Society of Cable Telecommunications Engineers

ENGINEERING COMMITTEE
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DOCSIS 3.0 Part 5: Cable Modem to Customer Premise Equipment Interface

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1.1   Introduction and Purpose

This interface specification is one of a family of interface specifications designed to facilitate the implementation of data services over Hybrid Fiber-Coax (HFC) cable networks, as well as over coaxial-only cable networks. Figure 5-1 provides the context for this specification in relation to the data-over-cable reference architecture and the other interface specifications in the family. This specification defines the interface requirements for data-over-cable services between a cable modem and the customer premise equipment (CPE). The CPE may include PCs, Macintoshes, workstations, network computers, and other electronic equipment. This specification defines the applicable communications standards and protocols as needed to implement a cable modem interface to the CPE.

This specification only applies to DOCSIS 3.0 (and forward) cable systems employing HFC (Hybrid Fiber Coax) and coaxial architectures. This document:

• describes the communications protocols and standards to be employed,

• specifies the data communication requirements and parameters that will be common to all units,

• describes any additional application-unique interface requirements to ensure support for data-over-cable services.

This document specifies open protocols, with a preference for existing, well-known and well-accepted standards. This interface specification is written to provide the minimal set of requirements for satisfactory communication between the cable modem and CPE.

"Cable Modem to Customer Premise Equipment Interface" (CMCI) is the general term used to describe this interface.

1.2   Requirements

Throughout this document, the words that are used to define the significance of particular requirements are capitalized. These words are:

"MUST"   This word means that the item is an absolute requirement of this specification.

"MUST NOT"   This phrase means that the item is an absolute prohibition of this specification.

"SHOULD"   This word means that there may exist valid reasons in particular circumstances to ignore this item, but the full implications should be understood and the case carefully weighed before choosing a different course.

"SHOULD NOT"   This phrase means that there may exist valid reasons in particular circumstances when the listed behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.

"MAY"   This word means that this item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because it enhances the product, for example; another vendor may omit the same item.