Next generation IP-based multimedia services on cable TV networks

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ECCA

Pre - conference draft

Outline

o Introduction

o Advanced broadband access -
Accommodating demand for data rate

- Next generation (Euro-)DOCSIS

- Alternative access technologies

o PacketCable Multimedia -
New services in cable networks

o CASSIC -
Integrated digital platform

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o **Introduction**

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New services in cable networks
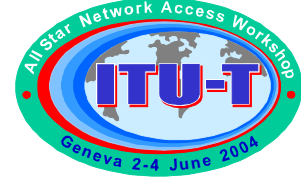
o CASSIC -
Integrated digital platform

Market drivers

- o Exponential growth of data rate require-ments (e.g. 10 Mbps within 3 years)

- o New services with symmetric (e.g. peer-to-peer, gaming) and asymmetric (e.g. VoD, streaming) characteristics

- o Service differentiation through Quality of Service

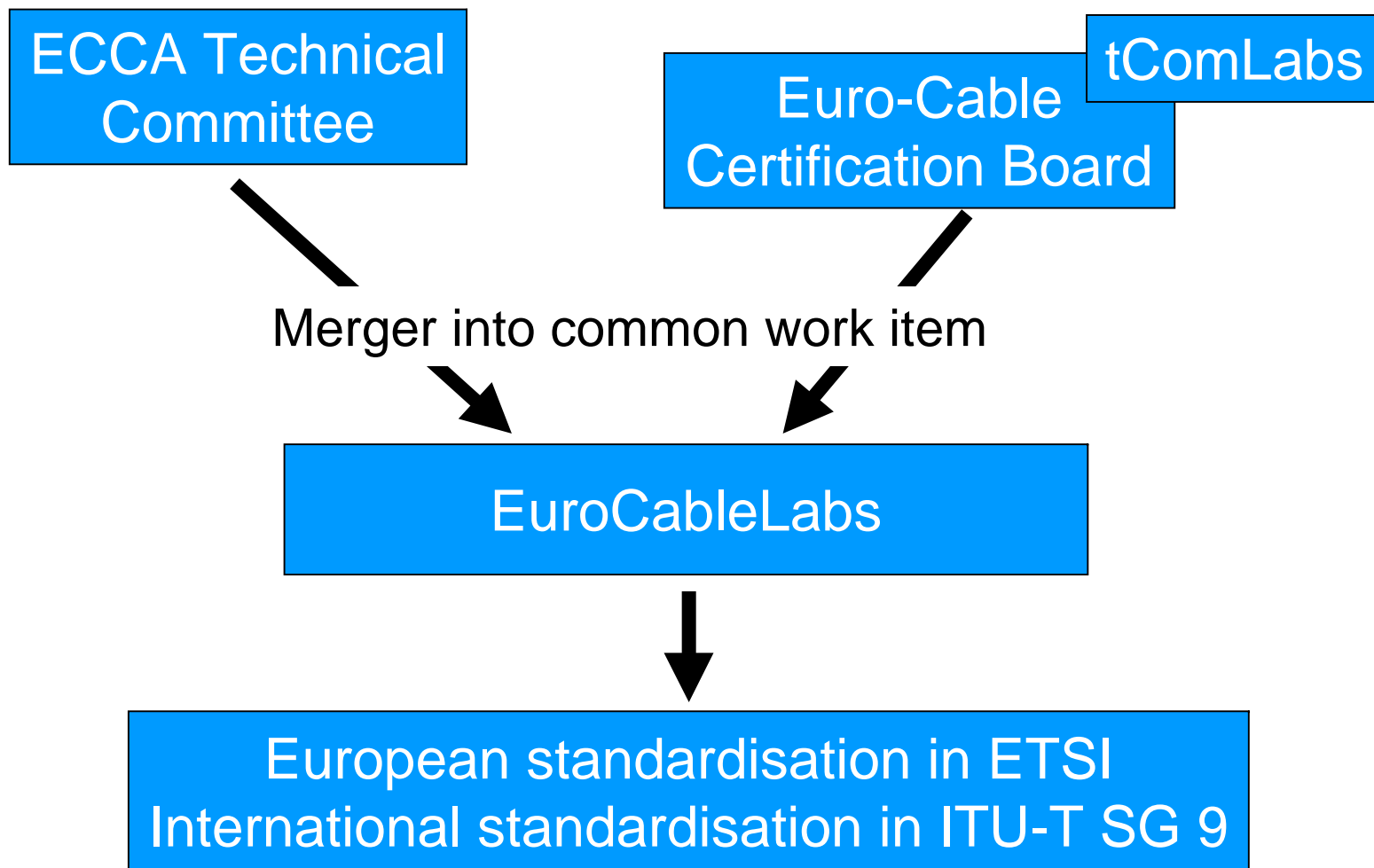- o Platform convergence towards digital IP-based

Requirements

o Enable high-end services (e.g. TV over IP, VoD, Conferencing, Business communication ...)

o Allow full IP penetration

o Provide massive, cheap data rate upstream and downstream

o Enable flexible allocation of capacity

o Integrate with A/V broadcast services

o Manage integrated platform seamlessly

European players

ECCA Technical Committee

tComLabs

Euro-Cable Certification Board

Merger into common work item

EuroCableLabs

European standardisation in ETSI
International standardisation in ITU-T SG 9

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Next-generation (Euro-)DOCSIS

o Established control protocol for interactive services evolves towards:

- Symmetric and asymmetric services
- Lower cost of data rate
- Improved bandwidth efficiency
- Higher order modulation schemes

o Separate functionality of control and modulation

High-level architecture

Source: Telewest
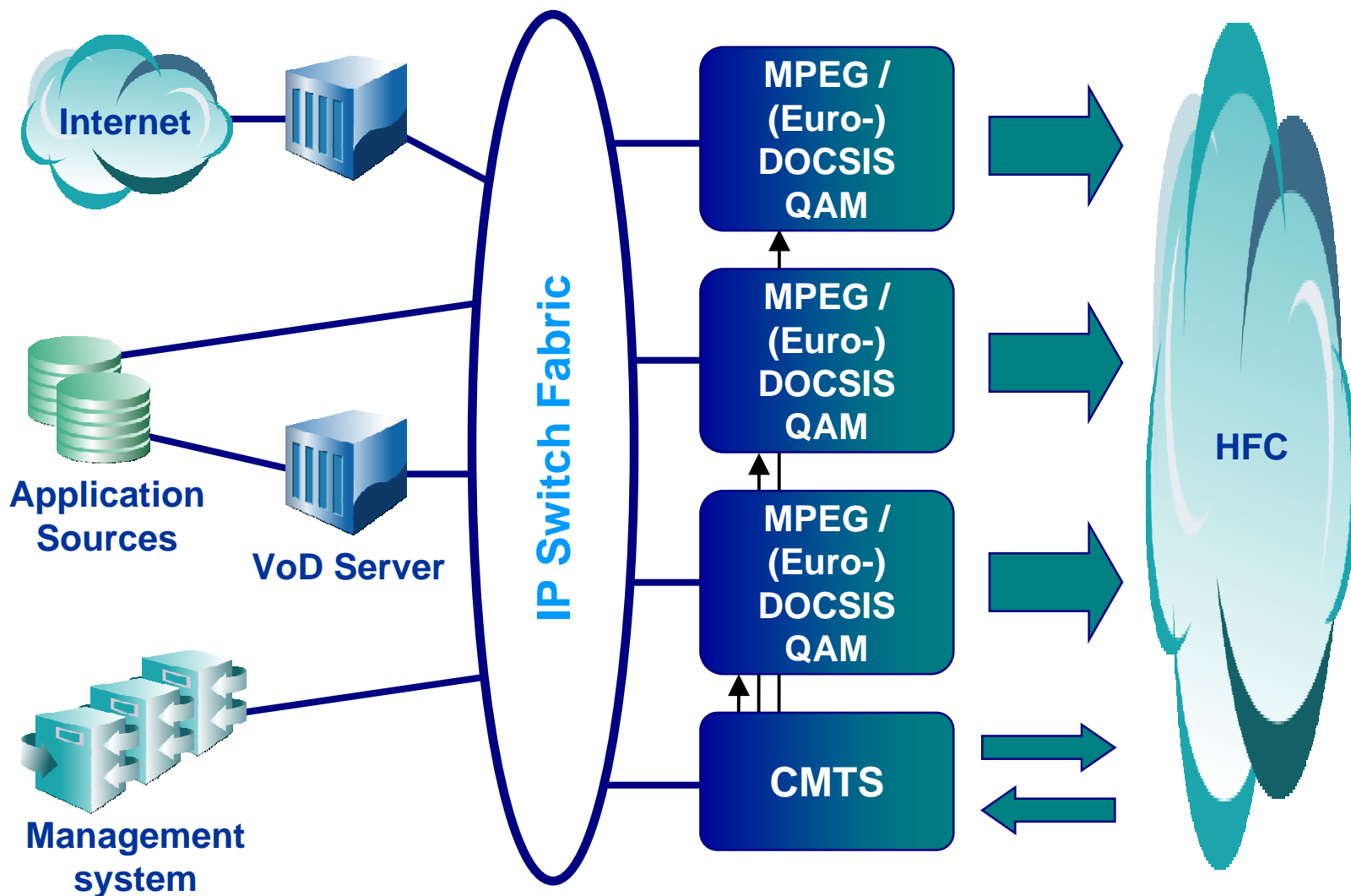
Alternatives

o **Extending baseband Ethernet transmission further into HFC network (Etth)**

o **Using frequency spectrum below 40 MHz**

o **In parallel to bi-directional (Euro-)DOCSIS communication**

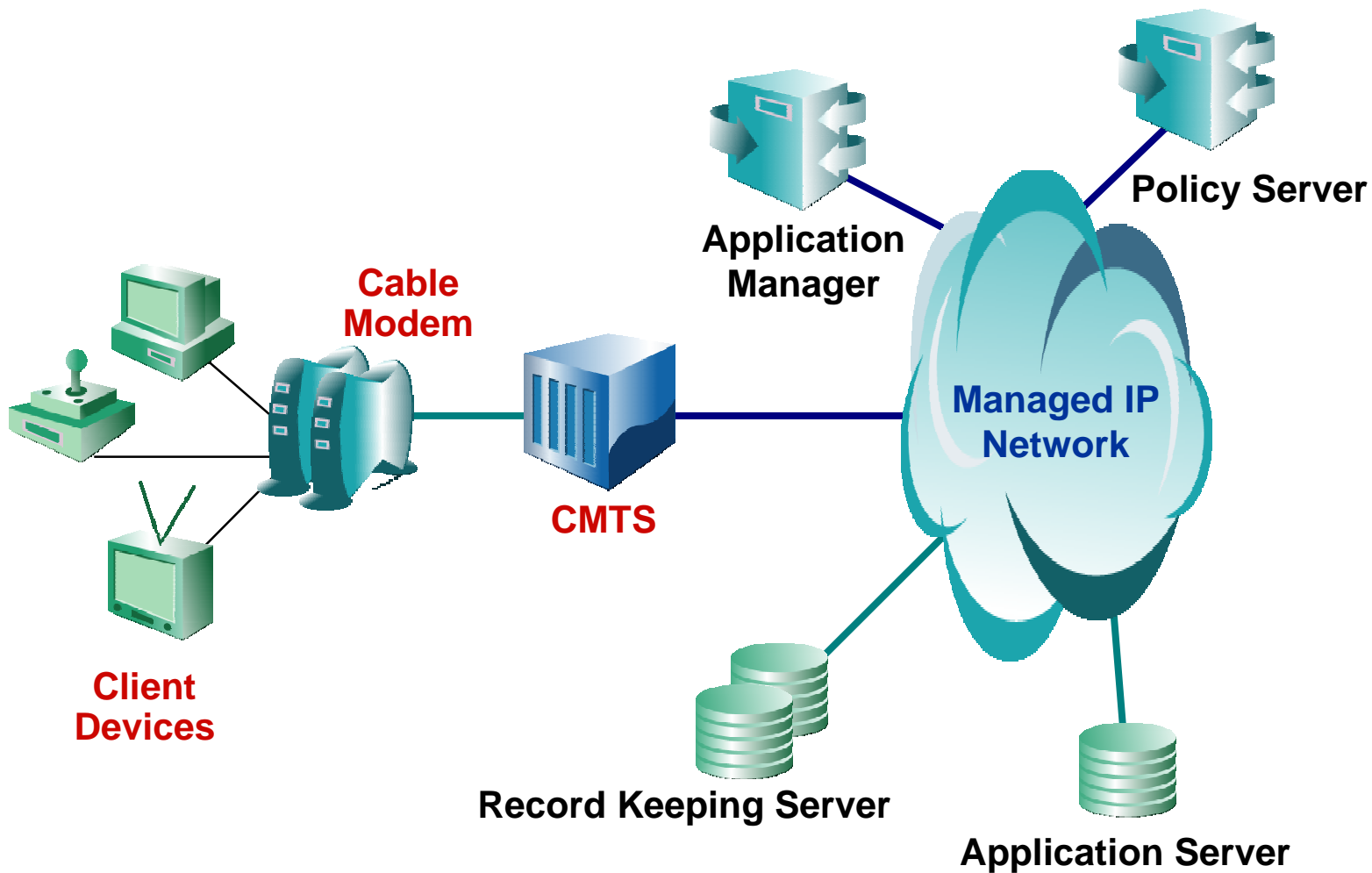o **Supports high penetration rates**

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IPCablecom Multimedia

o Enable broad service portfolio through appropriate resource management, signalling and accounting in access network

o Define core architectural framework

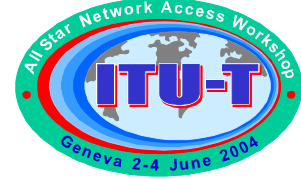o Enhance IPCablecom dynamic QoS and session establishment mechanisms for multimedia services

03.06.2004

Architecture

Client Devices — Cable Modem — CMTS — Managed IP Network

Application Manager

Policy Server
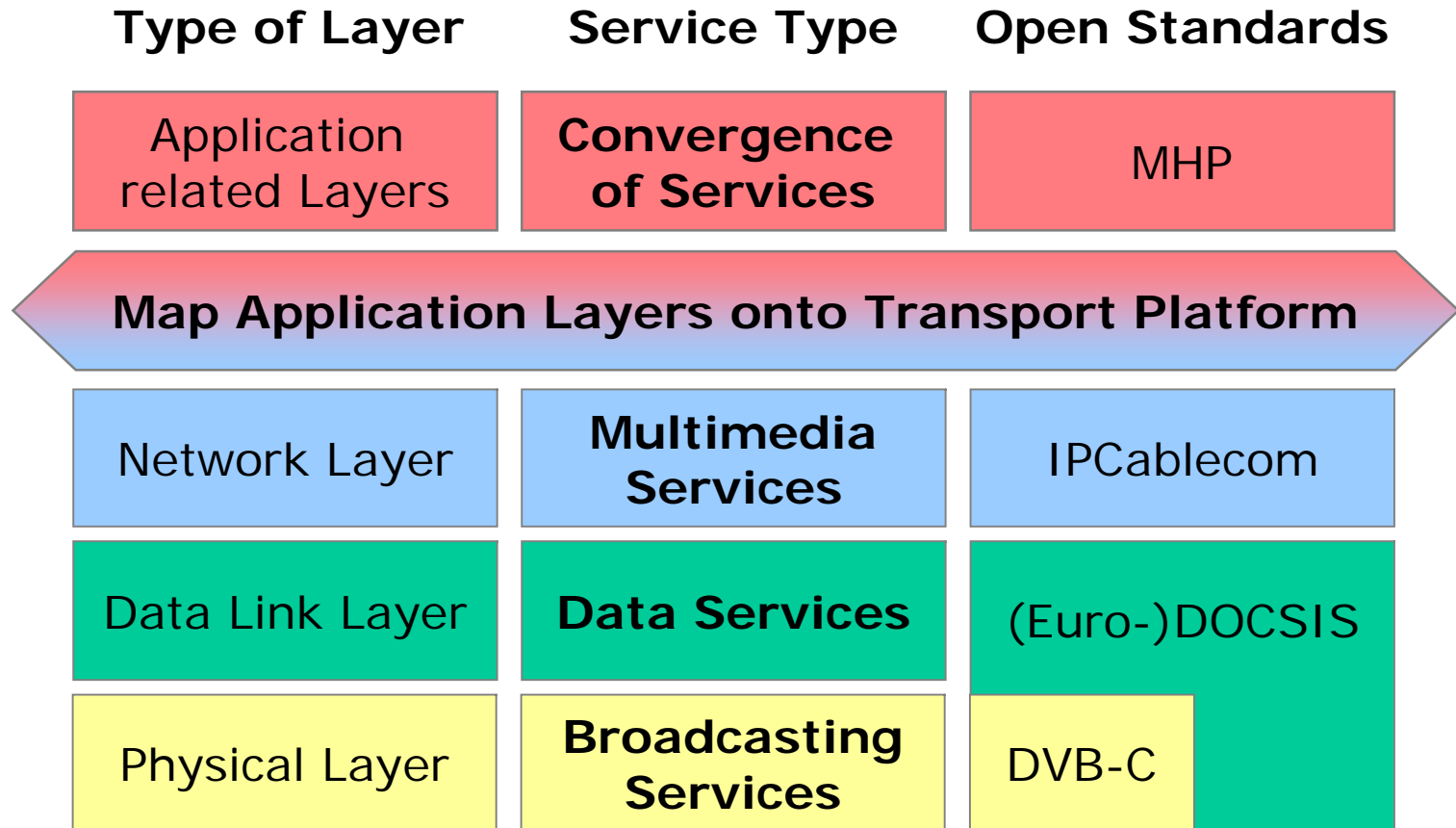
Record Keeping Server

Application Server

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Integrated digital platform (1)

Type of Layer	Service Type	Open Standards
Application related Layers	**Convergence of Services**	MHP

Map Application Layers onto Transport Platform

Type of Layer	Service Type	Open Standards
Network Layer	**Multimedia Services**	IPCablecom
Data Link Layer	**Data Services**	(Euro-)DOCSIS
Physical Layer	**Broadcasting Services**	DVB-C

Integrated digital platform (2)

o Proposal by EU-funded project CASSIC

o Creation of integrated service platform for delivery of multimedia services

o Leverage on existing open standards

o Accommodation of service scenarios in transport platform with dynamic resource allocation

o Control of transport features by application through software platform

03.06.2004

Summary

o Cable TV networks with high capacity and wide infrastructure potential for emerging services

o (Euro-)DOCSIS first step towards fully IP based platform

o Technology innovation under way to live up to data rate requirements, signaling and QoS issues of multimedia service