

English version

**Guidelines for paving the way for broadband
"Broadband, 25 Mbit/s and more for All"**

Leitfaden zur Wegbereitung für Breitband
"Breitband, 25 Mbit/s und mehr für Alle"

This Technical Specification was approved by CENELEC on 2004-09-11.

CENELEC members are required to announce the existence of this TS in the same way as for an EN and to make the TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This Technical Specification was prepared by the Technical Committee CENELEC TC 86A, Optical fibres and optical fibre cables.

The text of the draft was submitted to the vote and was approved by CENELEC as CLC/TS 50433 on 2004-09-11.

The following date was fixed:

- latest date by which the existence of the CLC/TS
has to be announced at national level (doa) 2005-03-11

This document is a preview generated by EVS

Contents

	Page
Introduction	4
1 Scope.....	4
2 General	4
2.1 Typical levels of network infrastructure.....	4
2.2 Recommendation	4
2.3 Household future broadband needs	5
3 Different fibre penetration strategies.....	5
3.1 Possible scenarios	5
3.2 Constraints.....	5
3.3 Migration from current to high capacity transmission networks.....	5
4 Complementary studies.....	6
4.1 Criteria for choosing a scenario?.....	6
4.2 Fibre capillarity/penetration (first-mile)?.....	6
4.3 Level of technology maturity and economies of scale per scenario?	6
4.4 Bottleneck risks and issues?	6
4.5 Support and service co-location issues?	6
5 Standardization aspects	6
5.1 Status of standardization	6
5.2 Future documents	6
Annex A (informative) - Typical levels of network infrastructure.....	7
Annex B (informative) - Status of standardization	8

Introduction

This Technical Specification is intended to provide general guidelines for improving metropolitan edge and local access networks in order to accelerate their growth in capacity and further enhance the coverage of global broadband services. The purpose is to ensure smooth migration from today's services to future services requiring very high speed transmission capabilities in all parts of the network, based on typical household expected future needs.

The paper identifies different scenarios to enable modular and coherent networks evolution while maintaining necessary levels of interoperability. It also reviews existing standards, and provides a draft list of standards to be developed.

1 Scope

This paper globally addresses generalisation of optical fibre throughout metropolitan edge and local access networks, including reach into end-user connections.

2 General

2.1 Typical levels of network infrastructure

The reference model for communications infrastructure typically includes four levels of network:

- long haul or backbone,
- transit or metropolitan edge and back haul,
- access, including transport and local distribution,
- residential, including end-user connection.

See schema "Typical levels of network infrastructure" in Annex A.

2.2 Recommendation

While long haul (or backbone) networks have been largely equipped with optical fibre, there is still little or no fibre in access and intermediate transmission networks.

In order to meet the objective of widespread access to broadband, a gradual upgrading of today's transmission network capacities is required:

- first phase - ongoing:

optimisation of existing copper infrastructure by deployment of DSL access ¹⁾, cable TV network upgrades and introduction of new wireless solutions (Wireless-LAN ²⁾, satellite, Fixed Wireless Access),

¹⁾ Evolution from asymmetrical to symmetrical access offering very high capacity (10 Mbit/s and more).

²⁾ Including WiFi.