Data-Over-Cable Service Interface Specifications DOCSIS 1.1

Radio Frequency Interface Specification

CM-SP-RFIv1.1-C01-050907

CLOSED SPECIFICATION

DOCKET

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Work in Process An incomplete document, designed to guide discussion and generate feedback, that may include several alternative requirements for consideration.

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5 Downstream Transmission Convergence Sublayer

5.1 Introduction

This section applies to the first technology option referred to in Section 1.1(Scope). For the second option, refer to Appendix N.

In order to improve demodulation robustness, facilitate common receiving hardware for both video and data, and provide an opportunity for the possible future multiplexing of video and data over the PMD sublayer bitstream defined in Section 4, a sublayer is interposed between the downstream PMD sublayer and the Data-Over-Cable MAC sublayer.

The downstream bitstream is defined as a continuous series of 188-byte MPEG [ITU-T H.222.0] packets. These packets consist of a 4-byte header followed by 184 bytes of payload. The header identifies the payload as belonging to the Data-Over-Cable MAC. Other values of the header may indicate other payloads. The mixture of MAC payloads and those of other services is optional and is controlled by the CMTS.

Figure 5-1 illustrates the interleaving of Data-Over-Cable (DOC) MAC bytes with other digital information (digital video in the example shown).

header=DOC	DOC MAC payload	
header=video	digital video payload	
header=video	digital video payload	
header=DOC	DOC MAC payload	
header=video	digital video payload	
header=DOC	DOC MAC payload	
header=video	digital video payload	
header=video	digital video payload	
header=video	digital video payload	

Figure 5-1. Example of Interleaving MPEG Packets in Downstream

5.2 MPEG Packet Format

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The format of an MPEG Packet carrying DOCSIS data is shown in Figure 5-2. The packet consists of a 4-byte MPEG Header, a pointer_field (not present in all packets) and the DOCSIS Payload.