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**SOCIETY OF CABLE  
TELECOMMUNICATIONS  
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**ENGINEERING COMMITTEE  
Data Standards Subcommittee**

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**AMERICAN NATIONAL STANDARD**

**ANSI/SCTE 106 2005**

**DOCSIS Set-Top Gateway (DSG) Specification**

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## Contents

<b>1</b>	<b>SCOPE</b> .....	<b>1</b>
1.1	Introduction and Overview .....	1
1.2	Purpose of Document .....	1
1.3	Reference Architecture.....	4
1.3.1	DSG Basic Mode .....	5
1.3.2	DSG Advanced Mode.....	6
1.3.3	DSG and IP Multicast .....	6
1.4	Organization of Document .....	7
1.5	Requirements (Conformance Notation) .....	7
<b>2</b>	<b>REFERENCES</b> .....	<b>9</b>
2.1	Normative References .....	9
2.2	Informative References.....	9
2.3	Reference Acquisition .....	10
<b>3</b>	<b>TERMS AND DEFINITIONS</b> .....	<b>11</b>
<b>4</b>	<b>ABBREVIATIONS AND ACRONYMS</b> .....	<b>13</b>
<b>5</b>	<b>DOCSIS SET-TOP GATEWAY</b> .....	<b>14</b>
5.1	Assumptions and Constraints (Informative) .....	14
5.2	Normative Requirements – General .....	14
5.2.1	DSG Server .....	14
5.2.2	DSG Agent .....	15
5.2.3	DSG eCM .....	17
5.3	Normative Requirements – DSG Tunnel Definition.....	19
5.3.1	Downstream Channel Descriptor (DCD).....	20
5.3.2	DSG Service Class.....	28
5.4	DSG eCM Operation .....	29
5.4.1	DSG Modes .....	29
5.4.2	DSG eCM State Transition Diagrams.....	29
5.4.3	DSG eCM Initialization and Operation.....	30
5.4.4	DSG Operation .....	43
5.5	Security Considerations .....	45
5.5.1	Receiver Based .....	45
5.5.2	Sender Based.....	45
5.6	Interoperability .....	46
5.6.1	DSG and IP Multicast .....	46
5.6.2	DSG Basic Mode and DSG Advanced Mode .....	46
5.7	DSG Operation (Informative).....	47
5.7.1	DSG Basic Mode Tunnels .....	47
5.7.2	DSG Advanced Mode Tunnels .....	47

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5.7.3	DSG Tunnel Address Substitution.....	47
5.7.4	Many to One .....	48
5.7.5	One to Many .....	48
5.7.6	Regionalization .....	48
5.7.7	Layer 4 Multiplexing.....	49
5.7.8	DSG Channel List.....	49
5.7.9	Support for Legacy DSG Servers and Legacy IP Networks .....	50
<b>ANNEX A</b>	<b>DOCSIS SET-TOP GATEWAY AGENT MIB DEFINITION (NORMATIVE).....</b>	<b>53</b>
<b>ANNEX B</b>	<b>DOCSIS SET-TOP GATEWAY SET-TOP DEVICE MIB DEFINITION (NORMATIVE) .....</b>	<b>70</b>
<b>ANNEX C</b>	<b>FORMAT AND CONTENT FOR DSG ECM EVENT, SYSLOG, AND SNMP TRAP EXTENSIONS (NORMATIVE).....</b>	<b>79</b>
<b>ANNEX D</b>	<b>DELIVERY OF MPEG-2 SECTIONS IN THE BROADCAST TUNNEL (NORMATIVE) .....</b>	<b>83</b>
<b>APPENDIX I</b>	<b>PARSING THE MIB IN THE DSG AGENT (INFORMATIVE) ..</b>	<b>85</b>

## Tables

Table 5-2 – Support Strategies for Legacy Network Equipment .....	50
Table C-1 – DSG Notifications and eCM Events relations .....	79
Table D-1 – BT Header .....	83
Table I-1 – Mapping Table 5-1 TLVs and MIB Objects .....	86

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## Figures

Figure 1-1 – Transparent Out-Of-Band Messaging Via DOCSIS.....	2
Figure 1-2 – Data-Over-Cable Reference Architecture.....	3
Figure 1-3 – DOCSIS Set-top Gateway System Physical Diagram .....	4
Figure 1-4 – DOCSIS Set-top Gateway Logical Diagram .....	5
Figure 1-5 – DSG Tunnel within the DSG Agent.....	5
Figure 3-1 – DSG Terminology .....	11
Figure 5-1 – DSG eCM State Transition Diagram.....	19
Figure 5-2 – DCD Message Fragment Structure .....	21
Figure 5-3 – DSG eCM Initialization Overview.....	32
Figure 5-4 – DSG eCM Scan for Downstream DSG Channel.....	34
Figure 5-5 – DSG eCM Obtaining Upstream Parameters.....	35
Figure 5-6 – DSG eCM Initial Ranging.....	37
Figure 5-7 – DSG eCM Unicast Station Maintenance Ranging .....	38
Figure 5-8 – DSG eCM Registration .....	39
Figure 5-9 – DSG eCM Wait for Registration Response.....	40
Figure 5-10 – DSG eCM Operation.....	42
Figure 5-11 – DSG Operation .....	43
Figure 5-12 – Example DSG Configurations.....	51
Figure A-1 – DSG MIB Module Objects Relationships.....	53
Figure D-1 – Section Encapsulation.....	83
Figure I-1 – MIB Structure.....	93
Figure I-2 – Example of Designing 3 Tunnels .....	94
Figure I-3 – DS 1, Rule 1 .....	95
Figure I-4 – DS 2, Rule 1 .....	96
Figure I-5 – DS 2, Rule 2 .....	97
Figure I-6 – DS 2, Rule 3 .....	98

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# 1 SCOPE

## 1.1 Introduction and Overview

The DOCSIS Set-top Gateway (DSG) specification defines the interface requirements on a DOCSIS CMTS and DOCSIS CM to support the configuration for transport of a class of service known as “Out-Of-Band (OOB) messaging” between a Set-top Controller (or application servers) and the customer premise equipment (CPE). In general, the CPE is intended to be a digital Set-top Device, but may include other CPE devices, such as Residential Gateways or other electronic equipment. Figure 1-1 provides the context for this specification in relation to the data over cable reference architecture and the other interface specifications in the family.

Traditionally, the physical transport of this Out-Of-Band messaging has been carried over dedicated channels, as specified by [ANSI/SCTE 55-1] and [ANSI/SCTE 55-2]. This specification defines the applicable communications standards and protocols needed to implement an Out-Of-Band messaging interface to the Set-top Device using DOCSIS as a transport. It applies to cable systems employing HFC and coaxial architectures. Specifically, the scope of this specification is to:

- Describe the communications protocols and standards to be employed
- Specify the data communication requirements and parameters that will be common to all units

The intent of this document is to specify 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 Set-top Controller and the Set-top Device over the DOCSIS transport. “DOCSIS Set-top Gateway” (DSG) shall be the general term used to describe this interface.

## 1.2 Purpose of Document

Cable operators have deployed millions of digital set-top boxes enabling broadcast and interactive services. They have also deployed millions of DOCSIS cable modems with the associated infrastructure, CMTS, routers, and network connectivity. There is significant interest in enabling digital set-top boxes to leverage the existing infrastructure of digital video and DOCSIS networks. This document is one of a series of interface specifications that will permit the early definition, design, development and deployment of data-over-cable and OpenCable™ systems on a uniform, consistent, open, non-proprietary, multi-vendor interoperable basis.

The intended service will allow transparent uni-directional and bi-directional transport of Out-Of-Band messaging over Internet Protocol (IP), between the cable system headend and customer locations, over an all-coaxial or hybrid-fiber/coax (HFC) cable network. This is shown in simplified form in Figure 1-1.