

ISO/IEC 13818-11:2004-02 (E)

Information technology - Generic coding of moving pictures and associated audio information - Part 11: IPMP on MPEG-2 systems

Contents		Page
Foreword		vi
1	Scope	1
2	Normative references	2
3	Terms and definitions	2
4	Compatibility with Conditional Access framework (Informative)	4
4.1	The existing MPEG-2 CA framework	4
4.2	Backward compatibility - the carriage of IPMP in the CA framework	4
4.3	Forward compatibility - the carriage of CA data within MPEG-2 IPMP	5
4.4	Co-existence of MPEG-2 IPMP and Conditional Access	5
5	Overview of MPEG-2 IPMP (Informative)	6
5.1	IPMP Architecture	6
5.1.1	IPMP tool acquisition and protection signaling	6
5.1.2	IPMP Information carriage in MPEG-2 Content	7
5.1.3	Messaging	7
5.1.4	Mutual Authentication	7
5.1.5	IPMP Tool connection and disconnection	8
5.1.6	Notification of IPMP Tool connection and disconnection	9
5.1.7	Common IPMP processing	9
5.1.8	IPMP tool to/from User interaction	9
6	Specifications (Normative)	10
6.1	Overview	10
6.1.1	MPEG-2 IPMP architecture	10
6.1.2	Structure of IPMP protected MPEG-2 content	11
6.2	IPMP Control Information	11
6.2.1	IPMP Control Information in Transport Stream	11
6.2.2	IPMP Control Information in Program Stream	18
6.3	IPMP Protection Signalling	21
6.3.1	IPMP Protection Signalling in Transport Stream	21
6.3.2	IPMP Protection Signalling in Program Stream	22
6.3.3	IPMP Descriptor	22
6.4	IPMP Stream	24
6.4.1	IPMP Stream Specification	24
6.4.2	IPMP Stream Syntax	25
6.4.3	IPMP Stream Decoder Model	25
7	IPMP Data and Messages (Normative)	27
7.1	IPMP_Data_BaseClass	27
7.1.1	Syntax	27
7.1.2	Semantics	27
7.1.3	Extension tags for the IPMP_Data_BaseClass message	28
7.2	Mutual Authentication	29
7.2.1	IPMP_InitAuthentication	29
7.2.2	IPMP_Mutual_Authentication	29
7.2.3	IPMP_TrustSecurityMetadata	34
7.2.4	DateClass	35

7.2.5	IPMP_SecureContainer	35
7.3	IPMP Tool connection and disconnection	36
7.3.1	IPMP_GetTools	36
7.3.2	IPMP_GetToolsResponse	36
7.3.3	IPMP Tool Parametric Capabilities Query	36
7.3.4	IPMP Tool Parametric Capabilities Query Response	37
7.3.5	IPMP_ConnectTool	37
7.3.6	IPMP_DisconnectTool	37
7.4	IPMP Tool notification	38
7.4.1	IPMP_AddToolNotificationListener	38
7.4.2	IPMP_RemoveToolNotificationListener	39
7.4.3	IPMP_NotifyToolEvent	39
7.5	IPMP Processing	40
7.5.1	IPMP_CanProcess	40
7.5.2	IPMP Opaque data	40
7.5.3	IPMP_KeyData	40
7.5.4	IPMP_RightsData	41
7.5.5	IPMP_SelectiveDecryptionInit	41
7.5.6	IPMP_AudioWatermarkingInit	41
7.5.7	IPMP_SendAudioWatermark	41
7.5.8	IPMP_VideoWatermarkingInit	41
7.5.9	IPMP_SendVideoWatermark	41
7.6	User Interaction Messages	41
7.6.1	IPMP_UserQuery	42
7.6.2	IPMP_UserQueryResponse	44
7.7	IPMP Information Delivery Functions	44
7.7.1	IPMP_ToolMessageBase	45
7.7.2	IPMP_MessageFromBitstream	45
7.7.3	IPMP_DescriptorFromBitstream	46
7.7.4	IPMP_MessageFromTool	46
Annex A (normative) Tool/Content Transfer Messages among Distributed IPMP Devices		47
A.1	Introduction	47
A.2	Addressing of distributed devices	47
A.3	IPMP_DeviceMessageBase	47
A.3.1	Syntax	47
A.3.2	Semantics	47
A.4	Device to Device IPMP Message	48
A.4.1	IPMP_MessageFromDevice	48
A.5	Content Transfer Messages	48
A.5.1	IPMP_RequestContent	48
A.5.2	IPMP_ResponseToContentRequest	49
A.5.3	IPMP_ContentTransfer	49
A.6	Tool Transfer Messages	50
A.6.1	IPMP_RequestTool	50
A.6.2	IPMP_ResponseToToolRequest	50
A.7	Device ID messages	51
A.7.1	PMP_DeviceID_Notification Message	51
Annex B (normative) Schema for Terminal Platform		52
Annex C (normative) Selective Decryption Configuration Data		55
C.1	Introduction	55
C.2	IPMP_SelectiveDecryptionInit	55
C.2.1	Syntax	55
C.2.2	Semantics	56
C.3	An example of a selective decryption configuration data (Informative)	58
Annex D (normative) Audio Watermarking Configuration and Notification		61

D.1	Introduction	61
D.2	IPMP_AudioWatermarkingInit	61
D.2.1	Syntax	61
D.2.2	Semantics	62
D.3	IPMP_SendAudioWatermark	63
D.3.1	Syntax	63
D.3.2	Semantics	63
Annex E (normative) Video Watermarking Configuration and Notification Data		64
E.1	Introduction	64
E.2	IPMP_VideoWatermarkingInit	64
E.2.1	Syntax	64
E.2.2	Syntax	65
E.3	IPMP_SendVideoWatermark	65
E.3.1	Syntax	65
E.3.2	Semantics	66
Annex F (informative) An example of a simple use case of MPEG-2 IPMP		67
F.1	Content authoring	67
F.2	MPEG-2 IPMP Terminal behaviour	67
Annex G (normative) List of Registration Authorities		70
G.1	Registered Data	70
G.2	Procedure for the request of Registered Data	70
G.3	Responsibilities of the Registration Authority	70
G.4	Contact information for the Registration Authority	71
G.5	Responsibilities of Parties Requesting Registered Data	71
G.6	Appeal Procedure for Denied Applications	71
G.7	Registration Application Form	72
G.7.1	Contact Information of organization requesting a RID	72
G.7.2	Request for specific registered data	72
G.7.3	Short description of the Registered Data that is in use and date system was implemented	72
G.7.4	Statement of an intention to apply the assigned Registered Data	72
G.7.5	Date of intended implementation of the Registered Data	73
G.7.6	Authorized representative	73
G.7.7	For official use of the Registration Authority	73
Annex H (informative) Patent statements		74