TOUCAN
Towards Ultimate Convergence of All Networks

Abstraction and Control of Transport Networks
IETF 90 – Toronto
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UK EPSRC-funded Project
TOUCAN

- Towards Ultimate Convergence of All Networks (TOUCAN)
  - Define technology agnostic architecture for convergence based on SDN principles
  - Facilitate optimal interconnection of any network technology domains, networked devices and data sets with high flexibility, resource and energy efficiency

- A UK funded project
  - £ 6M from the UK Research Council
  - £6M from industry partners
  - Duration 5 years from August 2014
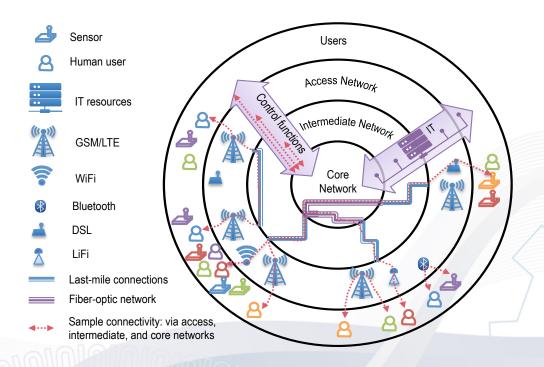
- Project Lead Partners

- Industry Partners (currently include)
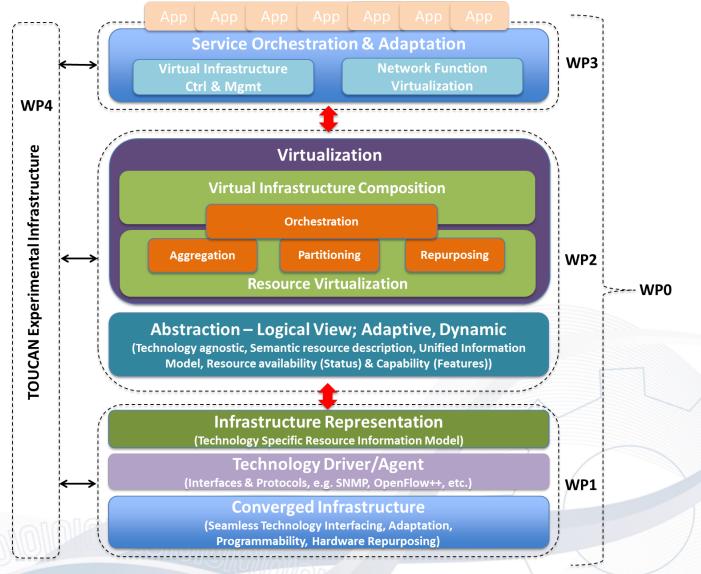 - BT, Plextek, NEC, Samsung, JANET, and Broadcom.

TOUCAN
Goals

- Technology-agnostic system which focuses on end-to-end optimisation of infrastructures and services
  - Wide diversity of technologies

- Service driven control with on demand delivery across virtualised infrastructure
  - Optimization based on capacity, connectivity, spectrum utilization, resource allocation and energy efficiency.

- Commoditisation of network and IT hardware devices
  - Exploit notion of adaptivity and programmability for optimal IT resource and workload allocation
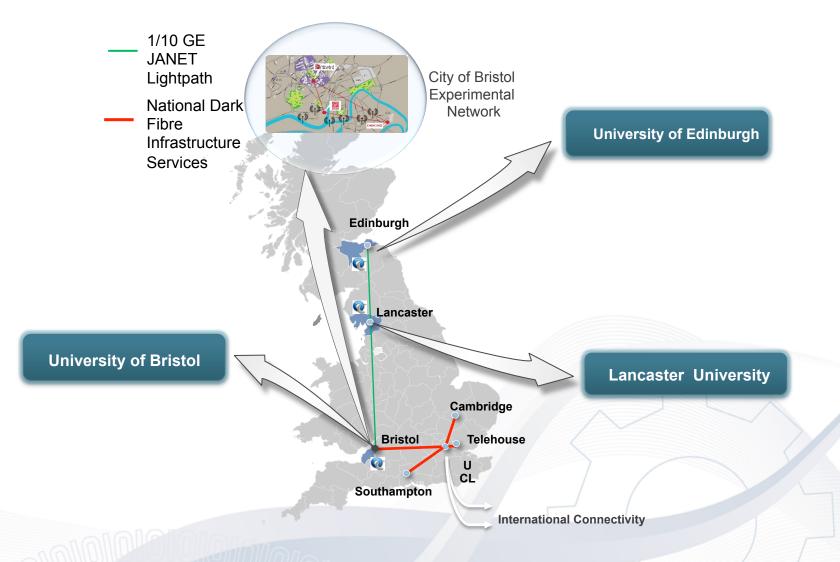
TOUCAN
Technical Challenges (Work Packages)

TOUCAN
Network Infrastructure

- 1/10 GE JANET Lightpath
- National Dark Fibre Infrastructure Services

City of Bristol Experimental Network

University of Edinburgh

University of Bristol

Lancaster University

Edinburgh

Lancaster

Bristol

Cambridge

Telehouse

U CL

Southampton

International Connectivity

5

TOUCAN
Testbed & Applications

National Dark Fibre Infrastructure Services
1/10 GE JANET Lightpath

Wireless test-bed

Edinburgh HPC

Optical wireless test-bed

Wireless test-bed

Bristol HPC

Optical network test-bed

City of Bristol network

Edinburgh

Lancaster

Wired test-bed

B4RN infrastructure

Cambridge

Bristol

UCL
Telehouse

Southampton

International Connectivity
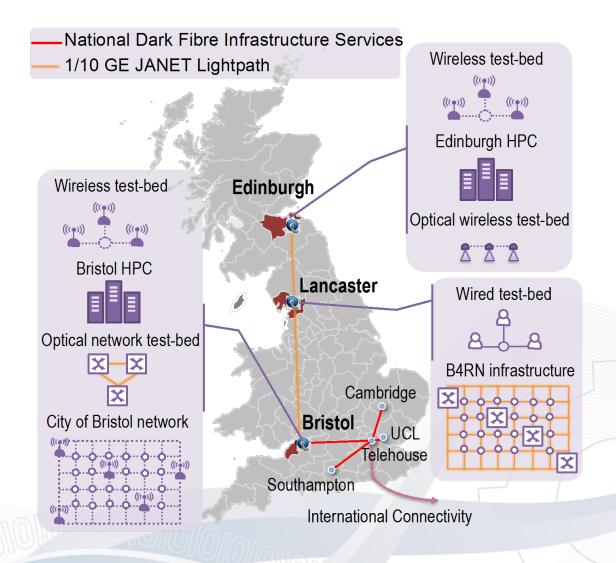
Thank You!

Any comments or questions are welcome.

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