

Digital Village

Photonics21 WG1

Large Scale Action proposal

Future Internet Workshop

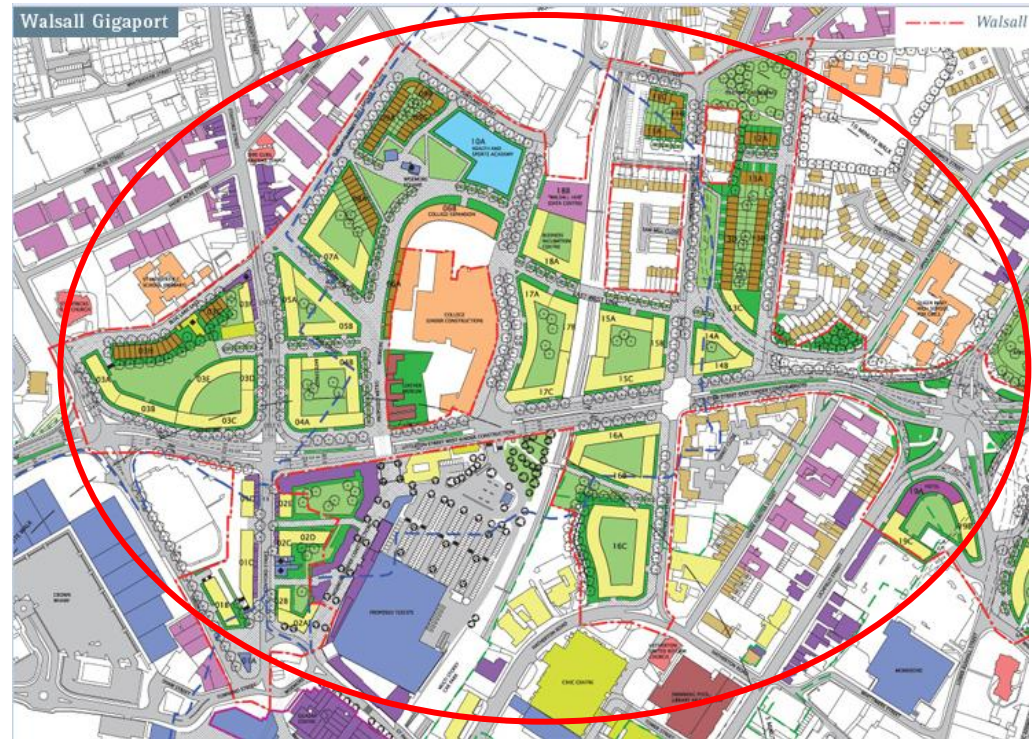
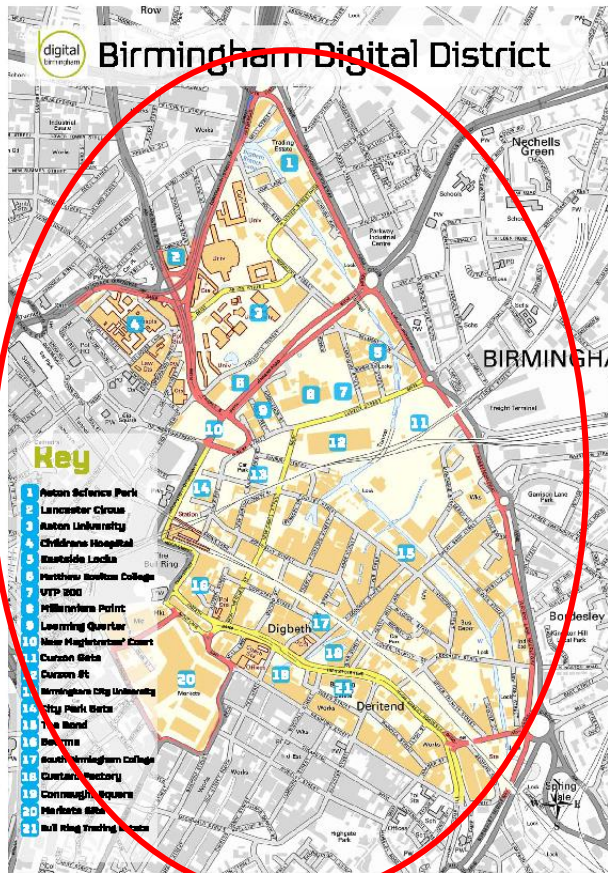
Digital Village Concept

- Physical
 - Create regional trials of ultra-high speed broadband networks
 - Business parks, offices and homes within a geographic region have world class internet access to new services
 - Long term project over time to allow businesses to relocate and grow
- Future Internet Services
 - Digital Village will provide a test bed for new & innovative internet based services
 - Building multi-layer test beds and allowing real consumers to develop services in an incubation environment
- What is unique?
 - Digital Village will be a test bed for both services and physical network solutions
 - Digital Village will allow the study and development of the interactions between technology, services and consumers
 - Some of the key points could be:
 - Access rates of 10Gb/s
 - Security
 - Standardisation
 - Web 2.0 applications and integrated solutions from optical networks to middleware and through to advanced applications
 - Interoperability
 - Software, Platform, Infrastructure (SaaS, PaaS, IaaS)

Motivation

- National & European motivation
 - Recognition that world class ICT infrastructure is essential for economic success
 - World Class ICT is for more than fixed and mobile networks
 - Fibre to the user is an essential part of the Future Internet and service development
 - Opportunity for trials before national rollouts
- Digital Village can lead to regional opportunities
 - Desire to stimulate new investment into the region

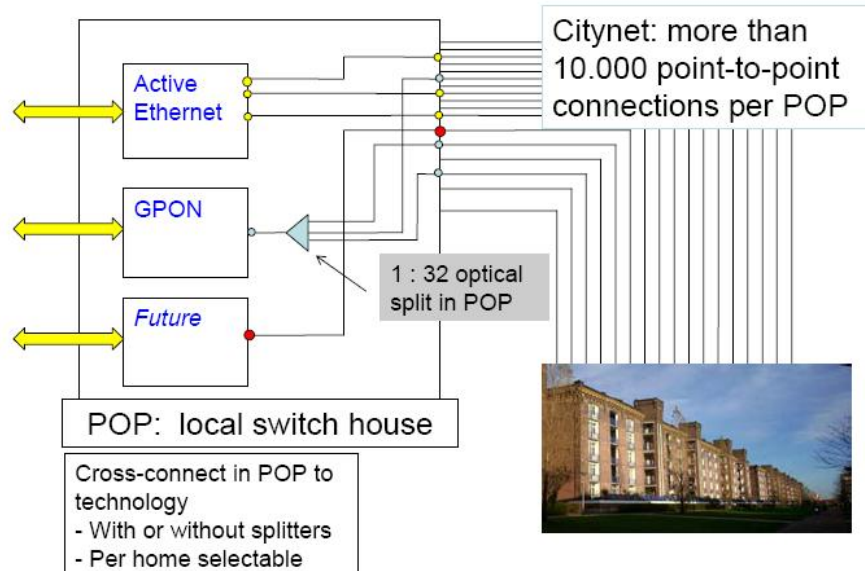
City Centre developments



High quality city centre housing combined with business incubation space and involving local colleges and universities

Amsterdam – CITYNET

High density POP



Proven investment model for NG Broadband, but only 100Mb/s – no large scale rollout of Gb/s broadband

USA Internet 2



<http://internet2.edu>

Internet2 Combined Infrastructure Topology

Portfolio of network infrastructure and services across the Internet2 footprint



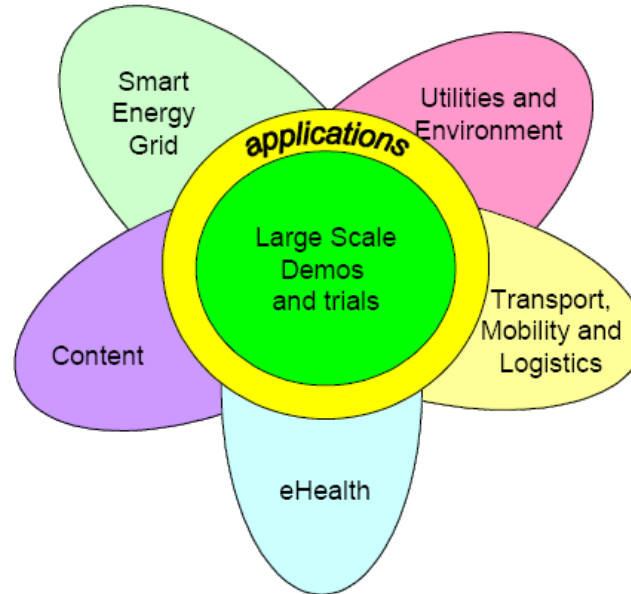
USA Internet2 Services

- **Internet2 FiberCo**
FiberCo serves as a fiber-holding company providing a means for Internet2 members to acquire dark fiber assets.
- **Internet2 Professional Services**
Customized professional services are available to assist in the planning and operation of regional optical networks.. Internet2 Professional Services may be provided by Internet2 or one of its affiliated companies.
- **Internet2 WaveCo**
WaveCo provides Internet2 members cost-effective access to static point-to-point circuits anywhere on the Internet2 infrastructure, or on the Level 3 Communications nationwide network.
- **MAN LAN**
Manhattan Landing (MAN LAN) is a high performance exchange point in New York City that supports both Layer 1 optical and Layer 2 Ethernet connections to facilitate peering among U.S. and international research and education networks.
- **Internet2 Commons**
The Internet2 Commons service which provides IP-based collaboration technologies like H.323 videoconferencing which allows members to schedule and hold distributed meetings, no matter where participants may be located.
- **InCommon**
The InCommon Federation provides a framework for inter-institutional authentication and authorization to enable secure access of protected online network services and resources.
- **USHER**
Internet2 supports the U.S. Higher Education Root (USHER), which acts as a public key infrastructure (PKI) solution for the higher education community for applications and services that require encryption or true digital signature technologies.

Future Internet Initiative 21

The targets of the PPP, which need to be refined in partnership with the application sectors, could include things such as:

- Developing and demonstrating large scale infrastructure of eHealth and mHealth services connecting the whole set of involved actors in the healthcare provision chain.
- Developing an open platform for M2M services and demonstrating it through the implementation of innovative urban services
- Setting up a Smart Energy Grid test environment connecting at least three Smart Cities from different countries and involving at least 100.000 end user participants
- Setting up and testing a Pan-European Global Mobility guidance system (multimodal aggregated databases with single access point for Public Transportation Schedules with real-time traffic updates)



All of the demonstrations within the Future Internet PPP programme must be based on shared frameworks, technologies, common enablers and architectures implemented in federated instances of the Future Internet Core Platform concept.

A **real world test environment** is essential if only to enable the collaboration between the stakeholders

Need to experiment full virtualisation (XaaS) solutions

Proposal

- Create a Large Scale Action to enable the provision of advanced testbeds for trialling and evaluating advanced solutions, topologies and service delivery models
- Enable Local / Regional / Municipal operators to take advantage of the opportunity to build and operate the network
- Create partnerships with service developers, content providers and users to build centres of excellence
- Work closely with Future Internet

