



TECHNICAL SPECIFICATION

**Integrated broadband cable
telecommunication networks (CABLE);
Testing; Conformance test specifications
for DS-Lite technology;
Part 2: Test Suite Structure and Test Purposes (TSS&TP)**

Reference

DTS/CABLE-00013-2

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Integrated broadband cable telecommunication networks (CABLE).

The present document produced for the transition technologies accommodates an urgent need in the industry to define requirements that enable seamless transition of Cable Networks to IPv6. Considering the depletion of IPv4 addresses, transition to IPv6 is required in order to enable continued growth of the customer base connected to Cable Networks and ensure service continuity for existing and new customers. High-quality connectivity to all kinds of IP-based services and networks is essential in today's business and private life.

A plethora of transition technologies have been proposed in IETF, other standardization organizations and by manufacturers of IP technology to allow coexistence of IPv4 and IPv6 hosts, access and core networks as well as services. Each of these technology options is specified, implemented and deployed in various forms and stages. The present document is based on the requirements of ETSI TS 101 569-1 [1].

The present document is part 2 of a multi-part deliverable covering the conformance test specification for DS-Lite technology.

Part 1: "Protocol Implementation Conformance Statement (PICS) proforma";

Part 2: "Test Suite Structure and Test Purposes (TSS&TP)";

Part 3: "Abstract Test Suite (ATS) and Protocol Implementation eXtra Information for Testing (PIXIT)".

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**may not**", "**need**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

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1 Scope

The present document provides the Test Suite Structure and Test Purposes (TSS&TP) descriptions for the IPv6 transition technology DS-Lite to validate its implementation within a cable communications networks.

The tests are in reference to [1], the ETSI specifications for IPv6 transition technology.

The ISO standards for the methodology of conformance testing (ISO/IEC 9646-1 [2] and ISO/IEC 9646-2 [3]) as well as the ETSI rules for conformance testing (ETSI ETS 300 406 [4]) are used as a basis for the test methodology.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are necessary for the application of the present document.

- [1] ETSI TS 101 569-1: "Integrated Broadband Cable Telecommunication Networks (CABLE); Cable Network Transition to IPv6 Part 1: IPv6 Transition Requirements".
- [2] ISO/IEC 9646-1 (1994): "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 1: General concepts".
- [3] ISO/IEC 9646-2 (1994): "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 2: Abstract Test Suite Specification".
- [4] ETSI ETS 300 406: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [5] IETF RFC 6333: "Dual-Stack Lite Broadband Deployments Following IPv4 Exhaustion".

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

Not applicable.

3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AFTR	Address Family Transition Router
ALG	Application Layer Gateway
ATS	Abstract Test Suite
B4	(DS-Lite) Basic Bridging BroadBand element
CPE	Customer Premises Equipment
DF	Don't Fragment flag (in IPv4 header)