

ISO/IEC 29341-3-12:2008-11 (E)

Information technology_ - UPnP Device Architecture_ - Part_3-12: Audio Video Device Control Protocol_ - Content Directory Service

CONTENTS

FOREWORD	5
ORIGINAL UPNP DOCUMENTS (informative)	7
1. Overview and Scope	9
1.1. Introduction.....	9
2. Service Modeling Definitions	10
2.1. Service Type	10
2.2. References.....	10
2.3. Terms.....	11
2.3.1. Notation: Strings Embedded in Other Strings.....	12
2.3.2. Notation: Extended Backus-Naur Form	13
2.4. Class Hierarchy.....	13
2.4.1. Class name syntax.....	13
2.4.2. Base Properties	14
2.4.3. Class 'object' (Base Class)	15
2.4.4. Class 'item' : 'object'	15
2.4.5. Class 'container' : 'object'	15
2.5. State Variables.....	16
2.5.1. Derived data types	16
2.5.2. TransferIDs	18
2.5.3. A_ARG_TYPE_ObjectID	19
2.5.4. A_ARG_TYPE_Result	19
2.5.5. A_ARG_TYPE_SearchCriteria	19
2.5.6. A_ARG_TYPE_BrowseFlag	21
2.5.7. A_ARG_TYPE_Filter	21
2.5.8. A_ARG_TYPE_SortCriteria	21
2.5.9. A_ARG_TYPE_Index.....	21
2.5.10. A_ARG_TYPE_Count.....	21
2.5.11. A_ARG_TYPE_UpdateID	22
2.5.12. A_ARG_TYPE_TransferID	22
2.5.13. A_ARG_TYPE_TransferStatus.....	22
2.5.14. A_ARG_TYPE_TransferLength.....	22
2.5.15. A_ARG_TYPE_TransferTotal.....	22
2.5.16. A_ARG_TYPE_TagValueList	22
2.5.17. A_ARG_TYPE_URI	22
2.5.18. SearchCapabilities	22
2.5.19. SortCapabilities	22
2.5.20. SystemUpdateID.....	23
2.5.21. ContainerUpdateIDs	23
2.6. Eventing and Moderation	25
2.7. Actions.....	26
2.7.1. GetSearchCapabilities	26
2.7.2. GetSortCapabilities	27
2.7.3. GetSystemUpdateID	27
2.7.4. Browse	28
2.7.5. Search.....	30
2.7.6. CreateObject.....	32
2.7.7. DestroyObject	34
2.7.8. UpdateObject	35
2.7.9. ImportResource	38
2.7.10. ExportResource	39
2.7.11. StopTransferResource.....	40
2.7.12. GetTransferProgress	41
2.7.13. DeleteResource	42
2.7.14. CreateReference.....	43
2.7.15. Non-Standard Actions Implemented by an UPnP Vendor	43
2.7.16. Common Error Codes.....	43

2.8.	Theory of Operation (Informative).....	45
2.8.1.	Introduction	45
2.8.2.	Content setup for Browsing and Searching	45
2.8.3.	Browsing	46
2.8.4.	Searching.....	50
2.8.5.	Browsing, Searching, and References.....	53
2.8.6.	Browsing, Searching, and Filtering	54
2.8.7.	Object Creation	55
2.8.8.	File Transfer of a resource in Objects.....	56
2.8.9.	Playlist Manipulation	58
2.8.10.	Internet Content Representation.....	60
2.8.11.	Vendor Metadata Extensions.....	60
3.	XML Service Description	61
4.	Test.....	68
Annex A	(normative) DIDL-Lite	69
Annex B	(normative) AV Working Committee Extended Properties	74
Annex C	(normative) AV Working Committee Class Definitions.....	84
C.1	audioltem : item.....	85
C.1.1	musicTrack : audioltem.....	86
C.1.2	audioBroadcast : audioltem	86
C.1.3	audioBook : audioltem	86
C.2	videoltem : item.....	87
C.2.1	movie : videoltem.....	87
C.2.2	videoBroadcast: videoltem.....	87
C.2.3	musicVideoClip: videoltem.....	88
C.3	imageltem : item.....	88
C.3.1	photo: imageltem	88
C.4	playlistItem : item.....	89
C.5	textItem : item.....	90
C.6	album : container.....	90
C.6.1	musicAlbum : album	91
C.6.2	photoAlbum : album	91
C.7	genre : container	91
C.7.1	musicGenre : genre	91
C.7.2	movieGenre : genre	91
C.8	playlistContainer : container	92
C.9	person : container	92
C.9.1	musicArtist : person	92
C.10	storageSystem : container	93
C.11	storageVolume : container	93
C.12	storageFolder : container	94

LIST OF TABLES

Table 1: Terms	11
Table 2: Base properties.....	14
Table 3: Object properties	15
Table 4: Item properties.....	15
Table 5: Container properties	15
Table 6: CSV Examples	17
Table 7: State variables	18
Table 8: ContainerUpdateIDs Example	24
Table 9: Event moderation.....	25
Table 10: Actions	26
Table 11: Update examples.....	36
Table 12: Common error codes.....	44