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TESTING

EXCENTIS

**Technical Requirements for Certification
ECW62-65**

--- Project Reference ---

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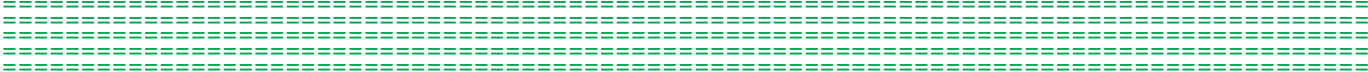
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1 Specifications

In this chapter an overview is listed of the specifications and requirements that need to be supported by the submitted products.

To know which exact requirements are applicable, also some ECNs may need to be taken into account, as mentioned in chapter 2.

1.1 EuroDOCSIS 2.0 Specifications

A first set is the DOCSIS 2.0 specification consisting of the following documents:

- SP-CMTS-NSII01-960702
- CM-SP-BPI+-C01-081104
- ANSI/SCTE 22-2 2002
- CM-SP-CMCI-C01-081104
- CM-SP-OSSiv2.0-C01-081104
- CM-SP-RFiv2.0-C02-090422

It is appendix F of CM-SP-RFiv2.0-C02-090422 that needs to be implemented, if something is mentioned in this appendix it takes precedence over the main section.

A second set of documents consists of the following documents:

- EuroDOCSIS.BPI+Req_v7.pdf
- Euro-DOCSIS_1_1_OSS Req.pdf
- SP-STB-v3.0-I01-110411 (for set-top box products only, see section 1.7 for further info)

This second set of documents can be found on the public entry of the EuroDOCSIS section of the website www.excentis.com. They specify deviations for EuroDOCSIS 2.0 with respect to DOCSIS 2.0. If something is mentioned in both document sets it is the second set that has priority.

If a EuroDOCSIS 2.0 CPE is submitted with support for IPv6, then this must be implemented per:

- CM-SP-DOCSIS2.0-IPv6-I07-130404

1.2 EuroDOCSIS 3.0 Specifications

As EuroDOCSIS 3.0 is based on the DOCSIS 3.0 specifications two sets of documents specify the EuroDOCSIS 3.0 specification.

The first set is the DOCSIS 3.0 specification consisting of the following documents:

- CM-SP-MULPIv3.0-I29-151210
- CM-SP-OSSiv3.0-I28-151210



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- CM-SP-SECv3.0-I15-130808
- CM-SP-PHYv3.0-I12-150305 (Annex B for Europe!)
- CM-SP-CMCIv3.0-I02-1407291

It is Annex B of the CM-SP-PHYv3.0 specification that needs to be implemented. If something is mentioned in this annex then this takes precedence over the main section.

The second set of documents consists of the following documents:

- EuroDOCSIS.BPI+Req_v7.pdf
- SP-STB-v3.0-I01-110411 (for set-top box products only, see section 1.7 for further info)

This second set of documents can be found on the public entry of the EuroDOCSIS section of the website www.excentis.com. They specify deviations for EuroDOCSIS 3.0 with respect to DOCSIS 3.0. If something is mentioned in both document sets it is the second set that has priority.

1.3 EuroPacketCable 1.5 Specifications

The requirements for the different components subject to EuroPacketCable 1.5 certification are specified in the following documents which are available from the public entry from the Excentis website:

- MTA Requirements EuroPacketCable Certification v8.0
- CMTS Requirements EuroPacketCable Certification v8.0
- CMS Requirements EuroPacketCable Certification v9.0
- IPAT Requirements EuroPacketCable Certification v7.0
- MG Requirements EuroPacketCable Certification v4.0
- EuroPacketCable Certificate Requirements v9.0
- EuroPacketCable L-Package Clarification v9.0

Please also note that the document “EuroPacketCable Scalability And Stability v6.0” available from the same website-location specifies minimum performance requirements for some components.

For EuroPacketCable 1.5 products the following PacketCable specifications are applicable:

- PKT-SP-NCS1.5-I04-120412
- PKT-SP-PROV1.5-I04-090624
- PKT-SP-DQOS1.5-I04-090624
- PKT-SP-CODEC1.5-I04-120412
- PKT-SP-SEC1.5-I03-090624
- PKT-SP-TGCP1.5-I04-120412



For the MTA's POTS interface and for the IPAT architecture, the following ETSI specifications (www.etsi.org) are applicable:

- ETSI TS 101 909-18 v1.3.1
- ETSI TS 101 909-23 v1.1.1

For EuroPacketCable 1.5 products ECN PROV1.5-N-07.0391-6 must be supported with the following exceptions:

- Mandatory implementation of Excentis SIG MIB draft 09, Excentis MTA MIB draft 06, EuroCableLabs extension SIG MIB draft 04, extension MTA MIB draft 01. Implementation of the IETF MTA and SIG MIBs (RFC 4682 and RFC 5098) is optional.
- If the Provisioning Server does not provide the option 'CL_V4_PACKETCABLE_MIB_ENV_OPTION' the MTA must assume a value of 0x03 (EuroCableLabs) indicating the preference to use the EuroCableLabs/Excentis MIBs
- Support for EuroCableLabs MIBs in the MTA must be indicated in DHCP option 60 using TLV 5.23 with a value of 0x02 for EuroCableLabs as the issuing organization

1.4 EuroPacketCable 2.0 Specifications

For EuroPacketCable 2.0 E-DVAs the following specification is applicable:

- CEL-SP-PKT2.0-EDVA-I01-120319

This specification can also be downloaded from the Excentis website.

1.5 EuroPacketCable Multimedia Specifications

The following PacketCable Multimedia specification is applicable:

- PKT-SP-MM-I07-151111

Please also note that the document "EuroPacketCable Multimedia Stability" available on the Excentis website specifies minimum performance requirements.

1.6 Additional Specifications for CMs embedded in DVB-C Set-top Box

CMs embedded in DVB-C Set-top Box MUST implement:

- SP-STB-v3.0-I01-110411

In case of a re-certification or of an OEM submission or of submission using the quick procedure for CM modules and this based on a product that already passed in the past still implementing SP-STB-v1.1-I02-061025, it is also allowed to support SP-STB-v1.1-I02-061025.

1.7 Cable Gateway Specifications

The requirements for a Cable Gateway device are based on, and must comply with, the eRouter specification:



- CM-SP-eRouter-I17-151210

1.8 CM Wi-Fi

At this moment the CM Wi-Fi or Community Wi-Fi program is not part of any official certification program yet. Excentis does offer private testing services based on the above standard and test plans however, to both vendors and MSOs.

The relevant specifications and test plans can be downloaded from the Excentis website:

- CEL-TR-WIFI-V1.1
- CEL-SP-WIFI-GW-I01

1.9 L2VPN requirements

The CM-SP-L2VPN-I15-150528 specification of CableLabs is mandatory. Please note that at the present time L2VPN certification testing does not include testing of Section 8 "Service Operations, Administration, and Maintenance (OAM)", although it is expected to be added at a future time. This difference will be reflected in the Requirement Checklist as provided by CableLabs, which should be used as the definitive guide for the requirements for an L2VPN CPE device.



2 ECN Requirements

For any submission, all ECNs (Engineering Change Notices) released by CableLabs up to (and including) a certain date must be implemented. This date is also called the ECN cut off date.

Please see the published certification schedule for exact ECN cutoff dates.

ECNs of a later date MAY be implemented, but if done this must be stated in the Executive Summary (which is part of the requested submission documentation).

For the ECNs please check www.cablelabs.com.



3 MIB Requirements

For EuroDOCSIS products the same MIB requirements apply as for DOCSIS products. This includes the current version of the Testing MIB as provided by CableLabs.

For EuroPacketCable 1.0 and 1.5 E-MTA products, the aforementioned IETF drafts of the MTA/SIG MIBs rooted under the Excentis MIB branch are applicable. The required versions of these drafts (i.e. Excentis MTA MIB draft 6 and SIG MIB draft 9) can be downloaded from the Excentis web page. In SIG MIB draft 9 one correction is necessary:

```
pktcSigDevMultiFreqToneTable OBJECT-TYPE  
.....  
::= { pktcSigDevConfigObjects 35 } -> must be 33
```

For EuroPacketCable 1.5 E-MTA products the MTA and SIG extension MIBs are also required, which are rooted under the EuroCableLabs MIB tree (extension SIG MIB draft 04, extension MTA MIB draft 01). These MIBs can also be downloaded from the Excentis website. Implementation of the IETF MTA and SIG MIBs (RFC 4682 and RFC 5098) is optional. Support of the above MIB drafts also implies that an MTA must use these MIBs in its provisioning flow (SNMP signalling, configuration file etc).

For EuroPacketCable 2.0 E-DVA products, the required MIBs are specified in the aforementioned EuroPacketCable 2.0 E-DVA specification. Two extra corrections are required though:

1. ECN MIB-EXSIG1.5-N-12.0689-2 adds plan loss configuration parameters for the E-MTA. The two applicable MIBs objects were added to the `pktcEnNcsGroup`. This group is also mandatory for EP2.0 E-DVAs (through the E-DVA MIB compliance statements). But for an EDVA there are already two MIBs for this (`pktcEDVAPrLossDA`, `pktcEDVAPrLossAD`). So, the two new loss MIBs from the `pktcEnNcsGroup` are not applicable for a EuroPacketCable E-DVA.
2. As the functionality offered by the `[PKTC-IETF-SIG-MIB]:pktcSigDevVmwiSigProtocol` MIB is already covered by the functionality of the `[CL-PKTC-EUE-EDVA-MIB]:pktcEDVAMWISignalTypesTable`, the `[PKTC-IETF-SIG-MIB]:pktcSigDevVmwiSigProtocol` MIB is not applicable for a EuroPacketCable 2.0 E-DVA and must be not-accessible.



4 Optional features

4.1 Introduction

In the next section a number of optional features/interfaces are listed. The submitting vendor must indicate if it supports any of the optional features in the Admission Application Forms.

4.2 Overview optional features

For EuroDOCSIS 2.0 CMs support for IPv6 is optional.

For EuroDOCSIS 3.0 CMs support of PHS, Extended Upstream Transmit Power, Extended Upstream Frequency Range (5-85 MHz) and Downstream Spectrum Analysis is optional.

For EuroDOCSIS 2.0 and 3.0 CMTSs, support for PHS and S-CDMA is optional for certification. However, in case S-CDMA is supported, the MSC feature (Maximum Scheduled Codes) must be supported. S-CDMA is not optional for CMTSs that are submitted against the S-CDMA feature set (for feature set based submissions).

For EuroPacketCable 1.5 E-MTAs support of the following features is optional for certification: silence suppression, basic and hybrid provisioning flow, codecs other than PCMA/PCMU, Multiple Grants Per Interval, V.152 Voice Band Data.

For EuroPacketCable 2.0 E-DVAs support of the following features is optional for certification: VAD (silence suppression), GRUU, Preconditions, TLS, Certificate Bootstrapping, V.152, T.38 over RTP, non-G711 codecs, NFTR, and finally an "optional call feature set" which consists of DND, Subscriber Programmable PIN, Customer-Originated Call Trace, Call History, Operator Services: Busy Line Verification & Operator Interrupt.

For EuroPacketCable Multimedia products support of the Event Messaging interface is optional for certification.



5 Test plans

5.1 EuroDOCSIS

For EuroDOCSIS testing the DOCSIS ATPs are followed as much as possible, with adjustments where necessary. For these ATPs please check www.cablelabs.com (DocZone).

For ED3.0 products EuroDOCSIS-3.0-CM-ATP-20130319 is also applicable. The PHY.7-Wi-Fi test herein also applies to EuroDOCSIS 2.0 products.

For ED2.0 products that are submitted for ED2.0 + IPv6, test plan EuroDOCSIS-2.0+IPv6-ATP-20110801 becomes applicable.

Additionally for 1.1/2.0/3.0 products two specific test plans are relevant as well: MAC-100 and the corrected OSS-13.

These EuroDOCSIS test plans are available on the EuroDOCSIS participants portal of the Excentis website.

5.2 EuroPacketCable (Multimedia)

For EuroPacketCable 1.0/1.5/2.0 and EuroPacketCable Multimedia testing the applicable test plans can be found on the secured pages of the Excentis website.

5.3 Cable Gateway / eRouter

For Cable Gateways the applicable test plans can be found on the secured pages of the Excentis website.

5.4 CM Wi-Fi

For CM Wi-Fi testing the applicable test plans can be found on the secured pages of the Excentis website.

5.5 L2VPN

For CMs that support L2VPN the applicable test plans can be found on the secured pages of the Excentis website.



6 Revision History

Revision 01 – First release

