

TLN WRO Certification type Document

< General Certification Procedures >



Document Housekeeping

Document Category and type

CAT	TYPE	DOC ID	Comment
General	CERT	TLN-WRO-TA-G-C- <u>PAAA</u>	Certification type documents (-CERT) describe the certification process and methodology (so not the interfaces or protocols, those are found in the specification type documents)

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Document Effective Date

~~This document has come into effect as of xx/xx/2013 and remains valid until a valid subsequent Telenet Wholesale Reference offer, substituting this document is published.~~

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Telenet has appealed the CRC decisions of the VRM, BIPT and CSA of 1 July 2011 concerning the market analysis of the broadcasting market in Belgium and it consequently reserves all its rights in relation to this document.”

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List of Appendixes

This document may refer to further detailed documents that are added in Appendixes to this document.

A reference to an appendix is in this document highlighted with grey background.

The list with appendixes of this document:

A. ~~Appendix A, < APP-G-C--A > contains :~~
~~Appendix A1 --<Test List Legend>None~~

List of References

This document may refer to external documents or information sources.

A reference to an external document or information source is in this document highlighted with grey background.

The list of referred external documents or information sources in this document:

Reference 1: TLN-WRO-TA-G-M-PAAG - Test & Implementation Procedures

~~Reference 2: TLN-WRO-TA-X-C-PXXX~~

Restricted information

This document may contain sections that are not public information and that can be made available only to parties that have executed specific NDA`s.

Information that is subject to NDA is marked in this document as follows:

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Before conversion to PDF format for publication of the document, the information will be made unreadable by converting the background of the text box to black.

1 Abstract

Certification type documents have as purpose to describe the roles and responsibilities in the certification process of Telenet and the AO, the test procedures and the interaction between Telenet and AO throughout the product lifecycle of AO Customer Premises Equipment (CPE) with as main goal to ensure at any moment in time correct interoperability between the AO CPE and Telenet infrastructure according to the relevant specifications. The same types of certification documents and procedures are also applicable for Telenet network to AO network level of interconnections.

All sections in this document are generic sections specifying certification procedures applicable to all AO CPE or network equipment that will be connected to the Telenet network.

~~The feasibility of the technical designs and methods described in this document are subject to verification by a Proof of Concept (POC) test organized by Telenet and may be changed or updated depending on the outcome of this POC.~~

2 Rules of engagement

The AO underwrites following engagements when introducing CPE or network equipment that needs direct connection with Telenet network infrastructure:

1. The AO informs Telenet in writing of its intention to introduce new or upgraded CPE or network equipment before planned launch date using the foreseen procedures, as described below.
2. The AO proves (by demonstrating prior experience of involved people) that it has sufficient technical knowledge and capabilities in the domain of the envisaged equipment.
3. The AO proves (by demonstrating prior experience of involved people) that it has sufficient technical knowledge and capabilities in the main cable network specific technologies (RF, Docsis, DVB-C, ...)
4. The AO will have the capabilities to test and (if required) update its equipments when Telenet is introducing network upgrades (enhancements, security updates, etc.) according to the typical timelines as described further in this document.
5. The AO will have the necessary resources (~~people, lab environment...~~) to execute its obligations as described in this document.
6. The AO explicitly acknowledges that Telenet is by no means responsible to engineer or test the AO systems or equipments towards delivering correct end-user functionality. Certification will only verify (using the ATF) if the AO equipment/systems behave correctly on the physical and logical peering interfaces with the TLN network with as prime purpose to preserve the integrity and correct functioning of TLN network and services and are developed according to the specification documented in the Telenet WRO.
7. Telenet will ~~conduct~~ require certification testing on the AO CPE and systems or part thereof in accordance with the certification procedures described. The decision to conduct certification tests in full or partial scope is at Telenet's sole discretion and shall be in no way be a waiver for AO responsibility to duly execute complete qualification testing on all relevant systems and interfaces.
8. For CPE equipment the Certification and the initial interoperability tests should be conducted by an external, recognized and independent certification ~~bureau~~ party according the specification of the Telenet reference offer:
 - Recognized: The external certification ~~bureau~~ party is recognized by the sector for executing these kind of certifications.
 - Independent: The external certification ~~bureau~~ party is operator and vendor independent.
 - Equipped: The external certification ~~bureau~~ party has the needed Telenet reference infrastructure to be able to execute interoperability tests.
- ~~7-9.~~ Telenet will need to confirm beforehand to the AO that the AO selected certification ~~bureau~~ party is accepted as an external, recognized and independent certification ~~bureau~~ party.

3 Confidentiality

- ~~8-10.~~ The information that will be disclosed in the framework of the certification process will be covered by a specific NDA, being properly executed prior to the information exchange. It should be noted that Telenet might be bound by NDAs with its suppliers and that Telenet cannot guarantee that vendor NDAs can be successfully extended to include AO's.

4 New AO CPE or network equipment introduction procedures

4.1 Introduction

~~9.~~11. This section describes in brief the different generic steps that an AO will follow in order to introduce a new AO CPE or AO network equipment interacting with one or more components of the Telenet WRO and that will cause ~~the need for~~ the execution of the certification tests and procedures as described in this document.

~~10.~~ Such certification tests and procedures will be performed as described below, executed at the moment an AO ~~desires to become first time beneficiary of one of~~introduces new equipment interacting with the Telenet ~~WRO~~Network.

~~11.~~12.

~~4.2 Design and development phase~~

~~12.~~ The AO will communicate towards Telenet in advance its plans to ~~enter into a design and development phase for a new~~introduce new AO CPE hardware or new AO network equipment and will announce towards Telenet its desired timetable for field implementation.

13.

14. We distinguish three phases.

The initial Certification Phase where new equipment needs to be tested for compliance to the specification of the reference offer.

The initial interoperability test phase where the equipment is verified for correct interaction with other equipment in the Telenet network.

~~And~~ ~~Aa~~ continuous interoperability test phase where all equipment in the network is regularly regression tested to guarantee continuous correct working on the Telenet network.

Initial

~~13.~~

~~4.3~~4.2 ~~Certification phase~~

15. This initial phase is needed every time a new CPE or interface is to be introduced on the Telenet network.

16. The hardware and software are tested against the specifications as documented in the annexes of the Telenet reference offer.

17. For CPE equipment this certification is to be performed by an external, recognized and independent certification ~~bureau~~party, mutual agreed by both parties. And the tests are performed according to the Telenet specifications.

18. For a Eurodocsis modem the certification must always be validated by an external , recognized and independent certification party, mutual agreed by both parties.~~the Certification Board from Cable Europe Labs.~~

~~14.~~ For an (i)DTV DVB-C Decoder certification will also be needed by the vendor of the chosen 3th party CAS solution. ~~Once the AO design and development phase is successfully completed the certification phase will start at the agreed time slot as described above.~~

~~15.~~

~~16. Passing the certification phase will imply the successful execution of the tests as described in section 7 of this document according to the methodology and procedures as described below.~~

~~17,19.~~

4.3 Initial Interoperability tests

20. With the initial interoperability tests it is verified how the certified product will behave in regard to interaction with other systems in the Telenet network.

21. This interaction of equipment is both hardware and software dependent.

22. The beneficiary will conduct this interoperability tests for CPE equipment by an external, recognized and independent certification ~~bureau~~party. Under the strict conditions that this ~~bureau~~party has a test environment matching the Telenet reference offer network.

23. For network equipment these tests are part of the test and implementation phase that is set up between Telenet and the AO.

4.4 Continuous Interoperability tests

24. After a new CPE device has passed the certification and initial interoperability test phases with success, the CPE will be included in the continuous interoperability test environment from Telenet.

25. In this environment regularly regression tests are executed involving all CPE devices present in the Telenet network. This is to guarantee stable network performance at all times.

26. These tests are to ensure that the CPE behaves correct towards the network and does not introduce any interference for other equipment or any load on the network (e.g. constant rebooting). These tests do not test the application on the CPE device itself.

27. In order for Telenet to perform these tests, the AO will deliver a minimal amount of 5 certified and final CPE versions towards Telenet.

28. After successful completion of these tests Telenet will provision the CPE in the network so that the AO can start a roll out with its end users. Note that the SW for the CPE is downloaded to the CPE via the Telenet network.

29. This test cycle will need a minimal duration of 1 month to be successful.

30. The AO will need to alter the HW/SW needed on the CPE to make sure that this stability test is successful. Telenet has the right to deactivate and forbid any equipment versions that cause instability on its network.

5 AO CPE or network equipment upgrade procedures

~~5.1 Introduction~~

~~31.~~ This section describes in brief the different generic steps that an AO will need to follow in order to introduce an upgrade to an AO CPE or AO network equipment interacting with one or more components of the Telenet WRO and that will cause ~~the need for~~ the execution of the certification tests and procedures as described in this document.

~~18.~~ If the AO wants to introduce a new CPE device in the network then the procedures as mentioned in chapter 4 for new AO CPE equipment must be followed.

~~19.~~~~32.~~ Such certification tests and procedures will also be performed whenever an AO desires to perform one of the following actions during the commercial operation of its service after successful implementation of the initial implementation project:

- Introduction of a new software version on an existing AO CPE hardware
- Introduction of small hardware revision variants to an existing AO CPE that do not modify the functionality
- Introduction of new ~~software~~ versions on AO network equipment hardware interfacing with the Telenet network
- Introduction of small hardware revisions on AO network equipment hardware interfacing with the Telenet network
- Introduction of new interface type cards with similar functionalities on AO network equipment hardware interfacing with the Telenet network

~~5.2 Design and development phase~~

~~20.~~~~33.~~ The AO will communicate towards Telenet in advance its plans ~~to enter into a design and development phase~~ for upgrades on AO CPE software / hardware or upgrades on AO network equipment software / hardware and will announce towards Telenet its desired timetable for field implementation.

~~21.~~ Telenet will then based upon the AO desired timetables and its own technical capabilities, roadmaps, resource constraints and availability of the ATF plan in agreement with the AO a timeslot for the execution of the certification procedures described in this document.

~~22.~~~~34.~~ Based on the information provided by the AO, Telenet will determine which parts of the full certification test specifications are applicable to the specific upgrades as being proposed by the AO. ~~Tests which cover functions that are deemed not being impacted by the upgrades proposed by the AO will be marked as "out of scope" (OOS).~~

~~35.~~ The decision of what tests are in scope or out of scope for upgrades is at the sole discretion of Telenet.

~~23.~~~~36.~~ For CPE equipment the requested re-certification and/or interoperability tests must be performed by an external, recognized and independent certification bureauparty.

~~5.3 Certification phase~~

~~24.~~ Once the AO design and development phase for the upgrades is successfully completed the certification phase will start at the agreed time slot as described above.

~~25. Passing the certification phase will imply the successful execution of the tests as described in section 7 of this document, excluding the tests that are marked "OOS", according to the Certification test procedures as mentioned in chapter 4.5.~~

37. In any case Telenet can, if it notices during the execution of the certification tests, that more changes have been introduced then originally communicated by the AO, decide at its own discretion to make the full test specification applicable, or even introduce additional certification test cases compared to the original list, if it has reasonable doubts that the modification on the AO CPE or network equipment could negatively impact the Telenet network and services in domains not previously discovered.

~~26-38.~~ For CPE equipment after the re-certification (as mentioned in paragraph 34) and interoperability tests are concluded succesfully by the external ~~bureau~~party, the AO must provide the updated HW/SW to Telenet to start the Continous Interoperatibility test as described in 4.4.

6 Telenet network upgrade procedures

~~27-39.~~ Telenet is executing from time to time upgrades to its network to keep it in pace with technological evolutions.

~~28-40.~~ During such upgrade programs Telenet will do its best endeavors to keep the network interfaces backward compatible so that the CPE and network interfaces from the AO are not impacted by the network upgrades.

~~29-41.~~ However this backward compatibility may not always be possible, e.g. during major technology step ups (e.g. the former upgrade from Docsis 2.0 to Docsis 3.0).

~~42.~~ In addition, even if upgrades are assumed to be backward compatible, re-testing of certain interfaces may be required.

~~30-43.~~ Telenet will perform the continuous interoperability test with all CPE devices included and the specific network component that is upgraded in a lab environment.

~~31.~~ The Telenet network upgrade process is governed according to the procedures described in TLN-WRO-TA-T-T-PAAH.

~~32-44.~~ Telenet will determine the re-certification requirements, against the specifications as documented in the annexes of the Telenet reference offer, towards the AO caused by Telenet network upgrades and communicate those towards the AO ~~according to the procedures described in TLN-WRO-TA-T-T-PAAH.~~

~~45.~~ The re-certification tests will be issued according to the procedures as described in section 5 of this document ~~(use of reduced test lists with indication of OOS items).~~

~~33-46.~~ In the event that a certain AO-CPE needs an update to cope with the network upgrade, Telenet assumes that the AO will implement it in a 3 months timeframe. After that date Telenet will decide what to do, but an AO can by no means halt the network upgrade process from Telenet to happen.