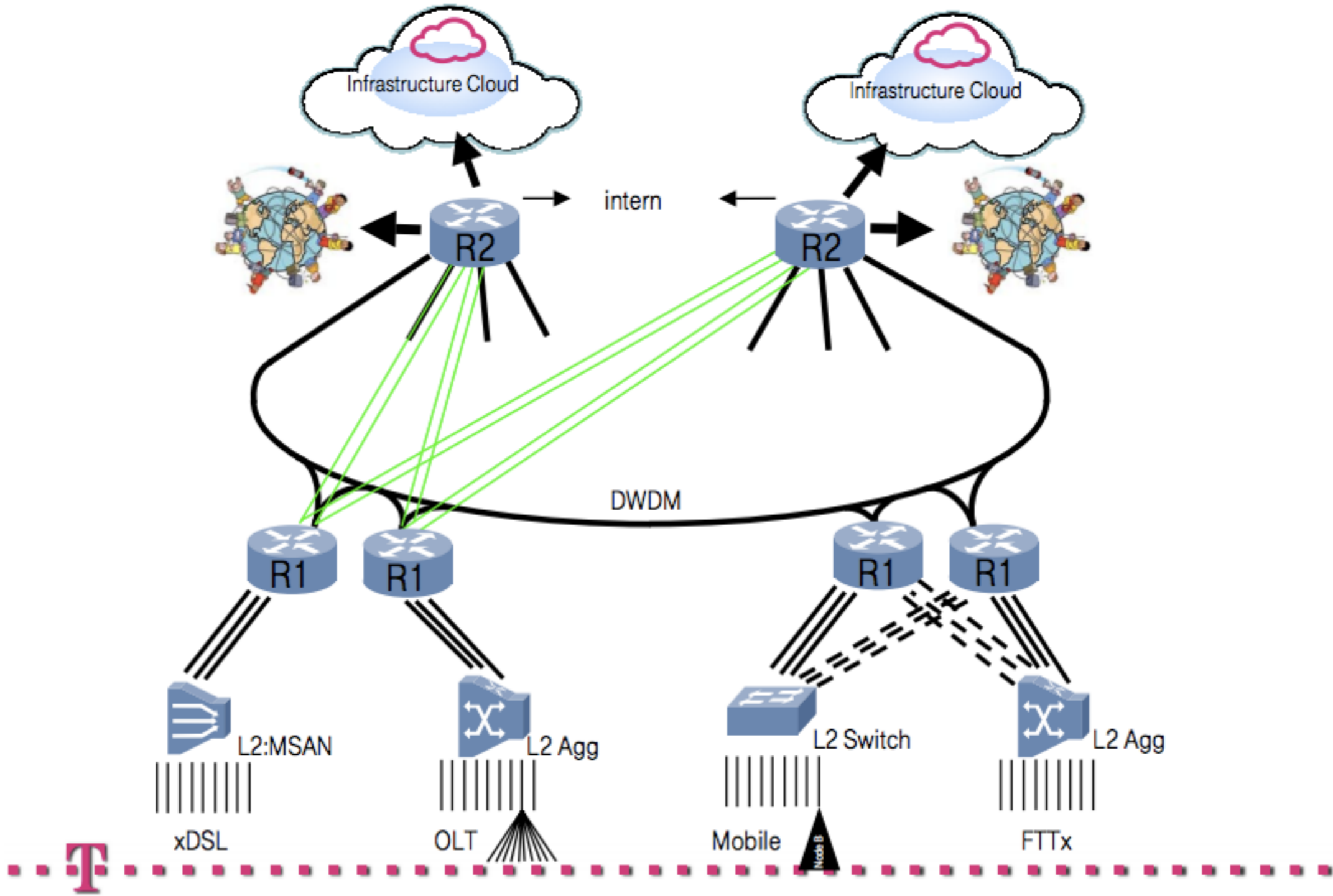
Love working on ambitious projects:

Startups, One Laptop Per Child, Alan Kay's STEPS, Snabb Switch, TeraStream.

Love technology: LuaJIT, Erlang, Forth, Lisp, Emacs

Working together with **Virtual Open Systems**, **Igalia**, other other open source professionals.

THE TERASTREAM ARCHITECTURE



Challenges for OpenStack

Performance: Keep up with real world internet traffic

Functionality: Stay in control of the network

Network model: flat, vlan, vxlan... TeraStream



Snabb NFV

The solution we built

Performance: N x 10G Virtio-net @ 1 core per port

Functionality: Bandwidth reservation, L2TPv3 tunnels, security groups, traffic rate policing

Network model: New ML2 network type: zone



Snabb NFV

Code that we wrote and upstreamed

snabbnfv: Data plane built on Snabb Switch

vhost-user: QEMU extension for userspace I/O

Igalia pflua: High performance packet filter

OpenStack drivers: Nova VIF, ML2 mech, ML2 type



Snabb NFV

Come and get it

Open source @ <http://github.com/SnabbCo/snabb-nfv>

Production ready on OpenStack Icehouse

Support available from open source professionals

Design, Code, Upstream

Many hands make light work...

Alexander Altshuler	Michael Tsirkin	Michele Paolino
Alexander Gall	Edward Hope-Morley	Mike Pall
Andy Wingo	Hans Hübner	Nikolay Nikolaev
Antonio Nikishaev	Hui Xiang	Ouyang Changchun
Antonios Motakis	Ian Wells	Przemyslaw Czesnowicz
Chase Cotton	Javier Guerra Giraldez	Rahul Mohan Rekha
Chris Wright	Joshua Zhang	Rainer Schatzmayer
Damjan Marion	Justin Cormack	Stefan Hajnoczi
Daniel Berrangé	Katerina Barone-Adesi	Thomas Graf
Diego Pino	Max Rottenkolber	Tomislav Sukser

Hurray! Great work! Thank you!
(and the many other contributors too!)