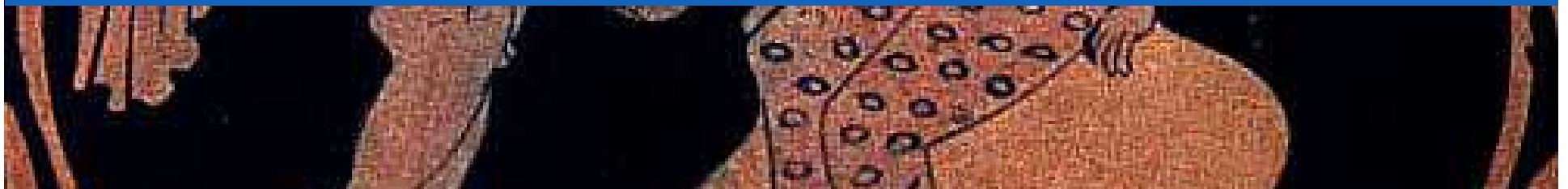




## IST MUSE



[Peter.Vetter@alcatel.be](mailto:Peter.Vetter@alcatel.be)



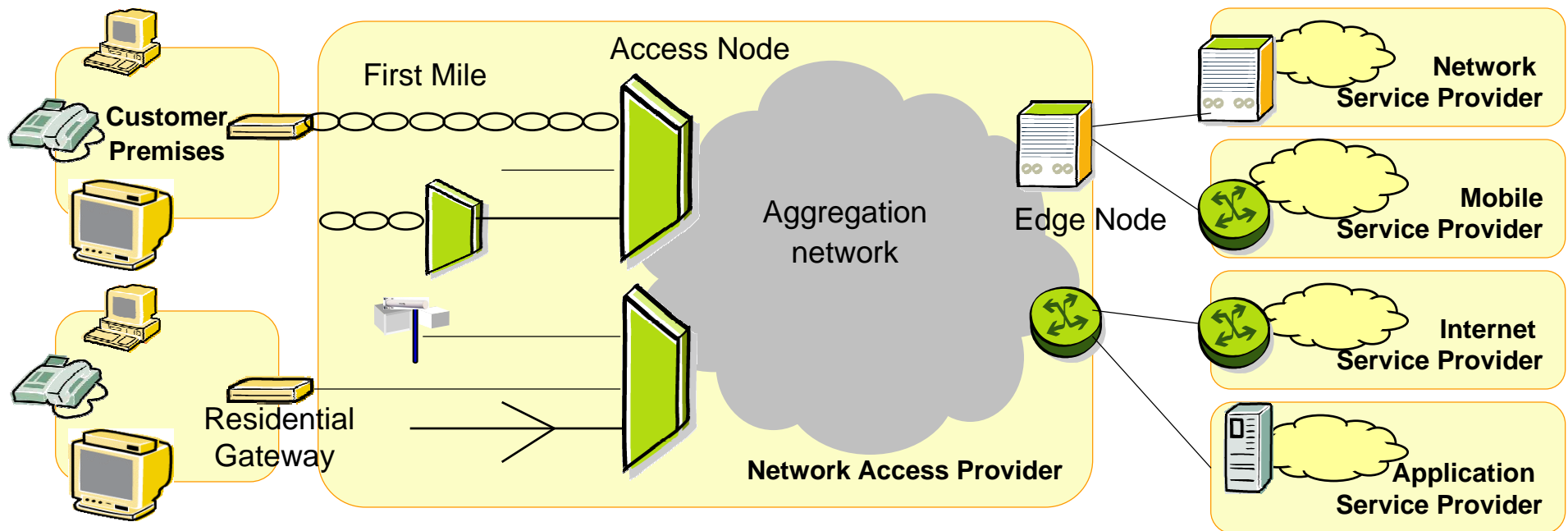
# Multi Service Access Everywhere

MUSE Confidential

# What is the objective of the research in MUSE ?



**Multi service access network that provides secure connectivity between end-user terminals and edge nodes in an open, multi-provider environment at a low cost for every European citizen.**



# What is MUSE ?



MUSE is a European consortium funded by EC as part of 6<sup>th</sup> Framework Programme IST

- Strategic objective: “Broadband for All”

Co-operative research of operators, vendors and academia

- Studies are driven by requirements from European operators
- Addresses medium and long term commercialisation

Output

- Research reports
- Proof of concept in lab prototypes
- Standards contributions

# Who is in MUSE ?



Phase I: 2004-2005

Phase II: 2006-2007

36 partners -100 PY/year



**System vendors**

**Component vendors**

Interop — 4

**Operators**

**SME**

Aarhus BB society (\*)

MUSE Confidential

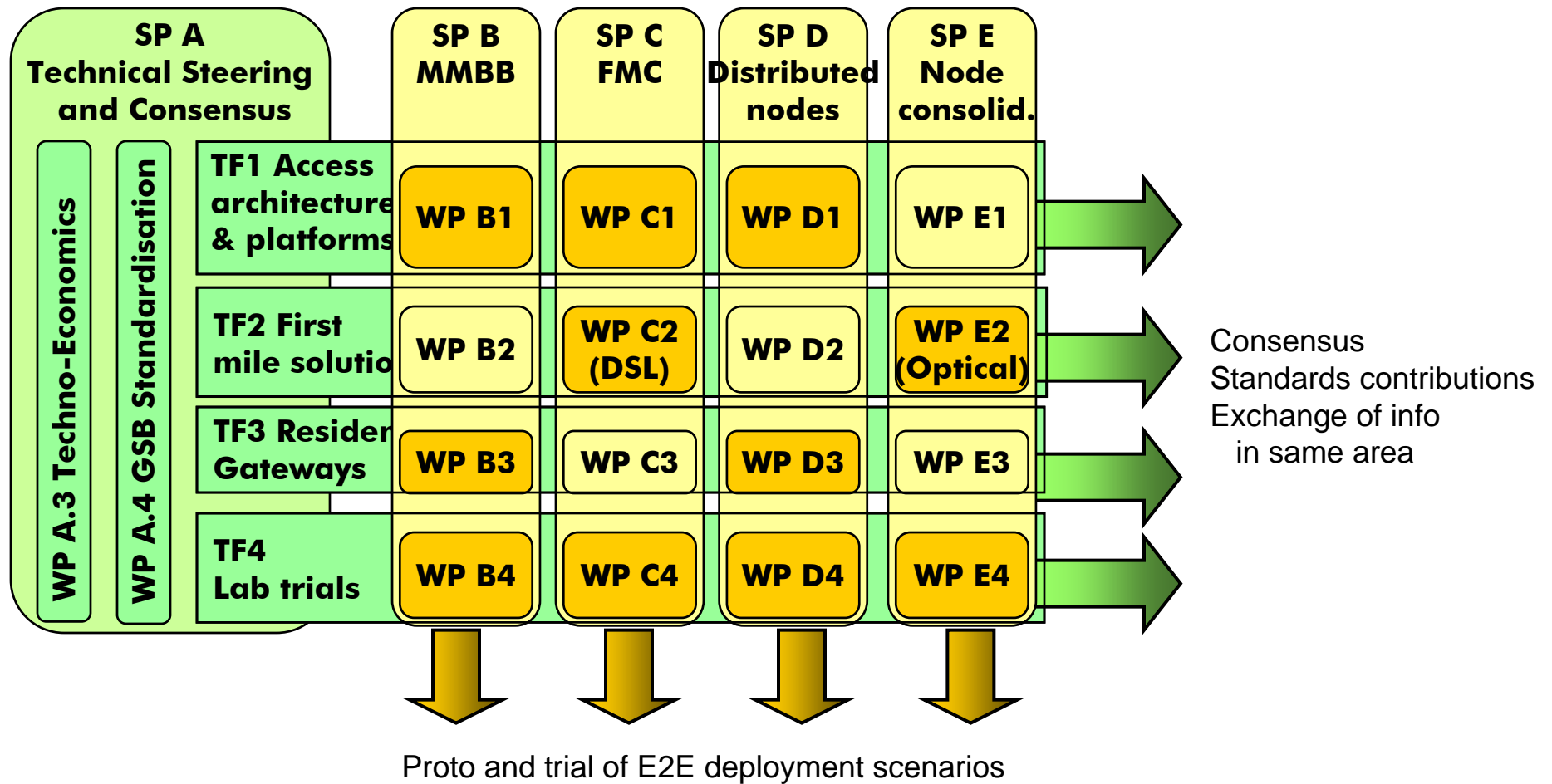
**Research Inst. & Universities**

- IBBT
- Inria
- Budapest University (BUTE)
- ICCS/NTUA
- HHI
- Lund Institute of Technology (LTH)
- TU Eindhoven
- ACREO
- Univ. Carlos III de Madrid
- University of Essex

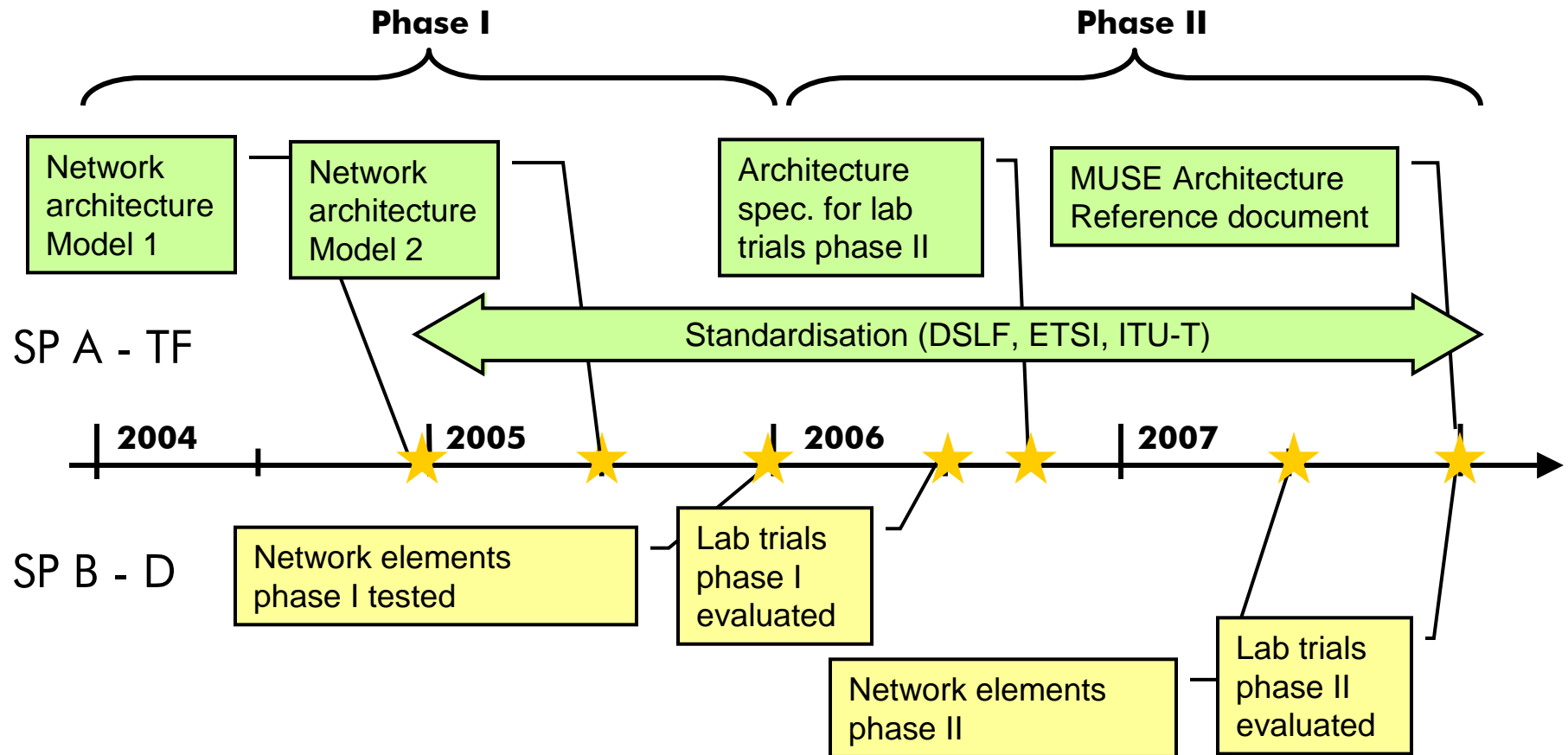
(\*) Only in phase I

(\*\*) Only in phase II

# How is MUSE organised ?



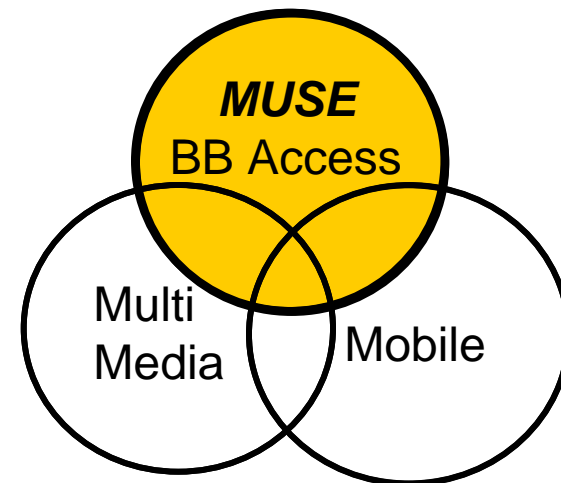
# When are the major milestones ?



# Moving from phase I to phase II



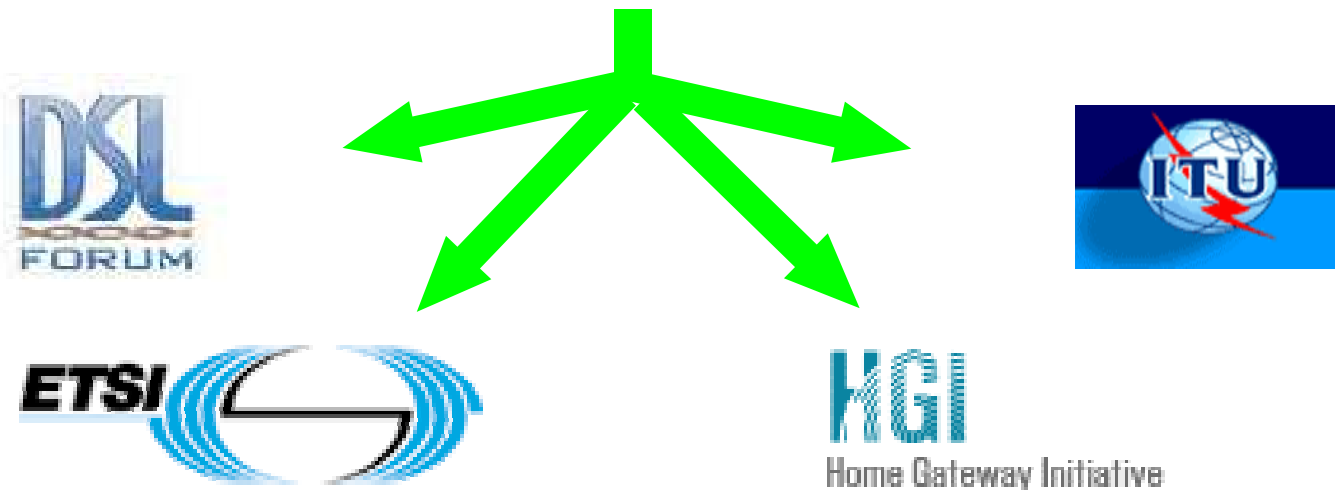
- ❑ Enforce standardisation
  - Capitalise on work in phase I
  - Prepare for certification
  
- ❑ Prepare for convergence with access
  - Multimedia
  - Mobile
  
- ❑ New architecture concepts
  - Decentralised architectures
  - Long reach – “Zero touch”
  
- ❑ Integrated lab trials



# SPA Technical steering and consensus



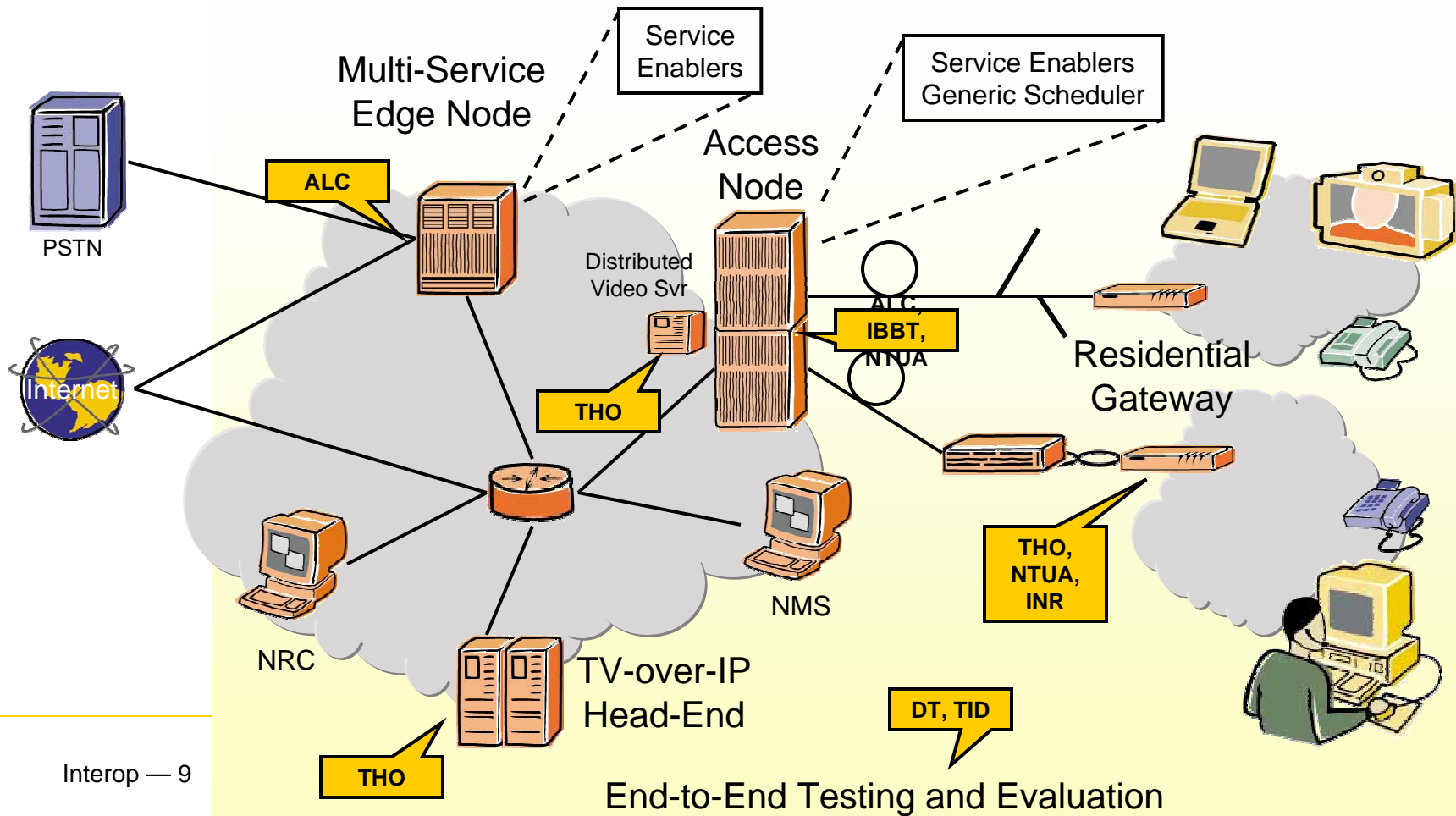
- ❑ Provide an overall framework to steer the technical work in various SP
- ❑ Support technical research by economic evaluation of business cases
  - Process oriented OPEX analysis
  - New use cases (e.g. FMC, MM features, etc.)
- ❑ Co-ordinate the exploitation of the results through the standardisation
  - Technical contributions via TF1.0, TF2.0, TF3.0, TF4.0



# SPB Multi Media Broadband



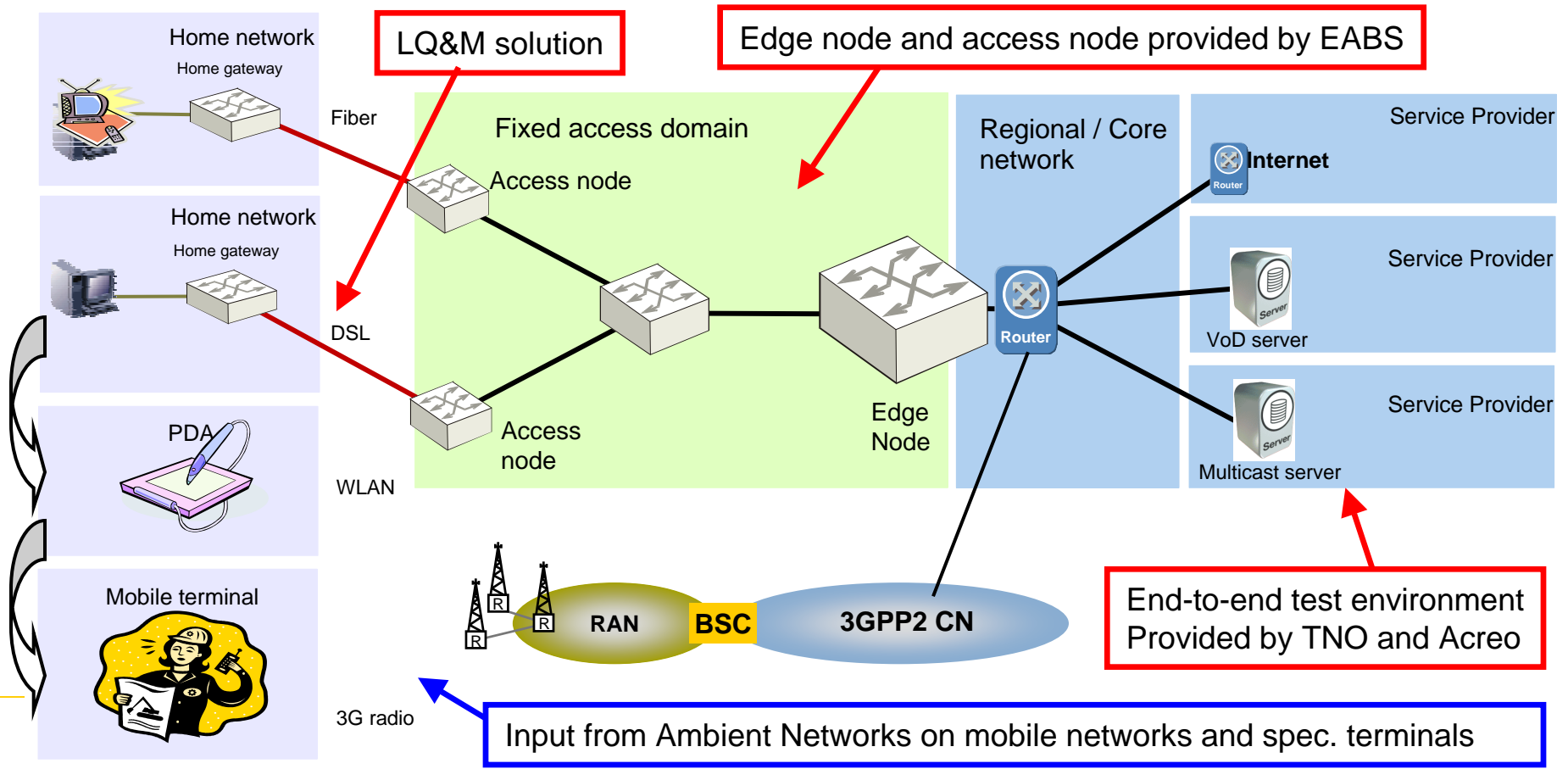
- ❑ Embed MM service enablers in access platform and CPE
- ❑ Means to interact with services and provided added value as operator to end-user



# SPC Fixed Mobile Convergence



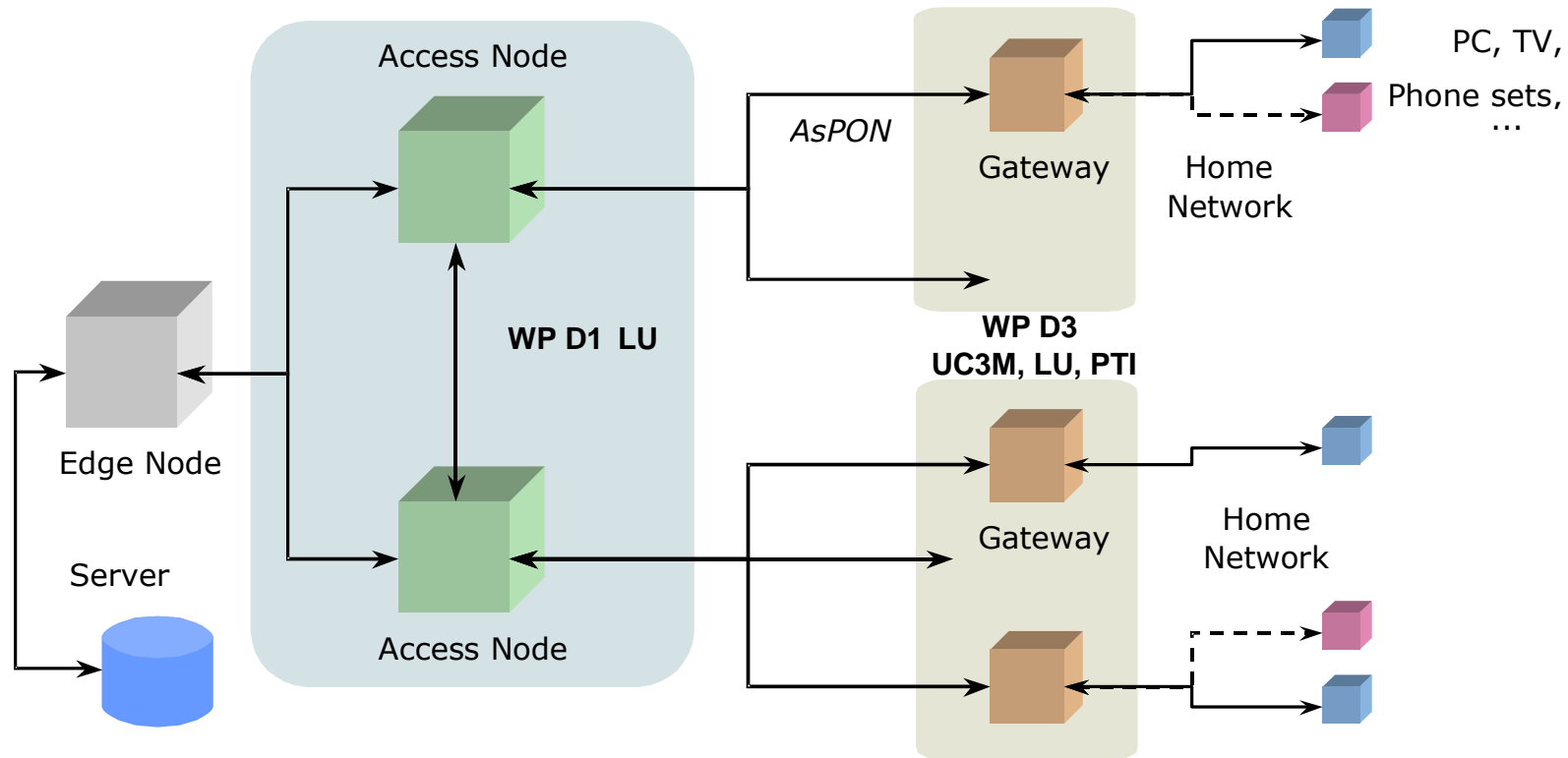
- ❑ Solutions in Access Node and First Mile to provide end-to-end secure connectivity and QoS for FMC aligned services
- ❑ Lower OPEX and CAPEX



# SPD Distributed High-Speed Access Scenarios



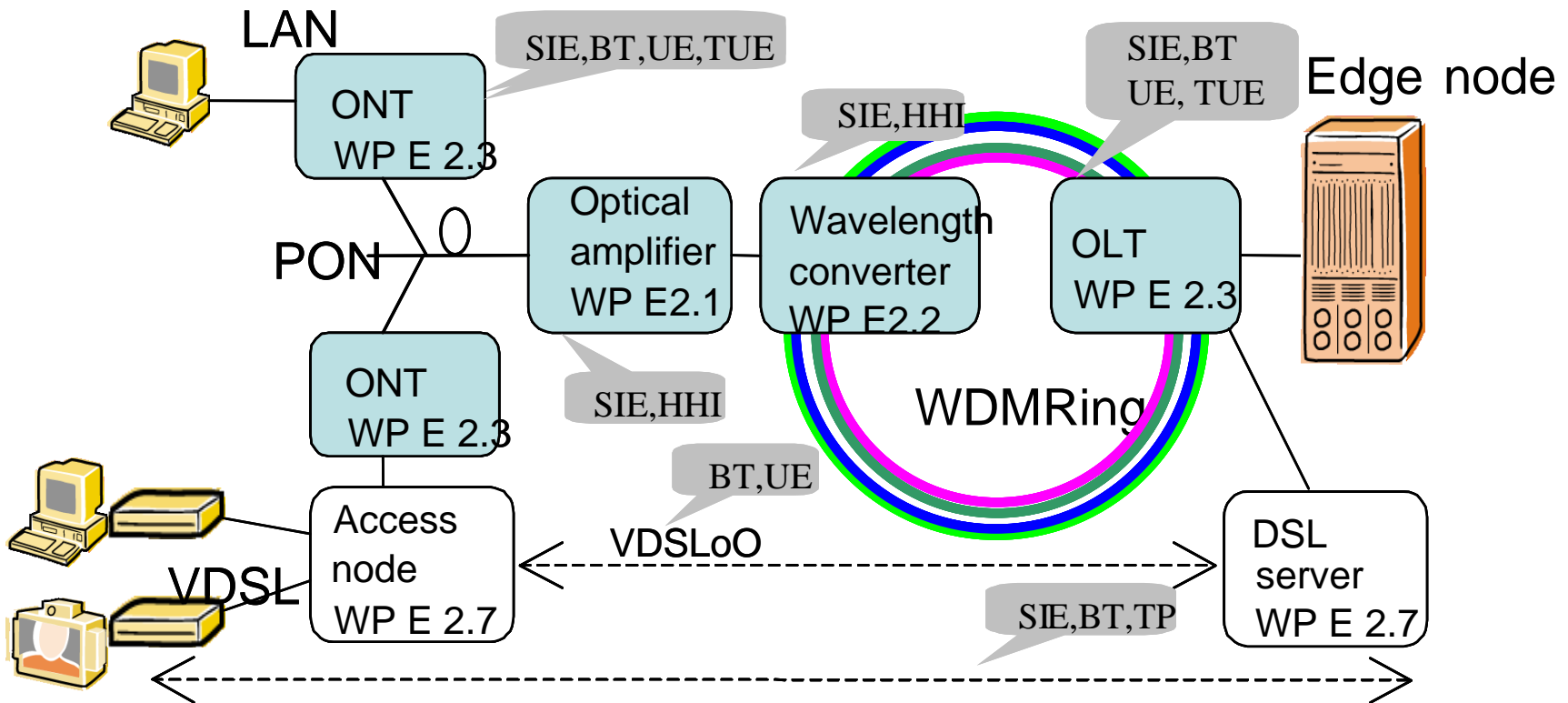
- ❑ Lower OPEX by distribution of CO functionality to ONUs
- ❑ Support of GRID applications
- ❑ QoS and multiprovider enabled RGW lab model



# SPE Node Consolidation



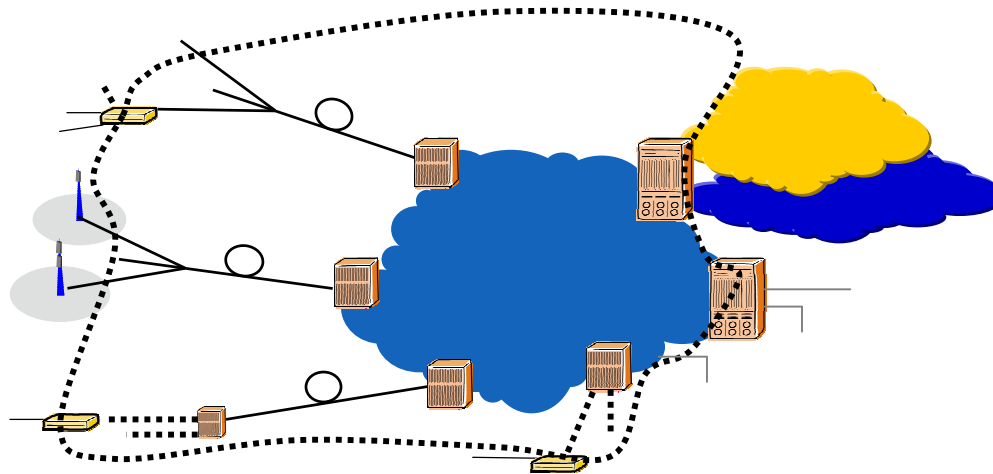
- Lower OPEX by bypassing conventional LEX and centralising the functionality
  - Develop XL PON
  - Optimal VDSL drop in XL PON concept – explore opportunities for CWDM



# TF1 Access Architecture and Platforms



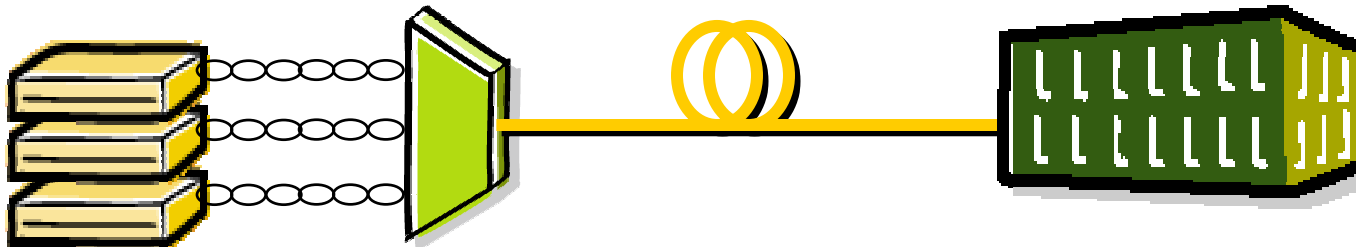
- ❑ General access architecture aspects
  - Generating content that will be brought to STD
  - Specification to lab trials in SP
- ❑ FMC enhancements in the fixed access network
- ❑ MM enhancements in the access
- ❑ Standards contributions



# TF2 First Mile Solutions



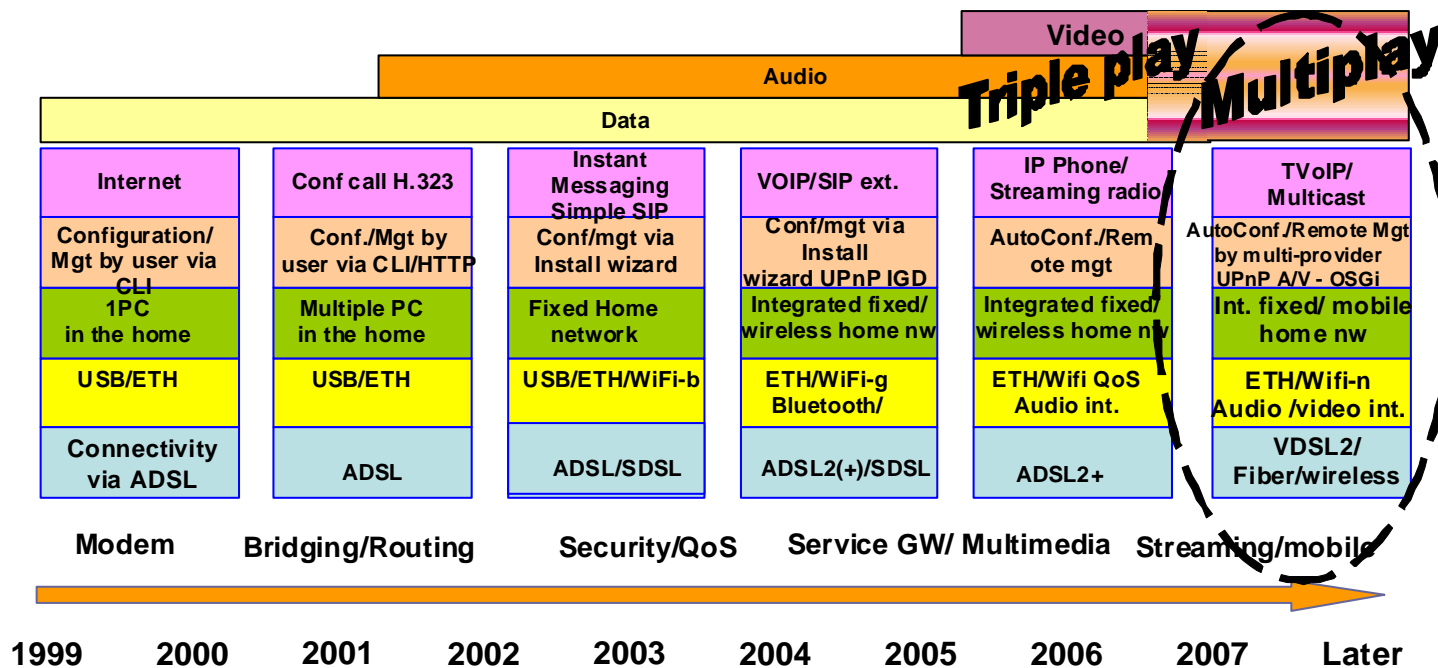
- ❑ Ubiquitous deployment of Fibre to the Cabinet with VDSL drop
  - reduce operational costs through once-only visits to remote nodes
  - allowing 'zero-touch' (ZT) service connection and changes to service configuration.
- ❑ Co-ordination of standardisation related to First Mile (xDSL, Optical)



# TF3 Residential Gateway



- ❑ Specification of Residential Gateway interoperable with MUSE architecture
  - Multi-service capable
  - Management model suited for multiple providers
- ❑ Standards contributions in area of RGW



- ❑ Test suite for a full-service end-to-end evaluation of MUSE access network
  - Maturing the test suite of phase I
- ❑ Prepare for Interop verification + related standardisation

