

# Software Defined Networking Ofcom Research Study

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This presentation sets out the scope of a research study that Fujitsu are carrying out for Ofcom on Software Defined Networking and its impact on carrier networks.

The presentation summarises the initial thinking with respect to the business, technology and other impacts of SDN and requests feedback from interested organisations

- Fujitsu are producing a research study on SDN and NFV for Ofcom with emphasis on how it will impact fixed and mobile carrier networks.
- Considers technology and business impacts
- In order to provide Ofcom with a balanced view on SDN/NFV and what it means for communications in the future Fujitsu is seeking the views of carriers and SDN vendors for inclusion in the report.

- SDN orchestration applications will provide increased automation of OSS functions.
  - Will increase service velocity and change the nature of the OSS, but operations teams will not suddenly become network programmers.
  - Service Nodes will exploit virtualisation to support service chaining.
- Introduction of Service APIs to networks
  - Operators will offer these to enhance their offerings, they will allow applications to more easily exploit the network.
- Simpler CPE will be deployed, with routing and firewalling functions centralised and virtualised in the network.
- In mobile networks Cloud-RAN will exploit virtualisation if the fibre infrastructure can support it.
- The core network and NNI will remain IP/BGP based, access networks will remain Ethernet centric.
- It is possible that regulation may be required to ensure that wholesale operators offer SDN APIs fairly to all of their customers.

# Timescales – initial thoughts

## ■ Current SDN solutions:

- Single vendor point solutions: e.g. using vendor SDK interfaces to deploy application centric software within the network, or simplifying complex service provisioning (PCEP and Traffic Engineering)
- Trials, proof of concept and limited deployments of SDN/NFV solutions.

## ■ Short term (1-2 years) :

- Single vendor service orchestration solutions replacing some OSS functions,
- End to End orchestration using SDN for key services in single vendor networks.
- New network deployments become SDN centric.
- Virtual CPE applications - enterprise.

## ■ Medium term solutions (2-3 years):

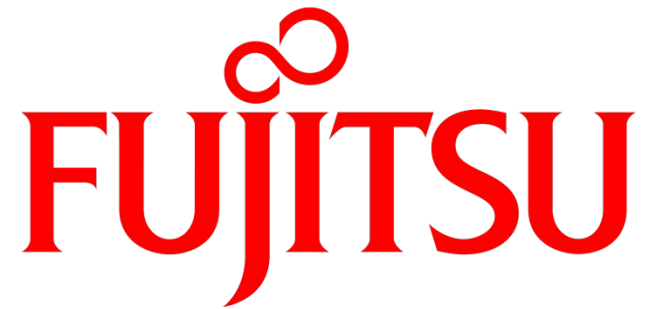
- Service APIs for simple well defined problems, e.g. bandwidth reservation, VPN services.
- Virtual CPE applications – residential.

## ■ Long Term (4-5 years):

- Service APIs for more complex services, e.g. multicast enablement, service chaining APIs.
- Multi-vendor, multi domain service orchestration solutions.
- C-RAN deployments where infrastructure allows.

# Request for Feedback

- Very happy to take any views and feedback from operators and vendors.
- Please get in touch, we are looking for a wide and balanced range of views.
- Ideally all information or discussions should be provided/concluded by 14th February.
- Contact:
  - Chris Gallon [chris.gallon@uk.fujitsu.com](mailto:chris.gallon@uk.fujitsu.com)
- Questions about Ofcom interest and work on SDN/NFV should be referred to:
  - Robindhra Mangtani <Robindhra.Mangtani@ofcom.org.uk>



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