

Modus: Alle Zeilen
Linker Ursprungsordner: W:\BCAST\OMA\CRs\own\OMA-IOP-TTCN-2008-xxxx-CR_ServiceInteraction\modified TTCN-3 sources
Rechter Ursprungsordner: W:\BCAST\OMA\CRs\own\OMA-IOP-TTCN-2008-xxxx-CR_ServiceInteraction\orig

Datei: AtsBCast_ServiceInteractionTests.ttcn

1	/**	=	1	/**
2	*		2	*
3	* @author		3	* @author
4	* ETSI CTI BCAST CON Project		4	* ETSI CTI BCAST CON Project
5	* @version		5	* @version
6	* \$Id\$		6	* \$Id\$
7	* @desc		7	* @desc
8	* This module specifies pilot tests for BCast service interaction.		8	* This module specifies pilot tests for BCast service interaction.
9	*/		9	*/
10	module AtsBCast_ServiceInteractionTests {		10	module AtsBCast_ServiceInteractionTests {
11	import from LibBCast_Interface all;		11	import from LibBCast_Interface all;
12	import from LibBCast_ServicePrimitives_TypesAndValues all;		12	import from LibBCast_ServicePrimitives_TypesAndValues all;
13	import from AtsBCast_Main_Functions all;		13	import from AtsBCast_Main_Functions all;
14	import from LibBCast_BCastNetworkData_Functions all;		14	import from LibBCast_BCastNetworkData_Functions all;
15	import from LibBCast_ServiceGuide_Templates all;		15	import from LibBCast_ServiceGuide_Templates all;
16	import from AtsBCast_ServiceGuide_Functions all;		16	import from AtsBCast_ServiceGuide_Functions all;
17	import from LibBCast_ServiceGuide_TypesAndValues all;		17	import from LibBCast_ServiceGuide_TypesAndValues all;
18	import from LibBCast_Common_TypesAndValues all;		18	import from LibBCast_Common_TypesAndValues all;
19	import from LibBCast_Common_Templates all;		19	import from LibBCast_Common_Templates all;
20	import from LibCommon_BasicTypesAndValues all;		20	import from LibCommon_BasicTypesAndValues all;
21	import from AtsBCast_ModuleParameters all;		21	import from AtsBCast_ModuleParameters all;
22	import from LibBCast_ModuleParameters all;		22	import from LibBCast_ModuleParameters all;
23	import from AtsBCast_TestConfiguration_Functions all;		23	import from AtsBCast_TestConfiguration_Functions all;
24	import from AtsBCast_TestSystem all;		24	import from AtsBCast_TestSystem all;
25			25	
26	group bcastConformanceTestCases {		26	group bcastConformanceTestCases {
27	group clientConformanceTestCases {		27	group clientConformanceTestCases {
28			28	
29	/**		29	/**
30	*		30	*
31	* @desc		31	* @desc
32	* <p>Service guide with XHTML interactivity document via broadcast channel (opt		32	* <p>Service guide with XHTML interactivity document via broadcast channel (opt
33	* <p>Test Case Description</p>		33	* <p>Test Case Description</p>
34	* <p>with a terminal listening to the broadcast Service Guide Delivery Channel		34	* <p>with a terminal listening to the broadcast Service Guide Delivery Channel
35	* <p>when the terminal receives Service Guide containing interactivity data for		35	* <p>when the terminal receives Service Guide containing interactivity data for
36	* <p>then terminal starts an application with XHTML data </p>		36	* <p>then terminal starts an application with XHTML data </p>
37	* <p>Specification Reference</p>		37	* <p>Specification Reference</p>
38	* <p>[BCAST10-Services] Section 5.3.6, 5.3.6.1.2, 5.3.6.1.5.</p>		38	* <p>[BCAST10-Services] Section 5.3.6, 5.3.6.1.2, 5.3.6.1.5.</p>
39	* <p>Preconditions</p>		39	* <p>Preconditions</p>
40	* <p>Service guide cache of terminal is erased</p>		40	* <p>Service guide cache of terminal is erased</p>
41	* <p>Terminal is configured to listen to BCAST service guide announcements and		41	* <p>Terminal is configured to listen to BCAST service guide announcements and
42	* <p>Access point information for service guide entry point is configured in te		42	* <p>Access point information for service guide entry point is configured in te
43	* <p>Set up the test tool for Service Guide delivery to provide stream delivery		43	* <p>Set up the test tool for Service Guide delivery to provide stream delivery
44	* <p>Configure terminal to start a, e.g., browser, application with XHTML inter		44	* <p>Configure terminal to start a, e.g., browser, application with XHTML inter
45	* <p>This test cases uses the following SG fragment instantiations found in the		45	* <p>This test cases uses the following SG fragment instantiations found in the
46	* 		46	*
47	* Service fragment with Name="TvChannel"		47	* Service fragment with Name="TvChannel"
48	* Content fragment with Name="Programmel"		48	* Content fragment with Name="Programmel"
49	* InteractivityData fragment for content fragment with interactivity		49	* InteractivityData fragment for content fragment with interactivity
50	* Schedule fragment for interactivity data fragment		50	* Schedule fragment for interactivity data fragment
51	* Access fragment for schedule fragment and referencing the session		51	* Access fragment for schedule fragment and referencing the session
52	* SDP for file delivery session of interactivity media document and		52	* SDP for file delivery session of interactivity media document and
53	* 		53	*
54	* </p>		54	* </p>
55	* <p>Set the FLUTE session to transport the InteractivityMediaDocument "iamdl.x		55	* <p>Set the FLUTE session to transport the InteractivityMediaDocument "iamdl.x
56	* <p>Set the FLUTE session to contain an FDT-Instance with two 'File'-elements;		56	* <p>Set the FLUTE session to contain an FDT-Instance with two 'File'-elements;
57	* 		57	*
58	* one with attributes 'Content-Location="iamdl.xml"', 'Content-Type=		58	* one with attributes 'Content-Location="iamdl.xml"', 'Content-Type=
59	* and another with attributes 'Content-Location="Vote.xhtml"', 'Cont		59	* and another with attributes 'Content-Location="Vote.xhtml"', 'Cont
60	* 		60	*
61	* </p>		61	* </p>
62	* <p>Note: All the fragments are associated with the same Service fragment and		62	* <p>Note: All the fragments are associated with the same Service fragment and
63	* 		63	*
64	* XHTML file "Vote.xhtml"		64	* XHTML file "Vote.xhtml"
65	* InteractivityMediaDocument with MediaObject Set element pointing t		65	* InteractivityMediaDocument with MediaObject Set element pointing t
66	* 		66	*

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67	* </p>	67	* </p>
68	* <p></p>	68	* <p></p>
69	* <p>Test Procedure</p>	69	* <p>Test Procedure</p>
70	* <p>	70	* <p>
71	* 	71	*
72	* Set up the test tool to produce initial BCAST service guide announ	72	* Set up the test tool to produce initial BCAST service guide announ
73	* Setup the test tool to deliver the interactivity media document ar	73	* Setup the test tool to deliver the interactivity media document ar
74	* Request from BCAST application on terminal to get the service guid	74	* Request from BCAST application on terminal to get the service guid
75	* Browse the SG on the terminal	75	* Browse the SG on the terminal
76	* Select "TvChannel" and interactivity "vote-xhtml" 	76	* Select "TvChannel" and interactivity "vote-xhtml"
77	* 	77	*
78	* </p>	78	* </p>
79	* <p>Pass-Criteria</p>	79	* <p>Pass-Criteria</p>
80	* <p>The following should be visible to the end user after the delivery of the	80	* <p>The following should be visible to the end user after the delivery of the
81	* 	81	*
82	* The terminal should associate the service "TvChannel" with "Progra	82	* The terminal should associate the service "TvChannel" with "Progra
83	* The application presents the XHTML content to end user	83	* The application presents the XHTML content to end user
84	* 	84	*
85	* </p>	85	* </p>
86	* @verdict	86	* @verdict
87	* pass in case the client pass the conformance test.	87	* pass in case the client pass the conformance test.
88	* @verdict	88	* @verdict
89	* fail in case the client does not pass the conformance test.	89	* fail in case the client does not pass the conformance test.
90	* @verdict	90	* @verdict
91	* inconc in case a guard timer expires.	91	* inconc in case a guard timer expires.
92	*/	92	*/
93	testcase TC_BCAST_INTER_CONF_101() runs on BCastMainComponent system BCastPlatformC	93	testcase TC_BCAST_INTER_CONF_101() runs on BCastMainComponent system BCastPlatformC
94	// init components and ports	94	// init components and ports
95	f_createComponents();	95	f_createComponents();
96	f_cf_Broadcast_up();	96	f_cf_Broadcast_up();
97	f_cf_Data_up();	97	f_cf_Data_up();
98	f_cf_UpperTester_up();	98	f_cf_UpperTester_up();
99		99	
100	var ObjectType v_obj := valueof(m_def_Object(PX_XHTML_FILE_ID, PX_XHTML_CON	100	var ObjectType v_obj := valueof(m_def_Object(PX_XHTML_FILE_ID, PX_XHTML_CON
101	//var MediaObjectSetType v_objSet := valueof(m_def_mediaObjectSet("applicat	101	//var MediaObjectSetType v_objSet := valueof(m_def_mediaObjectSet("applicat
102	var MediaObjectSetType v_objSet := valueof(m_def_mediaObjectSet("applicatio	102	var MediaObjectSetType v_objSet := valueof(m_def_mediaObjectSet("applicatio
103	var MediaObjectGroupType v_objGroup := valueof(m_def_MediaObjectGroup(PX_ME	103	var MediaObjectGroupType v_objGroup := valueof(m_def_MediaObjectGroup(PX_ME
104	var InteractivityMediaDocumentType v_doc := valueof(m_def_InteractivityMedi	104	var InteractivityMediaDocumentType v_doc := valueof(m_def_InteractivityMedi
105		105	
106	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2	106	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2
107	var TransferFileList v_FileList :={	107	var TransferFileList v_FileList :={
108	{	108	{
109	Content_Location := "iamdl.xml",	109	Content_Location := "iamdl.xml",
110	Content_Type := "application/vnd.oma.bcast.imd+xml",	110	Content_Type := "application/vnd.oma.bcast.imd+xml",
111	Content-Encoding := omit,	111	Content-Encoding := omit,
112	file := {InteractivityMediaDocument := v_doc}	112	file := {InteractivityMediaDocument := v_doc}
113	},	113	},
114	{	114	{
115	Content_Location := "Vote.xhtml",	115	Content_Location := "Vote.xhtml",
116	Content_Type := "text/html",	116	Content_Type := "text/html",
117	Content-Encoding := omit,	117	Content-Encoding := omit,
118	file := omit	118	file := omit
119	}	119	}
120	};	120	};
121		121	
122	f_main_ctrl_InitStartEndTime(c_one_hour,c_one_hour);	122	f_main_ctrl_InitStartEndTime(c_one_hour,c_one_hour);
123		123	
124	// preamble	124	// preamble
125	var UInt v_TransferId := 4; // change 11 (WK18): in order to broadcast data	125	var UInt v_TransferId := 4; // change 11 (WK18): in order to broadcast data
126	var UInt32 v_FluteUpdateID := 0; // CR (WK 34/2008): Flute Up	126	var UInt32 v_FluteUpdateID := 0; // CR (WK 34/2008): Flute Up
127	// change 34 (WK18): rename "TVChannelIcon" SDP session into "Data_Session"	127	// change 34 (WK18): rename "TVChannelIcon" SDP session into "Data_Session"
128	f_main_data_startFileTransfer(v_TransferId, v_FluteUpdateID, PX_SDP_DATA_SF	128	f_main_data_startFileTransfer(v_TransferId, v_FluteUpdateID, PX_SDP_DATA_SF
129	f_startCommonUtPreamble();	129	f_startCommonUtPreamble();
130		130	
131	// test behavior	131	// test behavior
132	var ServiceGuideDeliveryUnit v_SGDU := {};	132	var ServiceGuideDeliveryUnit v_SGDU := {};
133	var UInt32 v_FragmentVersion := 1;	133	var UInt32 v_FragmentVersion := 1;
134		134	
135	var DateTime v_DateTime_StartTime := f_getDateTime(v_startTime);	135	var DateTime v_DateTime_StartTime := f_getDateTime(v_startTime);
136	var DateTime v_DateTime_EndTime := f_getDateTime(v_endTime);	136	var DateTime v_DateTime_EndTime := f_getDateTime(v_endTime);
137		137	

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138	var SdpFragment v_Sdp := valueof(m_def_SdpFragment(138	var SdpFragment v_Sdp := valueof(m_def_SdpFragment(
139	PX_SDP_VIDEO_PROG_1_REF_ID,	139	PX_SDP_VIDEO_PROG_1_REF_ID,
140	PX_SDP_DATA_SESSION // change 34 (WK18): rename "TVChannelIcon" SDP	140	PX_SDP_DATA_SESSION // change 34 (WK18): rename "TVChannelIcon" SDP
141	));	141));
142		142	
143	var AccessTypeType v_AccessType := valueof(m_def_AccessType_bc_sdp(	143	var AccessTypeType v_AccessType := valueof(m_def_AccessType_bc_sdp(
144	f_getAccessType(PX_BROADCAST_NETWORK_BEARER),	144	f_getAccessType(PX_BROADCAST_NETWORK_BEARER),
145	PX_SDP_VIDEO_PROG_1_REF_ID	145	PX_SDP_VIDEO_PROG_1_REF_ID
146	));	146));
147		147	
148	var ServiceType v_Service := valueof(m_def_Service(	148	var ServiceType v_Service := valueof(m_def_Service(
149	PX_SGDU_SERVICE_ID,	149	PX_SGDU_SERVICE_ID,
150	v_FragmentVersion,	150	v_FragmentVersion,
151	"TvChannel",	151	"TvChannel",
152	c_basicTv_ServiceType	152	c_basicTv_ServiceType
153	));	153));
154		154	
155	var ContentType v_Content := valueof(m_def_Content(	155	var ContentType v_Content := valueof(m_def_Content(
156	PX_SGDU_CONTENT_ID_PROG_1,	156	PX_SGDU_CONTENT_ID_PROG_1,
157	v_FragmentVersion,	157	v_FragmentVersion,
158	"Programm1",	158	"Programm1",
159	PX_SGDU_SERVICE_ID,	159	PX_SGDU_SERVICE_ID,
160	v_DateTime_StartTime,	160	v_DateTime_StartTime,
161	v_DateTime_EndTime	161	v_DateTime_EndTime
162	));	162));
163		163	
164	var InteractivityDataType v_InterData := valueof(m_def_InteractivityData(	164	var InteractivityDataType v_InterData := valueof(m_def_InteractivityData(
165	PX_SGDU_INTERACTIVITY_DATA_ID,	165	PX_SGDU_INTERACTIVITY_DATA_ID,
166	v_FragmentVersion,	166	v_FragmentVersion,
167	PX_PRELISTEN_INDICATOR,	167	PX_PRELISTEN_INDICATOR,
168	PX_MEDIA_DOCUMENT_GROUP_ID,	168	PX_MEDIA_DOCUMENT_GROUP_ID,
169	PX_SGDU_SERVICE_ID,	169	PX_SGDU_SERVICE_ID,
170	PX_SGDU_CONTENT_ID_PROG_1,	170	PX_SGDU_CONTENT_ID_PROG_1,
171	PX_XHTML_FILE_ID	171	PX_XHTML_FILE_ID
172	));	172));
173		173	
174		174	
175	var ScheduleType v_Schedule := valueof(m_def_inter_Schedule(	175	var ScheduleType v_Schedule := valueof(m_def_inter_Schedule(
176	PX_SGDU_SCHEDULE_ID_PROG_1,	176	PX_SGDU_SCHEDULE_ID_PROG_1,
177	v_FragmentVersion,	177	v_FragmentVersion,
178	PX_SGDU_SERVICE_ID,	178	PX_SGDU_SERVICE_ID,
179	PX_SGDU_INTERACTIVITY_DATA_ID	179	PX_SGDU_INTERACTIVITY_DATA_ID
180	));	180));
181		181	
182	var AccessType v_Access := valueof(m_def_Access(	182	var AccessType v_Access := valueof(m_def_Access(
183	PX_SGDU_ACCESS_ID_PROG_1,	183	PX_SGDU_ACCESS_ID_PROG_1,
184	v_FragmentVersion,	184	v_FragmentVersion,
185	v_AccessType,	185	v_AccessType,
186	PX_SGDU_SERVICE_ID,	186	PX_SGDU_SERVICE_ID,
187	PX_SGDU_SCHEDULE_ID_PROG_1, // change 3 (WK18): according to ETS;	187	PX_SGDU_SCHEDULE_ID_PROG_1, // change 3 (WK18): according to ETS;
188	c_class_FC // change 35 (WK18): Check Service Class of Access Fragment	188	c_class_FC // change 35 (WK18): Check Service Class of Access Fragment
189	));	189));
190		190	
191	// CR 26/8: generic function for adding XML fragments	191	// CR 26/8: generic function for adding XML fragments
192	f_addXMLFragment(v_SGDU, {Service := v_Service});	192	f_addXMLFragment(v_SGDU, {Service := v_Service});
193	f_addXMLFragment(v_SGDU, {Content := v_Content});	193	f_addXMLFragment(v_SGDU, {Content := v_Content});
194	f_addXMLFragment(v_SGDU, {InteractivityData := v_InterData});	194	f_addXMLFragment(v_SGDU, {InteractivityData := v_InterData});
195	f_addXMLFragment(v_SGDU, {Schedule := v_Schedule});	195	f_addXMLFragment(v_SGDU, {Schedule := v_Schedule});
196	f_addXMLFragment(v_SGDU, {Access := v_Access});	196	f_addXMLFragment(v_SGDU, {Access := v_Access});
197	f_addSdpFragment(v_SGDU, v_FragmentVersion, v_Sdp);	197	f_addSdpFragment(v_SGDU, v_FragmentVersion, v_Sdp);
198		198	
199	f_main_ctrl_broadcastServiceGuide(v_SGDU, omit, vc_FluteUpdateID); //	199	f_main_ctrl_broadcastServiceGuide(v_SGDU, omit, vc_FluteUpdateID); //
200		200	
201	f_main_ut_RunBCastApplication();	201	f_main_ut_RunBCastApplication();
202	if (PX_GET_SG_DISPLAY_MANUALLY) {	202	if (PX_GET_SG_DISPLAY_MANUALLY) {
203	f_main_ut_GetServiceGuide(PX_SGDD_ID);	203	f_main_ut_GetServiceGuide(PX_SGDD_ID);
204	}	204	}
205	f_main_ut_CheckService("TvChannel");	205	f_main_ut_CheckService("TvChannel");
206	f_main_ut_SelectService("TvChannel");	206	f_main_ut_SelectService("TvChannel");
207	f_main_ut_CheckInteractivity("vote-xhtml");	207	f_main_ut_CheckInteractivity("vote-xhtml");
208	f_main_ut_SelectInteractivity("vote-xhtml");	208	f_main_ut_SelectInteractivity("vote-xhtml");

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209	f_main_ut_CheckBrowser(PX_XHTML_FILE_ID);	209	f_main_ut_CheckBrowser(PX_XHTML_FILE_ID);
210		210	
211	// postamble	211	// postamble
212	f_main_ut_PowerOff();	212	f_main_ut_PowerOff();
213	f_main_data_stopFileTransfer(v_TransferId);	213	f_main_data_stopFileTransfer(v_TransferId);
214		214	
215	f_cf_Broadcast_down();	215	f_cf_Broadcast_down();
216	f_cf_Data_down();	216	f_cf_Data_down();
217	f_cf_UpperTester_down();	217	f_cf_UpperTester_down();
218	}// end test case TC_BCAST_INTER_CONF_101	218	}// end test case TC_BCAST_INTER_CONF_101
219	// change 39 (WK18): testcase description extension	219	// change 39 (WK18): testcase description extension
220	with {extension "Description: 5.4.1 Service guide with XHTML interactivity document	220	with {extension "Description: 5.4.1 Service guide with XHTML interactivity document
221		221	
222	/** @desc	222	/** @desc
223	* <p>Service guide with SMS interactivity document via broadcast channel (optio	223	* <p>Service guide with SMS interactivity document via broadcast channel (optio
224	* <p>Test Case Description</p>	224	* <p>Test Case Description</p>
225	* <p>with a terminal listening to the Service Guide Delivery Channel.</p>	225	* <p>with a terminal listening to the Service Guide Delivery Channel.</p>
226	* <p>when the terminal receives Service Guide containing interactivity data for	226	* <p>when the terminal receives Service Guide containing interactivity data for
227	* <p>then the terminal sends an SMS</p>	227	* <p>then the terminal sends an SMS</p>
228	* <p>Specification Reference</p>	228	* <p>Specification Reference</p>
229	* <p>[BCAST10-Services] Section 5.3.6, 5.3.6.1.6.</p>	229	* <p>[BCAST10-Services] Section 5.3.6, 5.3.6.1.6.</p>
230	* <p>Preconditions</p>	230	* <p>Preconditions</p>
231	* <p>Service guide cache of terminal is erased</p>	231	* <p>Service guide cache of terminal is erased</p>
232	* <p>Terminal is configured to listen to BCAST service guide announcements and	232	* <p>Terminal is configured to listen to BCAST service guide announcements and
233	* <p>Access point information for service guide entry point is configured in te	233	* <p>Access point information for service guide entry point is configured in te
234	* <p>This test cases uses the following SG fragment instantiations found in the	234	* <p>This test cases uses the following SG fragment instantiations found in the
235	* 	235	*
236	* Service fragment with Name="TvChannel"	236	* Service fragment with Name="TvChannel"
237	* Content fragment with Name="Programmel" for service fragment	237	* Content fragment with Name="Programmel" for service fragment
238	* InteractivityData fragment for content fragment with interactivity	238	* InteractivityData fragment for content fragment with interactivity
239	* Schedule fragment for interactivity data fragment	239	* Schedule fragment for interactivity data fragment
240	* Access fragment for schedule fragment and referencing session desc	240	* Access fragment for schedule fragment and referencing session desc
241	* SDP for file delivery session of interactivity media document	241	* SDP for file delivery session of interactivity media document
242	* 	242	*
243	* </p>	243	* </p>
244	* <p>Set the FLUTE session to transport the InteractivityMediaDocument "iamdl.x	244	* <p>Set the FLUTE session to transport the InteractivityMediaDocument "iamdl.x
245	* <p>Set the FLUTE session to contain an FDT-Instance with a 'File'-element hav	245	* <p>Set the FLUTE session to contain an FDT-Instance with a 'File'-element hav
246	* <p>Note: All the fragments are associated with the same Service fragment and	246	* <p>Note: All the fragments are associated with the same Service fragment and
247	* 	247	*
248	* InteractivityMediaDocument with SMSTemplate SelectChoice set to "a	248	* InteractivityMediaDocument with SMSTemplate SelectChoice set to "a
249	* 	249	*
250	* </p>	250	* </p>
251	* <p>Test Procedure</p>	251	* <p>Test Procedure</p>
252	* <p>	252	* <p>
253	* 	253	*
254	* Set up the test tool to produce initial BCAST service guide announ	254	* Set up the test tool to produce initial BCAST service guide announ
255	* Request from BCAST application on terminal to get the service guid	255	* Request from BCAST application on terminal to get the service guid
256	* Browse the SG on the terminal	256	* Browse the SG on the terminal
257	* Select "TvChannel" and interactivity "vote-sms" on the terminal </	257	* Select "TvChannel" and interactivity "vote-sms" on the terminal </
258	* Select choice "b" on terminal.	258	* Select choice "b" on terminal.
259	* 	259	*
260	* </p>	260	* </p>
261	* <p>Pass-Criteria</p>	261	* <p>Pass-Criteria</p>
262	* <p>The following should be visible to the end user after the delivery of the	262	* <p>The following should be visible to the end user after the delivery of the
263	* 	263	*
264	* The terminal should associate the service "TvChannel" with "Progra	264	* The terminal should associate the service "TvChannel" with "Progra
265	* The terminal displays "a", "b", and "c" as available choices .	265	* The terminal displays "a", "b", and "c" as available choices .
266	* 	266	*
267	* </p>	267	* </p>
268	* <p>The following should be observable for the test tool	268	* <p>The following should be observable for the test tool
269	* 	269	*
270	* The test tool receives an SMS from the terminal with the for choic	270	* The test tool receives an SMS from the terminal with the for choic
271	* 	271	*
272	* </p>	272	* </p>
273	* @verdict	273	* @verdict
274	* pass in case the client pass the conformance test.	274	* pass in case the client pass the conformance test.
275	* @verdict	275	* @verdict
276	* fail in case the client does not pass the conformance test.	276	* fail in case the client does not pass the conformance test.
277	* @verdict	277	* @verdict
278	* inconc in case a guard timer expires.	278	* inconc in case a guard timer expires.
279	*/	279	*/

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280	testcase TC_BCAST_INTER_CONF_102() runs on BCastMainComponent system BCastPlatformM	280	testcase TC_BCAST_INTER_CONF_102() runs on BCastMainComponent system BCastPlatformM
281	// init components and ports	281	// init components and ports
282	f_createComponents();	282	f_createComponents();
283	f_cf_Broadcast_up();	283	f_cf_Broadcast_up();
284	f_cf_Data_up();	284	f_cf_Data_up();
285	f_cf_UpperTester_up();	285	f_cf_UpperTester_up();
286	f_cf_SMS_up();	286	f_cf_SMS_up();
287		287	
288	var SelectChoiceType v_SelectChoice_A := { smsURI := PX_SMS_URI, ChoiceText	288	var SelectChoiceType v_SelectChoice_A := { smsURI := PX_SMS_URI, ChoiceText
289	var SelectChoiceType v_SelectChoice_B := { smsURI := PX_SMS_URI, ChoiceText	289	var SelectChoiceType v_SelectChoice_B := { smsURI := PX_SMS_URI, ChoiceText
290	var SelectChoiceType v_SelectChoice_C := { smsURI := PX_SMS_URI, ChoiceText	290	var SelectChoiceType v_SelectChoice_C := { smsURI := PX_SMS_URI, ChoiceText
291		291	
292		292	
293	var SMSTemplateType v_sms := valueof(m_def_SmsTemplate({v_SelectChoice_A,	293	var SMSTemplateType v_sms := valueof(m_def_SmsTemplate({v_SelectChoice_A,
294	var MediaObjectGroupType v_objGroup := valueof(m_def_MediaObjectGroup(PX_MF	294	var MediaObjectGroupType v_objGroup := valueof(m_def_MediaObjectGroup(PX_MF
295	v_objGroup.SMSTemplate := v_sms;	295	v_objGroup.SMSTemplate := v_sms;
296	var InteractivityMediaDocumentType v_doc := valueof(m_def_InteractivityMedi	296	var InteractivityMediaDocumentType v_doc := valueof(m_def_InteractivityMedi
297	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2	297	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2
298	var TransferFileList v_FileList :={	298	var TransferFileList v_FileList :={
299	{	299	{
300	Content_Location := "iamdl.xml",	300	Content_Location := "iamdl.xml",
301	Content_Type := "application/vnd.oma.bcast.imd+xml",	301	Content_Type := "application/vnd.oma.bcast.imd+xml",
302	Content_Encoding := omit,	302	Content_Encoding := omit,
303	file := {InteractivityMediaDocument := v_doc}	303	file := {InteractivityMediaDocument := v_doc}
304	}	304	}
305	};	305	};
306		306	
307	f_main_ctrl_InitStartEndTime(c_one_hour,c_one_hour);	307	f_main_ctrl_InitStartEndTime(c_one_hour,c_one_hour);
308		308	
309	var UInt v_TransferId := 4; // change 11 (WK18): in order to broadcast data	309	var UInt v_TransferId := 4; // change 11 (WK18): in order to broadcast data
310	var UInt32 v_FluteUpdateID := 0; // CR (WK 34/2008): Flute Up	310	var UInt32 v_FluteUpdateID := 0; // CR (WK 34/2008): Flute Up
311	// change 34 (WK18): rename "TVChannelIcon" SDP session into "Data_Session"	311	// change 34 (WK18): rename "TVChannelIcon" SDP session into "Data_Session"
312	f_main_data_startFileTransfer(v_TransferId, v_FluteUpdateID, PX_SDP_DATA_SE	312	f_main_data_startFileTransfer(v_TransferId, v_FluteUpdateID, PX_SDP_DATA_SE
313		313	
314	// preamble	314	// preamble
315	f_startCommonUtPreamble();	315	f_startCommonUtPreamble();
316		316	
317	// test behavior	317	// test behavior
318	var ServiceGuideDeliveryUnit v_SGDU := {};	318	var ServiceGuideDeliveryUnit v_SGDU := {};
319	var UInt32 v_FragmentVersion := 1;	319	var UInt32 v_FragmentVersion := 1;
320		320	
321	var DateTime v_DateTime_StartTime := f_getDateTime(v_startTime);	321	var DateTime v_DateTime_StartTime := f_getDateTime(v_startTime);
322	var DateTime v_DateTime_EndTime := f_getDateTime(v_endTime);	322	var DateTime v_DateTime_EndTime := f_getDateTime(v_endTime);
323		323	
324	var SdpFragment v_Sdp := valueof(m_def_SdpFragment(	324	var SdpFragment v_Sdp := valueof(m_def_SdpFragment(
325	PX_SDP_VIDEO_PROG_1_REF_ID,	325	PX_SDP_VIDEO_PROG_1_REF_ID,
326	PX_SDP_DATA_SESSION // change 34 (WK18): rename "TVChannelIcon" SDP	326	PX_SDP_DATA_SESSION // change 34 (WK18): rename "TVChannelIcon" SDP
327	));	327));
328		328	
329	var AccessTypeType v_AccessType := valueof(m_def_AccessType_bc_sdp(	329	var AccessTypeType v_AccessType := valueof(m_def_AccessType_bc_sdp(
330	f_getAccessType(PX_BROADCAST_NETWORK_BEARER),	330	f_getAccessType(PX_BROADCAST_NETWORK_BEARER),
331	PX_SDP_VIDEO_PROG_1_REF_ID	331	PX_SDP_VIDEO_PROG_1_REF_ID
332	));	332));
333		333	
334	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2	334	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2
335	var InteractivityDataType v_InterData := valueof(m_def_InteractivityData(	335	var InteractivityDataType v_InterData := valueof(m_def_InteractivityData(
336	PX_SGDU_INTERACTIVITY_DATA_ID,	336	PX_SGDU_INTERACTIVITY_DATA_ID,
337	v_FragmentVersion,	337	v_FragmentVersion,
338	PX_PRELISTEN_INDICATOR,	338	PX_PRELISTEN_INDICATOR,
339	PX_MEDIA_DOCUMENT_GROUP_ID,	339	PX_MEDIA_DOCUMENT_GROUP_ID,
340	PX_SGDU_SERVICE_ID,	340	PX_SGDU_SERVICE_ID,
341	PX_SGDU_CONTENT_ID_PROG_1,	341	PX_SGDU_CONTENT_ID_PROG_1,
342	"vote-sms"	342	"vote-sms"
343	));	343));
344	// v_InterData.InteractivityTypes := { {omit,"vote-sms"} }; // hint: unneces	344	// v_InterData.InteractivityTypes := { {omit,"vote-sms"} }; // hint: unneces
345		345	
346	var ServiceType v_Service := valueof(m_def_Service(	346	var ServiceType v_Service := valueof(m_def_Service(
347	PX_SGDU_SERVICE_ID,	347	PX_SGDU_SERVICE_ID,
348	v_FragmentVersion,	348	v_FragmentVersion,
349	"TvChannel",	349	"TvChannel",
350	c_basicTv_ServiceType	350	c_basicTv_ServiceType

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351));	351));
352		352	
353	var ContentType v_Content := valueof(m_def_Content(353	var ContentType v_Content := valueof(m_def_Content(
354	PX_SGDU_CONTENT_ID_PROG_1,	354	PX_SGDU_CONTENT_ID_PROG_1,
355	v_FragmentVersion,	355	v_FragmentVersion,
356	"Programmel",	356	"Programmel",
357	PX_SGDU_SERVICE_ID,	357	PX_SGDU_SERVICE_ID,
358	v_DateTime_StartTime,	358	v_DateTime_StartTime,
359	v_DateTime_EndTime	359	v_DateTime_EndTime
360	));	360));
361		361	
362	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2	362	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2
363	var ScheduleType v_Schedule := valueof(m_def_inter_Schedule(	363	var ScheduleType v_Schedule := valueof(m_def_inter_Schedule(
364	PX_SGDU_SCHEDULE_ID_PROG_1,	364	PX_SGDU_SCHEDULE_ID_PROG_1,
365	v_FragmentVersion,	365	v_FragmentVersion,
366	PX_SGDU_SERVICE_ID,	366	PX_SGDU_SERVICE_ID,
367	PX_SGDU_INTERACTIVITY_DATA_ID	367	PX_SGDU_INTERACTIVITY_DATA_ID
368	));	368));
369		369	
370	var AccessType v_Access := valueof(m_def_Access(	370	var AccessType v_Access := valueof(m_def_Access(
371	PX_SGDU_ACCESS_ID_PROG_1,	371	PX_SGDU_ACCESS_ID_PROG_1,
372	v_FragmentVersion,	372	v_FragmentVersion,
373	v_AccessType,	373	v_AccessType,
374	PX_SGDU_SERVICE_ID,	374	PX_SGDU_SERVICE_ID,
375	PX_SGDU_SCHEDULE_ID_PROG_1, // change 3 (WK18): according to ETS;	375	PX_SGDU_SCHEDULE_ID_PROG_1, // change 3 (WK18): according to ETS;
376	c_class_FC // change 35 (WK18): Check Service Class of Access Fragment	376	c_class_FC // change 35 (WK18): Check Service Class of Access Fragment
377	));	377));
378		378	
379	// CR 26/8: generic function for adding XML fragments	379	// CR 26/8: generic function for adding XML fragments
380	f_addXMLFragment(v_SGDU, {Service := v_Service});	380	f_addXMLFragment(v_SGDU, {Service := v_Service});
381	f_addXMLFragment(v_SGDU, {Content := v_Content});	381	f_addXMLFragment(v_SGDU, {Content := v_Content});
382	f_addXMLFragment(v_SGDU, {InteractivityData := v_InterData});	382	f_addXMLFragment(v_SGDU, {InteractivityData := v_InterData});
383	f_addXMLFragment(v_SGDU, {Schedule := v_Schedule});	383	f_addXMLFragment(v_SGDU, {Schedule := v_Schedule});
384	f_addXMLFragment(v_SGDU, {Access := v_Access});	384	f_addXMLFragment(v_SGDU, {Access := v_Access});
385	f_addSdpFragment(v_SGDU, v_FragmentVersion, v_Sdp);	385	f_addSdpFragment(v_SGDU, v_FragmentVersion, v_Sdp);
386		386	
387	f_main_ctrl_broadcastServiceGuide(v_SGDU, omit, vc_FluteUpdateID); //	387	f_main_ctrl_broadcastServiceGuide(v_SGDU, omit, vc_FluteUpdateID); //
388		388	
389	f_main_ut_RunBCastApplication();	389	f_main_ut_RunBCastApplication();
390	if (PX_GET_SG_DISPLAY_MANUALLY) {	390	if (PX_GET_SG_DISPLAY_MANUALLY) {
391	f_main_ut_GetServiceGuide(PX_SGDD_ID);	391	f_main_ut_GetServiceGuide(PX_SGDD_ID);
392	}	392	}
393	f_main_ut_CheckService("TvChannel");	393	f_main_ut_CheckService("TvChannel");
394	f_main_ut_SelectService("TvChannel");	394	f_main_ut_SelectService("TvChannel");
395	f_main_ut_CheckInteractivity("vote-sms");	395	f_main_ut_CheckInteractivity("vote-sms");
396	f_main_ut_SelectInteractivity("vote-sms");	396	f_main_ut_SelectInteractivity("vote-sms");
397	f_main_ut_CheckInteractivityChoices({ {text_ := "a"}, {text_ := "b"}, {text_ := "c"} });	397	f_main_ut_CheckInteractivityChoices({ {text_ := "a"}, {text_ := "b"}, {text_ := "c"} });
398	f_main_ut_SelectInteractivityChoice("b");	398	f_main_ut_SelectInteractivityChoice("b");
399		399	
400	f_main_ctrl_awaitingSMS("b"); // TODO - This content check needs to be updated	400	f_main_ctrl_awaitingSMS("b"); // TODO - This content check needs to be updated
401		401	
402	// postamble	402	// postamble
403	f_main_ut_PowerOff();	403	f_main_ut_PowerOff();
404	f_main_data_stopFileTransfer(v_TransferId); // change 1 (WK43/08): method f	404	
405		404	
406	f_cf_Broadcast_down();	405	f_cf_Broadcast_down();
407	f_cf_Data_down();	406	f_cf_Data_down();
408	f_cf_UpperTester_down();	407	f_cf_UpperTester_down();
409	f_cf_SMS_down();	408	f_cf_SMS_down();
410	}// end test case TC_BCAST_INTER_CONF_102	409	}// end test case TC_BCAST_INTER_CONF_102
411	// change 39 (WK18): testcase description extension	410	// change 39 (WK18): testcase description extension
412	with {extension "Description: 5.4.2 Service guide with SMS interactivity document via broadcast channel (optical)"} {	411	with {extension "Description: 5.4.2 Service guide with SMS interactivity document via broadcast channel (optical)"} {
413		412	
414	/** @desc	413	/** @desc
415	* <p>Service guide with MMS interactivity document via broadcast channel (optical)	414	* <p>Service guide with MMS interactivity document via broadcast channel (optical)
416	* <p>Test Case Description</p>	415	* <p>Test Case Description</p>
417	* <p>with a terminal listening to the Service Guide Delivery Channel.</p>	416	* <p>with a terminal listening to the Service Guide Delivery Channel.</p>
418	* <p>when the terminal receives Service Guide containing interactivity data for	417	* <p>when the terminal receives Service Guide containing interactivity data for
419	* <p>then the terminal sends an MMS</p>	418	* <p>then the terminal sends an MMS</p>
420	* <p>Specification Reference</p>	419	* <p>Specification Reference</p>
421	* <p>[BCAST10-Services] Section 5.3.6, 5.3.6.1.7.</p>	420	* <p>[BCAST10-Services] Section 5.3.6, 5.3.6.1.7.</p>

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422	*	<p>Preconditions</p>	421	*	<p>Preconditions</p>
423	*	<p>Service guide cache of terminal is erased</p>	422	*	<p>Service guide cache of terminal is erased</p>
424	*	<p>Terminal is configured to listen to BCAST service guide announcements and	423	*	<p>Terminal is configured to listen to BCAST service guide announcements and
425	*	<p>Access point information for service guide entry point is configured in te	424	*	<p>Access point information for service guide entry point is configured in te
426	*	<p>This test cases uses the following SG fragment instantiations found in the	425	*	<p>This test cases uses the following SG fragment instantiations found in the
427	*		426	*	
428	*	Service fragment with Name="TvChannel"	427	*	Service fragment with Name="TvChannel"
429	*	Content fragment with Name="Programm1" Content fragment with Name	428	*	Content fragment with Name="Programm1" Content fragment with Name
430	*	InteractivityData fragment for content fragment with interactivity	429	*	InteractivityData fragment for content fragment with interactivity
431	*	Schedule fragment for interactivity data fragment	430	*	Schedule fragment for interactivity data fragment
432	*	Access fragment for schedule fragment and referencing the session	431	*	Access fragment for schedule fragment and referencing the session
433	*	SDP for file delivery session of interactivity media document and	432	*	SDP for file delivery session of interactivity media document and
434	*		433	*	
435	*	</p>	434	*	</p>
436	*	<p>Set the FLUTE session to transport	435	*	<p>Set the FLUTE session to transport
437	*		436	*	
438	*	InteractivityMediaDocument "iamd1.xml" with TOI="1" 	437	*	InteractivityMediaDocument "iamd1.xml" with TOI="1"
439	*	MMS Message Template "mmstemplate.gz" with TOI="2".	438	*	MMS Message Template "mmstemplate.gz" with TOI="2".
440	*		439	*	
441	*	</p>	440	*	</p>
442	*	<p>Set the FLUTE session to contain an FDT-Instance with two 'File'-elements;	441	*	<p>Set the FLUTE session to contain an FDT-Instance with two 'File'-elements;
443	*		442	*	
444	*	one with attributes Content-Location="iamd1.xml", Content-Type="ag	443	*	one with attributes Content-Location="iamd1.xml", Content-Type="ag
445	*	• another with attributes Content-Location="mmstemplate.gz",	444	*	• another with attributes Content-Location="mmstemplate.gz",
446	*		445	*	
447	*	</p>	446	*	</p>
448	*	<p>Note: All the fragments are associated with the same Service fragment and	447	*	<p>Note: All the fragments are associated with the same Service fragment and
449	*	<p>The MMS Message Template contains the following files concatenated in one	448	*	<p>The MMS Message Template contains the following files concatenated in one
450	*		449	*	
451	*	Message Template Definition	450	*	Message Template Definition
452	*	MMS Presentation Part	451	*	MMS Presentation Part
453	*	Image file "ChoiceA.jpg"	452	*	Image file "ChoiceA.jpg"
454	*	Image file "ChoiceB.jpg"	453	*	Image file "ChoiceB.jpg"
455	*	Text file "Instructions.txt"	454	*	Text file "Instructions.txt"
456	*		455	*	
457	*	</p>	456	*	</p>
458	*	<p></p>	457	*	<p></p>
459	*	<p>Test Procedure</p>	458	*	<p>Test Procedure</p>
460	*	<p>	459	*	<p>
461	*		460	*	
462	*	Set up the test tool to produce initial BCAST service guide annour	461	*	Set up the test tool to produce initial BCAST service guide annour
463	*	Setup the test tool to deliver the interactivity media document, M	462	*	Setup the test tool to deliver the interactivity media document, M
464	*	Request from BCAST application on terminal to get the service guid	463	*	Request from BCAST application on terminal to get the service guid
465	*	Browse the SG in the terminal	464	*	Browse the SG in the terminal
466	*	Access "Interactivity_URL_MMS" to retrieve the InteractivityMediaI	465	*	Access "Interactivity_URL_MMS" to retrieve the InteractivityMediaI
467	*	Interact with application to generate response and deliver respons	466	*	Interact with application to generate response and deliver respons
468	*		467	*	
469	*	</p>	468	*	</p>
470	*	<p>Pass-Criteria</p>	469	*	<p>Pass-Criteria</p>
471	*	<p>The following should be visible to the end user after the delivery of the	470	*	<p>The following should be visible to the end user after the delivery of the
472	*		471	*	
473	*	Select "TvChannel" and interactivity "vote-mms" on the terminal </	472	*	Select "TvChannel" and interactivity "vote-mms" on the terminal </
474	*	Select image "ChoiceA" on terminal.	473	*	Select image "ChoiceA" on terminal.
475	*		474	*	
476	*	</p>	475	*	</p>
477	*	<p>The following should be observable for the test tool	476	*	<p>The following should be observable for the test tool
478	*		477	*	
479	*	The test tool receives an MMS from the terminal formatted correctl	478	*	The test tool receives an MMS from the terminal formatted correctl
480	*		479	*	
481	*	</p>	480	*	</p>
482	*	@verdict	481	*	@verdict
483	*	pass in case the client pass the conformance test.	482	*	pass in case the client pass the conformance test.
484	*	@verdict	483	*	@verdict
485	*	fail in case the client does not pass the conformance test.	484	*	fail in case the client does not pass the conformance test.
486	*	@verdict	485	*	@verdict
487	*	inconc in case a guard timer expires.	486	*	inconc in case a guard timer expires.
488	*	*/	487	*	*/
489		testcase TC_BCAST_INTER_CONF_103() runs on BCastMainComponent system BCastPlatformC	488		testcase TC_BCAST_INTER_CONF_103() runs on BCastMainComponent system BCastPlatformC
490		// init components and ports	489		// init components and ports
491		f_createComponents();	490		f_createComponents();
492		f_cf_Broadcast_up();	491		f_cf_Broadcast_up();

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493	f_cf_Data_up();	492	f_cf_Data_up();
494	f_cf_UpperTester_up();	493	f_cf_UpperTester_up();
495	f_cf_MMS_up();	494	f_cf_MMS_up();
496		495	
497	var UInt v_StreamId := 1;	496	var UInt v_StreamId := 1;
498		497	
499	var ObjectType v_objMMS := valueof(m_def_Object(PX_MMS_TEMPLATE, "applicati	498	var ObjectType v_objMMS := valueof(m_def_Object(PX_MMS_TEMPLATE, "applicati
500	var ObjectType v_objA := valueof(m_def_Object(PX_MMS_VOTE_A_PICTURE, "image	499	var ObjectType v_objA := valueof(m_def_Object(PX_MMS_VOTE_A_PICTURE, "image
501	var ObjectType v_objB := valueof(m_def_Object(PX_MMS_VOTE_PICTURE, "image/g	500	var ObjectType v_objB := valueof(m_def_Object(PX_MMS_VOTE_PICTURE, "image/g
502	var ObjectType v_objTxt := valueof(m_def_Object(PX_MMS_TEXT_FILE, "text/pla	501	var ObjectType v_objTxt := valueof(m_def_Object(PX_MMS_TEXT_FILE, "text/pla
503		502	
504	var MediaObjectSetType v_objSet := valueof(m_def_mediaObjectSet("applicatio	503	var MediaObjectSetType v_objSet := valueof(m_def_mediaObjectSet("applicatio
505	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2	504	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2
506	var MediaObjectGroupType v_objGroup := valueof(m_def_MediaObjectGroup(PX_ME	505	var MediaObjectGroupType v_objGroup := valueof(m_def_MediaObjectGroup(PX_ME
507	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2	506	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2
508	var InteractivityMediaDocumentType v_doc := valueof(m_def_InteractivityMedi	507	var InteractivityMediaDocumentType v_doc := valueof(m_def_InteractivityMedi
509	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2	508	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2
510	var TransferFileList v_FileList :={	509	var TransferFileList v_FileList :={
511	{	510	{
512	Content_Location := "iamdl.xml",	511	Content_Location := "iamdl.xml",
513	Content_Type := "application/vnd.oma.bcast.imd+xml",	512	Content_Type := "application/vnd.oma.bcast.imd+xml",
514	Content-Encoding := omit,	513	Content-Encoding := omit,
515	file := {InteractivityMediaDocument := v_doc}	514	file := {InteractivityMediaDocument := v_doc}
516	},	515	},
517	{	516	{
518	Content_Location := "mmstemplate.gz",	517	Content_Location := "mmstemplate.gz",
519	Content_Type := "text/html",	518	Content_Type := "text/html",
520	Content-Encoding := "gzip",	519	Content-Encoding := "gzip",
521	file := {	520	file := {
522	zipFile := valueof(m_def_ZipFile(	521	zipFile := valueof(m_def_ZipFile(
523	PX_MEDIA_OBJECT_SET_URI,	522	PX_MEDIA_OBJECT_SET_URI,
524	{	523	{
525	PX_MMS_TEMPLATE,	524	PX_MMS_TEMPLATE,
526	PX_MMS_VOTE_A_PICTURE,	525	PX_MMS_VOTE_A_PICTURE,
527	PX_MMS_VOTE_PICTURE,	526	PX_MMS_VOTE_PICTURE,
528	PX_MMS_TEXT_FILE	527	PX_MMS_TEXT_FILE
529	})	528	})
530	}}	529	}}
531	}	530	}
532	}	531	}
533	};	532	};
534		533	
535	f_main_ctrl_InitStartTime(c_one_hour,c_one_hour);	534	f_main_ctrl_InitStartTime(c_one_hour,c_one_hour);
536		535	
537	// preamble	536	// preamble
538	var UInt v_TransferId := 4;	537	var UInt v_TransferId := 4;
539	var UInt32 v_FluteUpdateID := 0; // CR (WK 34/2008): Flute Up	538	var UInt32 v_FluteUpdateID := 0; // CR (WK 34/2008): Flute Up
540	// change 34 (WK18): rename "TVChannelIcon" SDP session into "Data_Session"	539	// change 34 (WK18): rename "TVChannelIcon" SDP session into "Data_Session"
541	f_main_data_startFileTransfer(v_TransferId, v_FluteUpdateID, PX_SDP_DATA_SE	540	f_main_data_startFileTransfer(v_TransferId, v_FluteUpdateID, PX_SDP_DATA_SE
542	f_startCommonUtPreamble();	541	f_startCommonUtPreamble();
543		542	
544	// test behavior	543	// test behavior
545	var ServiceGuideDeliveryUnit v_SGDU := {};	544	var ServiceGuideDeliveryUnit v_SGDU := {};
546	var UInt32 v_FragmentVersion := 1;	545	var UInt32 v_FragmentVersion := 1;
547		546	
548	var DateTime v_DateTime_StartTime := f_getDateTime(v_startTime);	547	var DateTime v_DateTime_StartTime := f_getDateTime(v_startTime);
549	var DateTime v_DateTime_EndTime := f_getDateTime(v_endTime);	548	var DateTime v_DateTime_EndTime := f_getDateTime(v_endTime);
550		549	
551	var SdpFragment v_Sdp := valueof(m_def_SdpFragment(	550	var SdpFragment v_Sdp := valueof(m_def_SdpFragment(
552	PX_SDP_VIDEO_PROG_1_REF_ID,	551	PX_SDP_VIDEO_PROG_1_REF_ID,
553	PX_SDP_DATA_SESSION // change 34 (WK18): rename "TVChannelIcon" SDP	552	PX_SDP_DATA_SESSION // change 34 (WK18): rename "TVChannelIcon" SDP
554	));	553));
555		554	
556	var AccessTypeType v_AccessType := valueof(m_def_AccessType_bc_sdp(	555	var AccessTypeType v_AccessType := valueof(m_def_AccessType_bc_sdp(
557	f_getAccessType(PX_BROADCAST_NETWORK_BEARER),	556	f_getAccessType(PX_BROADCAST_NETWORK_BEARER),
558	PX_SDP_VIDEO_PROG_1_REF_ID	557	PX_SDP_VIDEO_PROG_1_REF_ID
559	));	558));
560		559	
561	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2	560	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2
562	var InteractivityDataType v_InterData := valueof(m_def_InteractivityData(561	var InteractivityDataType v_InterData := valueof(m_def_InteractivityData(
563	PX_SGDU_INTERACTIVITY_DATA_ID,	562	PX_SGDU_INTERACTIVITY_DATA_ID,

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564	v_FragmentVersion,	563	v_FragmentVersion,
565	PX_PRELISTEN_INDICATOR,	564	PX_PRELISTEN_INDICATOR,
566	PX_MEDIA_DOCUMENT_GROUP_ID,	565	PX_MEDIA_DOCUMENT_GROUP_ID,
567	PX_SGDU_SERVICE_ID,	566	PX_SGDU_SERVICE_ID,
568	PX_SGDU_CONTENT_ID_PROG_1,	567	PX_SGDU_CONTENT_ID_PROG_1,
569	"vote-mms"	568	"vote-mms"
570	));	569));
571	// v_InterData.InteractivityTypes := { {omit,"vote-mms"} }; // hint: unnece	570	// v_InterData.InteractivityTypes := { {omit,"vote-mms"} }; // hint: unnece
572		571	
573	var ServiceType v_Service := valueof(m_def_Service(	572	var ServiceType v_Service := valueof(m_def_Service(
574	PX_SGDU_SERVICE_ID,	573	PX_SGDU_SERVICE_ID,
575	v_FragmentVersion,	574	v_FragmentVersion,
576	"TvChannel",	575	"TvChannel",
577	c_basicTv_ServiceType	576	c_basicTv_ServiceType
578	));	577));
579		578	
580	var ContentType v_Content := valueof(m_def_Content(	579	var ContentType v_Content := valueof(m_def_Content(
581	PX_SGDU_CONTENT_ID_PROG_1,	580	PX_SGDU_CONTENT_ID_PROG_1,
582	v_FragmentVersion,	581	v_FragmentVersion,
583	"Programme1",	582	"Programme1",
584	PX_SGDU_SERVICE_ID,	583	PX_SGDU_SERVICE_ID,
585	v_DateTime_StartTime,	584	v_DateTime_StartTime,
586	v_DateTime_EndTime	585	v_DateTime_EndTime
587	));	586));
588		587	
589	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2	588	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2
590	var ScheduleType v_Schedule := valueof(m_def_inter_Schedule(	589	var ScheduleType v_Schedule := valueof(m_def_inter_Schedule(
591	PX_SGDU_SCHEDULE_ID_PROG_1,	590	PX_SGDU_SCHEDULE_ID_PROG_1,
592	v_FragmentVersion,	591	v_FragmentVersion,
593	PX_SGDU_SERVICE_ID,	592	PX_SGDU_SERVICE_ID,
594	PX_SGDU_INTERACTIVITY_DATA_ID	593	PX_SGDU_INTERACTIVITY_DATA_ID
595	));	594));
596		595	
597	var AccessType v_Access := valueof(m_def_Access(	596	var AccessType v_Access := valueof(m_def_Access(
598	PX_SGDU_ACCESS_ID_PROG_1,	597	PX_SGDU_ACCESS_ID_PROG_1,
599	v_FragmentVersion,	598	v_FragmentVersion,
600	v_AccessType,	599	v_AccessType,
601	PX_SGDU_SERVICE_ID,	600	PX_SGDU_SERVICE_ID,
602	PX_SGDU_SCHEDULE_ID_PROG_1, // change 3 (WK18): according to ETS;	601	PX_SGDU_SCHEDULE_ID_PROG_1, // change 3 (WK18): according to ETS;
603	c_class_FC // change 35 (WK18): Check Service Class of Access Fragn	602	c_class_FC // change 35 (WK18): Check Service Class of Access Fragn
604	));	603));
605		604	
606	// CR 26/8: generic function for adding XML fragments	605	// CR 26/8: generic function for adding XML fragments
607	f_addXMLFragment(v_SGDU, {Service := v_Service});	606	f_addXMLFragment(v_SGDU, {Service := v_Service});
608	f_addXMLFragment(v_SGDU, {Content := v_Content});	607	f_addXMLFragment(v_SGDU, {Content := v_Content});
609	f_addXMLFragment(v_SGDU, {InteractivityData := v_InterData});	608	f_addXMLFragment(v_SGDU, {InteractivityData := v_InterData});
610	f_addXMLFragment(v_SGDU, {Schedule := v_Schedule});	609	f_addXMLFragment(v_SGDU, {Schedule := v_Schedule});
611	f_addXMLFragment(v_SGDU, {Access := v_Access});	610	f_addXMLFragment(v_SGDU, {Access := v_Access});
612	f_addSdpFragment(v_SGDU, v_FragmentVersion, v_Sdp);	611	f_addSdpFragment(v_SGDU, v_FragmentVersion, v_Sdp);
613		612	
614	f_main_ctrl_broadcastServiceGuide(v_SGDU, omit, vc_FluteUpdateID); //	613	f_main_ctrl_broadcastServiceGuide(v_SGDU, omit, vc_FluteUpdateID); //
615		614	
616	f_main_ut_RunBCastApplication();	615	f_main_ut_RunBCastApplication();
617	if (PX_GET_SG_DISPLAY_MANUALLY) {	616	if (PX_GET_SG_DISPLAY_MANUALLY) {
618	f_main_ut_GetServiceGuide(PX_SGDD_ID);	617	f_main_ut_GetServiceGuide(PX_SGDD_ID);
619	}	618	}
620	f_main_ut_CheckService("TvChannel");	619	f_main_ut_CheckService("TvChannel");
621	f_main_ut_SelectService("TvChannel");	620	f_main_ut_SelectService("TvChannel");
622	f_main_ut_CheckInteractivity("vote-mms");	621	f_main_ut_CheckInteractivity("vote-mms");
623	f_main_ut_SelectInteractivity("vote-mms");	622	f_main_ut_SelectInteractivity("vote-mms");
624	f_main_ut_CheckInteractivityChoices({ { text_ := "ChoiceA" } });	623	f_main_ut_CheckInteractivityChoices({ { text_ := "ChoiceA" } });
625	f_main_ut_SelectInteractivityChoice("ChoiceA");	624	f_main_ut_SelectInteractivityChoice("ChoiceA");
626		625	
627	f_main_ctrl_awaitingMMS("ChoiceA"); // TODO - This content check needs to k	626	f_main_ctrl_awaitingMMS("ChoiceA"); // TODO - This content check needs to k
628		627	
629	// postamble	628	// postamble
630	f_main_ut_PowerOff();	629	f_main_ut_PowerOff();
631	f_main_data_stopFileTransfer(v_TransferId);	630	f_main_data_stopFileTransfer(v_TransferId);
632		631	
633	f_cf_Broadcast_down();	632	f_cf_Broadcast_down();
634	f_cf_Data_down();	633	f_cf_Data_down();

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635	f_cf_UpperTester_down();	634	f_cf_UpperTester_down();
636	f_cf_MMS_down();	635	f_cf_MMS_down();
637	// end test case TC_BCAST_INTER_CONF_103	636	// end test case TC_BCAST_INTER_CONF_103
638	// change 39 (WK18): testcase description extension	637	// change 39 (WK18): testcase description extension
639	with {extension "Description: 5.4.3 Service guide with MMS interactivity document v	638	with {extension "Description: 5.4.3 Service guide with MMS interactivity document v
640	} // end group clientConformanceTestCases	639	} // end group clientConformanceTestCases
641	// end group bcastConformanceTestCases	640	// end group bcastConformanceTestCases
642	}	641	}

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1	/**	=	1	/**
2	*		2	*
3	* @author		3	* @author
4	* ETSI OMA BCAST CON Project		4	* ETSI OMA BCAST CON Project
5	* @version		5	* @version
6	* 0.0.1		6	* 0.0.1
7	* @desc		7	* @desc
8	* This file specifies SGDD, SGDU, SG Reponse, and SG fragments as well		8	* This file specifies SGDD, SGDU, SG Reponse, and SG fragments as well
9	* as related costants as defined in OMA BCAST SG document		9	* as related costants as defined in OMA BCAST SG document
10	* @remark		10	* @remark
11	* End users should be aware that any changes made to this file may		11	* End users should be aware that any changes made to this file may
12	* negatively affect the interworking of test suite code with the		12	* negatively affect the interworking of test suite code with the
13	*/		13	*/
14	module LibBCast_ServiceGuide_TypesAndValues {		14	module LibBCast_ServiceGuide_TypesAndValues {
15	import from LibCommon_BasicTypesAndValues all;		15	import from LibCommon_BasicTypesAndValues all;
16	import from LibBCast_Common_TypesAndValues all;		16	import from LibBCast_Common_TypesAndValues all;
17	import from LibBCast_FileStreamDistribution_TypesAndValues all;		17	import from LibBCast_FileStreamDistribution_TypesAndValues all;
18			18	
19	group pduTypes {		19	group pduTypes {
20	group serviceGuideDeliveryDescriptor {		20	group serviceGuideDeliveryDescriptor {
21	/* @desc SGDD structure as defined in SG 5.4.1.5.2		21	/* @desc SGDD structure as defined in SG 5.4.1.5.2
22	type record ServiceGuideDeliveryDescriptorType {		22	type record ServiceGuideDeliveryDescriptorType {
23	AnyUri id optional,		23	AnyUri id optional,
24	UInt version optional,		24	UInt version optional,
25	NotificationReceptionType NotificationReception optional,		25	NotificationReceptionType NotificationReception optional,
26	BSMListType BSMList optional,		26	BSMListType BSMList optional,
27	DescriptorEntryList DescriptorEntrys,		27	DescriptorEntryList DescriptorEntrys,
28	PrivateExtType PrivateExt optional		28	PrivateExtType PrivateExt optional
29	with { // CR WK 35/08: variant extension for definitions of XML de		29	with { // CR WK 35/08: variant extension for definitions of XML de
30	variant "namespacedef nsprefix = ' ' nsuri = 'urn:oma:xml:bcast:sg:sgdd:1.0'		30	variant "namespacedef nsprefix = ' ' nsuri = 'urn:oma:xml:bcast:sg:sgdd:1.0'
31	}		31	}
32			32	
33	/**		33	/**
34	*		34	*
35	* @desc		35	* @desc
36	* Reception information for general Notification Messages.		36	* Reception information for general Notification Messages.
37	* In case of delivery over Broadcast channel,		37	* In case of delivery over Broadcast channel,
38	* IPBroadcastDelivery specifies the address information		38	* IPBroadcastDelivery specifies the address information
39	* for receiving Notification message. In case of delivery		39	* for receiving Notification message. In case of delivery
40	* over Interaction channel, RequestURL specify address		40	* over Interaction channel, RequestURL specify address
41	* information for subscribing notification, PollURL specify		41	* information for subscribing notification, PollURL specify
42	* address information for polling notification. When the		42	* address information for polling notification. When the
43	* Notification Message resource pointed by this element		43	* Notification Message resource pointed by this element
44	* provides Notification Messages carrying Service Guide		44	* provides Notification Messages carrying Service Guide
45	* update, those SHALL relate to the currently bootstrapped		45	* update, those SHALL relate to the currently bootstrapped
46	* Service Guide. If this element is present, at least one		46	* Service Guide. If this element is present, at least one
47	* of the attributes "IPBroadcastDelivery", "RequestURL",		47	* of the attributes "IPBroadcastDelivery", "RequestURL",
48	* or "PollURL" SHALL be present.		48	* or "PollURL" SHALL be present.
49	* @member		49	* @member
50	* IPBroadcastDelivery Provides IP multicast address and		50	* IPBroadcastDelivery Provides IP multicast address and
51	* port number for reception of Notification Messages over		51	* port number for reception of Notification Messages over
52	* the broadcast channel.		52	* the broadcast channel.
53	* @member		53	* @member
54	* RequestURL URL through which the terminal can subscribe		54	* RequestURL URL through which the terminal can subscribe
55	* to general Notification Messages; delivery over		55	* to general Notification Messages; delivery over
56	* Interaction Channel.		56	* Interaction Channel.
57	* @member		57	* @member
58	* PollURL URL through which the terminal can poll general		58	* PollURL URL through which the terminal can poll general
59	* Notification Messages over Interaction Channel.		59	* Notification Messages over Interaction Channel.
60	*/		60	*/
61	type record NotificationReceptionType {		61	type record NotificationReceptionType {
62	IPBroadcastDeliveryType IPBroadcastDelivery optional,		62	IPBroadcastDeliveryType IPBroadcastDelivery optional,
63	AnyUri RequestURL optional,		63	AnyUri RequestURL optional,
64	AnyUri PollURL optional		64	AnyUri PollURL optional
65	}		65	}
66			66	
67	/**		67	/**
68	*		68	*
69	* @desc		69	* @desc
70	* Provides IP multicast address and port number for		70	* Provides IP multicast address and port number for
71	* reception of Notification Messages over the broadcast		71	* reception of Notification Messages over the broadcast

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```
72      *   channel.
73      * @member
74      *   Port General Notification Message delivery UDP
75      *   destination port number; delivery over Broadcast Channel.
76      * @member
77      *   Address General Notification Message delivery IP
78      *   multicast address; delivery over Broadcast Channel.
79      */
80      type record IPBroadcastDeliveryType {
81          UInt port_,
82          charstring address_ optional
83      }
84
85      type record BSMListType {
86          BSMSSelectorList BSMSSelectors
87      }
88
89      // could be further structured in future
90      type record BSMSSelectorType {
91          AnyUri id,
92          AnyUri roamingRuleRequestAddress optional,
93          BSMFilterCodeType BSMFilterCode optional,
94          LanguageStringList Names,
95          charstring RoamingRule optional
96      }
97
98      type set length (1.. infinity) of BSMSSelectorType BSMSSelectorList;
99
100     type record BSMFilterCodeType {
101         integer type_ (1..2),
102         UInt8 serviceProviderCode optional,
103         UInt8 corporateCode optional,
104         charstring serviceProviderName optional,
105         charstring nonSmartCardCode optional,
106         BSMFilterCodeTypeChoice choice optional
107     }
108
109     type union BSMFilterCodeTypeChoice {
110         NetworkCode3GPPTType NetworkCode3GPP,
111         NetworkCode3GPP2Type NetworkCode3GPP2
112     }
113
114     type record NetworkCode3GPPTType {
115         Digit3Type mobileCountryCode optional,
116         Digit23Type mobileNetworkCode optional,
117         Digit2Type networkSubsetCode optional,
118         Digit2Type networkSubsetCodeRangeStart optional,
119         Digit2Type networkSubsetCodeRangeEnd optional,
120         integer codeRangeStart optional,
121         integer codeRangeEnd optional
122     }
123
124     type record NetworkCode3GPP2Type {
125         Digit3Type mobileCountryCode optional,
126         Digit23Type mobileNetworkCode optional,
127         Digit4Type iRMBasedMIN optional,
128         integer hRPDRealm optional,
129         integer codeGroup optional
130     }
131
132     type charstring DigitType ("0" .. "9");
133
134     type DigitType Digit2Type length (2);
135     type DigitType Digit23Type length (2..3);
136     type DigitType Digit3Type length (3);
137     type DigitType Digit4Type length (4);
138
139     type set length (
140         1 .. infinity) of DescriptorEntryType DescriptorEntryList;
141
```

```
72      *   channel.
73      * @member
74      *   Port General Notification Message delivery UDP
75      *   destination port number; delivery over Broadcast Channel.
76      * @member
77      *   Address General Notification Message delivery IP
78      *   multicast address; delivery over Broadcast Channel.
79      */
80      type record IPBroadcastDeliveryType {
81          UInt port_,
82          charstring address_ optional
83      }
84
85      type record BSMListType {
86          BSMSSelectorList BSMSSelectors
87      }
88
89      // could be further structured in future
90      type record BSMSSelectorType {
91          AnyUri id,
92          AnyUri roamingRuleRequestAddress optional,
93          BSMFilterCodeType BSMFilterCode optional,
94          LanguageStringList Names,
95          charstring RoamingRule optional
96      }
97
98      type set length (1.. infinity) of BSMSSelectorType BSMSSelectorList;
99
100     type record BSMFilterCodeType {
101         integer type_ (1..2),
102         UInt8 serviceProviderCode optional,
103         UInt8 corporateCode optional,
104         charstring serviceProviderName optional,
105         charstring nonSmartCardCode optional,
106         BSMFilterCodeTypeChoice choice optional
107     }
108
109     type union BSMFilterCodeTypeChoice {
110         NetworkCode3GPPTType NetworkCode3GPP,
111         NetworkCode3GPP2Type NetworkCode3GPP2
112     }
113
114     type record NetworkCode3GPPTType {
115         Digit3Type mobileCountryCode optional,
116         Digit23Type mobileNetworkCode optional,
117         Digit2Type networkSubsetCode optional,
118         Digit2Type networkSubsetCodeRangeStart optional,
119         Digit2Type networkSubsetCodeRangeEnd optional,
120         integer codeRangeStart optional,
121         integer codeRangeEnd optional
122     }
123
124     type record NetworkCode3GPP2Type {
125         Digit3Type mobileCountryCode optional,
126         Digit23Type mobileNetworkCode optional,
127         Digit4Type iRMBasedMIN optional,
128         integer hRPDRealm optional,
129         integer codeGroup optional
130     }
131
132     type charstring DigitType ("0" .. "9");
133
134     type DigitType Digit2Type length (2);
135     type DigitType Digit23Type length (2..3);
136     type DigitType Digit3Type length (3);
137     type DigitType Digit4Type length (4);
138
139     type set length (
140         1 .. infinity) of DescriptorEntryType DescriptorEntryList;
141
```

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142	type record DescriptorEntryType {	142	type record DescriptorEntryType {
143	GroupingCriteriaType GroupingCriteria optional,	143	GroupingCriteriaType GroupingCriteria optional,
144	TransportType Transport optional,	144	TransportType Transport optional,
145	AlternativeAccessURLList AlternativeAccessURLs optional,	145	AlternativeAccessURLList AlternativeAccessURLs optional,
146	ServiceGuideDeliveryUnitList ServiceGuideDeliveryUnits	146	ServiceGuideDeliveryUnitList ServiceGuideDeliveryUnits
147	}	147	}
148		148	
149	// change 22 (WK 6): further structured TTCN-3 types	149	// change 22 (WK 6): further structured TTCN-3 types
150	type record GroupingCriteriaType {	150	type record GroupingCriteriaType {
151	TimeGroupingCriteriaType TimeGroupingCriteria optional,	151	TimeGroupingCriteriaType TimeGroupingCriteria optional,
152	GenreType GenreGroupingCriteria optional,	152	GenreType GenreGroupingCriteria optional,
153	BSMSelectorIDRefList BSMSelectors optional,	153	BSMSelectorIDRefList BSMSelectors optional,
154	ServiceCriteriaType ServiceCriteria optional	154	ServiceCriteriaType ServiceCriteria optional
155	}	155	}
156		156	
157	// change 22 (WK 6): further structured TTCN-3 types	157	// change 22 (WK 6): further structured TTCN-3 types
158	type record ServiceCriteriaType {	158	type record ServiceCriteriaType {
159	XmlElementAnyURIValue text_	159	XmlElementAnyURIValue text_
160	}	160	}
161		161	
162	type record TransportType {	162	type record TransportType {
163	charstring ipAddress,	163	charstring ipAddress,
164	UInt16 port_,	164	UInt16 port_,
165	charstring srcIpAddress optional,	165	charstring srcIpAddress optional,
166	UInt16 transmissionSessionID,	166	UInt16 transmissionSessionID,
167	UInt32 versionIdLength optional, // VERY optional	167	UInt32 versionIdLength optional, // VERY optional
168	boolean hasFDT optional	168	boolean hasFDT optional
169	}	169	}
170		170	
171	type set length (	171	type set length (
172	1 .. infinity) of AnyUri AlternativeAccessURLList;	172	1 .. infinity) of AnyUri AlternativeAccessURLList;
173		173	
174	type set length (	174	type set length (
175	1	175	1
176	.. infinity) of ServiceGuideDeliveryUnitType ServiceGuideDeliveryUnits	176	.. infinity) of ServiceGuideDeliveryUnitType ServiceGuideDeliveryUnits
177		177	
178	type record ServiceGuideDeliveryUnitType {	178	type record ServiceGuideDeliveryUnitType {
179	UInt transportObjectID,	179	UInt transportObjectID,
180	AnyUri contentLocation,	180	AnyUri contentLocation,
181	UInt validFrom optional,	181	UInt validFrom optional,
182	UInt validTo optional,	182	UInt validTo optional,
183	FragmentList Fragments	183	FragmentList Fragments
184	}	184	}
185		185	
186	type set length (1 .. infinity) of FragmentType FragmentList;	186	type set length (1 .. infinity) of FragmentType FragmentList;
187		187	
188	type record FragmentType {	188	type record FragmentType {
189	UInt transportID optional,	189	UInt transportID optional,
190	// mandatory if send via broadcast!	190	// mandatory if send via broadcast!
191	AnyUri id,	191	AnyUri id,
192	UInt version,	192	UInt version,
193	UInt validFrom optional,	193	UInt validFrom optional,
194	UInt validTo optional,	194	UInt validTo optional,
195	UInt8 fragmentEncoding,	195	UInt8 fragmentEncoding,
196	UInt8 fragmentType optional,	196	UInt8 fragmentType optional,
197	FragmentGroupingCriteriaType GroupingCriteria optional	197	FragmentGroupingCriteriaType GroupingCriteria optional
198	}	198	}
199		199	
200	type record FragmentGroupingCriteriaType {	200	type record FragmentGroupingCriteriaType {
201	TimeGroupingCriteriaType TimeGroupingCriteria optional,	201	TimeGroupingCriteriaType TimeGroupingCriteria optional,
202	BSMSelectorIDRefList BSMSelectors	202	BSMSelectorIDRefList BSMSelectors
203	}	203	}
204		204	
205	type record TimeGroupingCriteriaType {	205	type record TimeGroupingCriteriaType {
206	UInt startTime,	206	UInt startTime,
207	UInt endTime	207	UInt endTime
208	}	208	}
209		209	
210	type record BSMSelectorIDRefType {	210	type record BSMSelectorIDRefType {
211	AnyUri idRef	211	AnyUri idRef

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212	}	212	}
213		213	
214	type set length (1 .. infinity) of BSMSSelectorIDRefType BSMSSelectorIDRefList;	214	type set length (1 .. infinity) of BSMSSelectorIDRefType BSMSSelectorIDRefList;
215		215	
216	type charstring PrivateExtType;	216	type charstring PrivateExtType;
217	// could be further structured in future	217	// could be further structured in future
218	} // end group serviceGuideDeliveryDescriptor	218	} // end group serviceGuideDeliveryDescriptor
219	group serviceGuideResponse {	219	group serviceGuideResponse {
220	type record ServiceGuideResponse {	220	type record ServiceGuideResponse {
221	UInt status,	221	UInt status,
222	// Note: should use only values 0, 7, 8, 17, 18, 20, 21, 23, 28..255	222	// Note: should use only values 0, 7, 8, 17, 18, 20, 21, 23, 28..255
223	ServiceGuideDeliveryDescriptorList ServiceGuideDeliveryDescriptors optional	223	ServiceGuideDeliveryDescriptorList ServiceGuideDeliveryDescriptors optional
224	PrivateExtType privateExt optional	224	PrivateExtType privateExt optional
225	}	225	}
226		226	
227	type set length (1 .. infinity) of	227	type set length (1 .. infinity) of
228	ServiceGuideDeliveryDescriptorType ServiceGuideDeliveryDescriptorList;	228	ServiceGuideDeliveryDescriptorType ServiceGuideDeliveryDescriptorList;
229		229	
230	} // end group serviceGuideResponse	230	} // end group serviceGuideResponse
231	group serviceGuideDeliveryUnit {	231	group serviceGuideDeliveryUnit {
232	type set of ServiceGuideFragment ServiceGuideDeliveryUnit;	232	type set of ServiceGuideFragment ServiceGuideDeliveryUnit;
233		233	
234	type record ServiceGuideFragment {	234	type record ServiceGuideFragment {
235	UInt32 fragmentTransportId,	235	UInt32 fragmentTransportId,
236	UInt32 fragmentVersion,	236	UInt32 fragmentVersion,
237	ServiceGuideFragmentType fragmentType	237	ServiceGuideFragmentType fragmentType
238	}	238	}
239		239	
240	type union ServiceGuideFragmentType {	240	type union ServiceGuideFragmentType {
241	XmlFragment xmlFragment,	241	XmlFragment xmlFragment,
242	SdpFragment sdpFragment,	242	SdpFragment sdpFragment,
243	MbmsUsbdFragment mbmsUsbdFragment,	243	MbmsUsbdFragment mbmsUsbdFragment,
244	FileAdp adpFragment	244	FileAdp adpFragment
245	}	245	}
246		246	
247	/**	247	/**
248	*	248	*
249	* @remark	249	* @remark
250	* This type is binary (NOT XML) encoded! The codec should	250	* This type is binary (NOT XML) encoded! The codec should
251	* concatenate/seperate list elements based on the fixed	251	* concatenate/seperate list elements based on the fixed
252	* list element length	252	* list element length
253	*/	253	*/
254	type record length (	254	type record length (
255	0 .. infinity) of UnitHeaderInfo UnitHeaderInfoList;	255	0 .. infinity) of UnitHeaderInfo UnitHeaderInfoList;
256		256	
257	/**	257	/**
258	*	258	*
259	* @remark	259	* @remark
260	* This type is binary (NOT XML) encoded! The codec must	260	* This type is binary (NOT XML) encoded! The codec must
261	* compute and add/remove the offset field	261	* compute and add/remove the offset field
262	*/	262	*/
263	type record UnitHeaderInfo {	263	type record UnitHeaderInfo {
264	UInt32 fragmentTransportId,	264	UInt32 fragmentTransportId,
265	UInt32 fragmentVersion	265	UInt32 fragmentVersion
266	}	266	}
267	with {	267	with {
268	variant (fragmentTransportId) "most signifcant byte first";	268	variant (fragmentTransportId) "most signifcant byte first";
269	variant (fragmentVersion) "most signifcant byte first";	269	variant (fragmentVersion) "most signifcant byte first";
270	}	270	}
271		271	
272	/**	272	/**
273	*	273	*
274	* @remark	274	* @remark
275	* This type is binary (NOT XML) encoded! The codec must	275	* This type is binary (NOT XML) encoded! The codec must
276	* concatenate/seperate list elements based on the list	276	* concatenate/seperate list elements based on the list
277	* element type structure, and compute and add/remove the	277	* element type structure, and compute and add/remove the
278	* fragmentEncoding field for each list element	278	* fragmentEncoding field for each list element
279	*/	279	*/
280	type set length (0 .. infinity) of XmlFragment XmlFragmentList;	280	type set length (0 .. infinity) of XmlFragment XmlFragmentList;
281		281	

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282		282	
283	/**	283	/**
284	*	284	*
285	* @remark	285	* @remark
286	* This type is binary (NOT XML) encoded! The codec must	286	* This type is binary (NOT XML) encoded! The codec must
287	* compute and add/remove the fragmentType field. In case of	287	* compute and add/remove the fragmentType field. In case of
288	* the other fragment the union codec must not add/remove	288	* the other fragment the union codec must not add/remove
289	* the fragmentType field.	289	* the fragmentType field.
290	*/	290	*/
291	type union XmlFragment {	291	type union XmlFragment {
292	ServiceType Service,	292	ServiceType Service,
293	ContentType Content,	293	ContentType Content,
294	ScheduleType Schedule,	294	ScheduleType Schedule,
295	AccessType Access,	295	AccessType Access,
296	PurchaseItemType PurchaseItem,	296	PurchaseItemType PurchaseItem,
297	PurchaseDataType PurchaseData,	297	PurchaseDataType PurchaseData,
298	PurchaseChannelType PurchaseChannel,	298	PurchaseChannelType PurchaseChannel,
299	PreviewDataType PreviewData,	299	PreviewDataType PreviewData,
300	InteractivityDataType InteractivityData,	300	InteractivityDataType InteractivityData,
301	/** This alternative may be used to enter "unspecified(0)" or extensions	301	/** This alternative may be used to enter "unspecified(0)" or extensions
302	OtherXmlFragment otherXmlFragment	302	OtherXmlFragment otherXmlFragment
303	}	303	}
304		304	
305	/**	305	/**
306	*	306	*
307	* @remark	307	* @remark
308	* This type is binary (NOT XML) encoded! The codec shall	308	* This type is binary (NOT XML) encoded! The codec shall
309	* simply concatenate/separate fields	309	* simply concatenate/separate fields
310	*/	310	*/
311	type record OtherXmlFragment {	311	type record OtherXmlFragment {
312	UInt8 fragmentType,	312	UInt8 fragmentType,
313	charstring fragment	313	charstring fragment
314	}	314	}
315	with {	315	with {
316	variant (fragmentType) "most signifcant byte first";	316	variant (fragmentType) "most signifcant byte first";
317	}	317	}
318		318	
319	/**	319	/**
320	*	320	*
321	* @remark	321	* @remark
322	* This type is binary (NOT XML) encoded! The codec must	322	* This type is binary (NOT XML) encoded! The codec must
323	* concatenate/seperate list elements based on the list	323	* concatenate/seperate list elements based on the list
324	* element type structure	324	* element type structure
325	*/	325	*/
326	type set length (0 .. infinity) of SdpFragment SdpFragmentList;	326	type set length (0 .. infinity) of SdpFragment SdpFragmentList;
327		327	
328	/**	328	/**
329	*	329	*
330	* @remark	330	* @remark
331	* This type is binary (NOT XML) encoded! The codec shall	331	* This type is binary (NOT XML) encoded! The codec shall
332	* simply concatenate/seperate fields	332	* simply concatenate/seperate fields
333	*/	333	*/
334	type record SdpFragment {	334	type record SdpFragment {
335	UInt32 validFrom,	335	UInt32 validFrom,
336	UInt32 validTo,	336	UInt32 validTo,
337	charstring fragmentId,	337	charstring fragmentId,
338	Sdp sdpFragment	338	Sdp sdpFragment
339	}	339	}
340	with {	340	with {
341	variant (validFrom) "most signifcant byte first";	341	variant (validFrom) "most signifcant byte first";
342	variant (validTo) "most signifcant byte first";	342	variant (validTo) "most signifcant byte first";
343	}	343	}
344		344	
345	/**	345	/**
346	*	346	*
347	* @remark	347	* @remark
348	* This type is binary (NOT XML) encoded! The codec must	348	* This type is binary (NOT XML) encoded! The codec must
349	* concatenate/seperate list elements based on the list	349	* concatenate/seperate list elements based on the list
350	* element type structure	350	* element type structure
351	*/	351	*/

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```
352         type record length (
353             0 .. infinity) of MbmsUsbdFragment MbmsUsbdFragmentList;
354
355         /**
356          *
357          * @remark
358          *   This type is binary (NOT XML) encoded!
359          */
360         type record MbmsUsbdFragment {
361             UInt32 validFrom,
362             UInt32 validTo,
363             charstring fragmentId,
364             Usbd usbdFragment
365         }
366         with {
367             variant (validFrom) "most signifcant byte first";
368             variant (validTo) "most signifcant byte first";
369         }
370
371         /**
372          *
373          * @remark
374          *   This type is binary (NOT XML) encoded! The codec must
375          *   concatenate/seperate list elements based on the list
376          *   element type structure
377          */
378         type record length (0 .. infinity) of FileAdp FileAdpList;
379
380         /**
381          *
382          * @remark
383          *   This type is binary (NOT XML) encoded! The codec shall
384          *   simply concatenate/separate fields
385          */
386         type record FileAdp {
387             UInt32 validFrom,
388             UInt32 validTo,
389             charstring fragmentId,
390             FileAssociatedProcedureDescription fileAdp
391         }
392         with {
393             variant (validFrom) "most signifcant byte first";
394             variant (validTo) "most signifcant byte first";
395         }
396
397         group fragmentEncoding {
398             const UInt8 c_XML_BCAST_SG_fragment := 0;
399             const UInt8 c_SDP_fragment := 1;
400             const UInt8 c_MBMS_USD_fragment := 2;
401             const UInt8 c_XML_ADP_fragment := 3;
402         }
403
404         group serviceGuideFragmentTypes {
405             const UInt8 c_SG_Unspecified_Fragment := 0;
406             const UInt8 c_SG_Service_Fragment := 1;
407             const UInt8 c_SG_Content_Fragment := 2;
408             const UInt8 c_SG_Schedule_Fragment := 3;
409             const UInt8 c_SG_Access_Fragment := 4;
410             const UInt8 c_SG_PurchaseItem_Fragment := 5;
411             const UInt8 c_SG_PurchaseData_Fragment := 6;
412             const UInt8 c_SG_PurchaseChannel_Fragment := 7;
413             const UInt8 c_SG_PreviewData_Fragment := 8;
414             const UInt8 c_SG_InteractivityData_Fragment := 9;
415         }
416
417     } // end group serviceGuideDeliveryUnit
418
419     group interactivityMediaDocument {
420         type record InteractivityMediaDocumentType {
421
```

```
352         type record length (
353             0 .. infinity) of MbmsUsbdFragment MbmsUsbdFragmentList;
354
355         /**
356          *
357          * @remark
358          *   This type is binary (NOT XML) encoded!
359          */
360         type record MbmsUsbdFragment {
361             UInt32 validFrom,
362             UInt32 validTo,
363             charstring fragmentId,
364             Usbd usbdFragment
365         }
366         with {
367             variant (validFrom) "most signifcant byte first";
368             variant (validTo) "most signifcant byte first";
369         }
370
371         /**
372          *
373          * @remark
374          *   This type is binary (NOT XML) encoded! The codec must
375          *   concatenate/seperate list elements based on the list
376          *   element type structure
377          */
378         type record length (0 .. infinity) of FileAdp FileAdpList;
379
380         /**
381          *
382          * @remark
383          *   This type is binary (NOT XML) encoded! The codec shall
384          *   simply concatenate/separate fields
385          */
386         type record FileAdp {
387             UInt32 validFrom,
388             UInt32 validTo,
389             charstring fragmentId,
390             FileAssociatedProcedureDescription fileAdp
391         }
392         with {
393             variant (validFrom) "most signifcant byte first";
394             variant (validTo) "most signifcant byte first";
395         }
396
397         group fragmentEncoding {
398             const UInt8 c_XML_BCAST_SG_fragment := 0;
399             const UInt8 c_SDP_fragment := 1;
400             const UInt8 c_MBMS_USD_fragment := 2;
401             const UInt8 c_XML_ADP_fragment := 3;
402         }
403
404         group serviceGuideFragmentTypes {
405             const UInt8 c_SG_Unspecified_Fragment := 0;
406             const UInt8 c_SG_Service_Fragment := 1;
407             const UInt8 c_SG_Content_Fragment := 2;
408             const UInt8 c_SG_Schedule_Fragment := 3;
409             const UInt8 c_SG_Access_Fragment := 4;
410             const UInt8 c_SG_PurchaseItem_Fragment := 5;
411             const UInt8 c_SG_PurchaseData_Fragment := 6;
412             const UInt8 c_SG_PurchaseChannel_Fragment := 7;
413             const UInt8 c_SG_PreviewData_Fragment := 8;
414             const UInt8 c_SG_InteractivityData_Fragment := 9;
415         }
416
417     } // end group serviceGuideDeliveryUnit
418
419     group interactivityMediaDocument {
420         type record InteractivityMediaDocumentType {
421
```


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422	AnyUri groupId,		422	AnyUri groupId,
423	UInt16 groupPosition,		423	UInt16 groupPosition,
424	AnyUri id,		424	AnyUri id,
425	UInt version,		425	UInt version,
426	UInt valldFrom optional,		426	UInt valldFrom optional,
427	UInt valudTo optional,		427	UInt valudTo optional,
428	MediaObjectGroupList MediaObjectGroups,		428	MediaObjectGroupList MediaObjectGroups,
429	PrivateExtType PrivateExt optional		429	PrivateExtType PrivateExt optional
430	} with { // change 3 (WK43/08): variant extension for definitions of +-			
431	variant "namespacedef nsprefix = ' ' nsuri = 'urn:oma:xml:bcast:si:interacti			
432	}	=	430	}
433			431	
434	type set length(1..infinity) of MediaObjectGroupType MediaObjectGroupList ;		432	type set length(1..infinity) of MediaObjectGroupType MediaObjectGroupList ;
435			433	
436	type record MediaObjectGroupType {		434	type record MediaObjectGroupType {
437	AnyUri id,		435	AnyUri id,
438	boolean startMediaFlag,		436	boolean startMediaFlag,
439	ActionDescriptorType ActionDescriptor optional,		437	ActionDescriptorType ActionDescriptor optional,
440	BackOffTimingType BackOffTiming optional,		438	BackOffTimingType BackOffTiming optional,
441	MediaObjectSetList MediaObjectSets optional,		439	MediaObjectSetList MediaObjectSets optional,
442	SMSTemplateType SMSTemplate optional,		440	SMSTemplateType SMSTemplate optional,
443	EmailTemplateType EmailTemplate optional,		441	EmailTemplateType EmailTemplate optional,
444	VoiceCallType VoiceCall optional,		442	VoiceCallType VoiceCall optional,
445	WebLinkType WebLink optional,		443	WebLinkType WebLink optional,
446	LanguageString AlternativeText optional		444	LanguageString AlternativeText optional
447	}		445	}
448			446	
449	type set of MediaObjectSetType MediaObjectSetList;		447	type set of MediaObjectSetType MediaObjectSetList;
450			448	
451	type record MediaObjectSetType {		449	type record MediaObjectSetType {
452	UInt32 relativePreference optional,		450	UInt32 relativePreference optional,
453	charstring Content_Type,		451	charstring Content_Type,
454	AnyUri Content_Location,		452	AnyUri Content_Location,
455	LanguageStringList Descriptions optional,		453	LanguageStringList Descriptions optional,
456	ObjectList Objects optional,		454	ObjectList Objects optional,
457	FileType File optional		455	FileType File optional
458	} with {variant "replace '_' with '-'" }		456	} with {variant "replace '_' with '-'" }
459			457	
460	type record WebLinkType {		458	type record WebLinkType {
461	UInt relativePreference optional,		459	UInt relativePreference optional,
462	AnyUri webUrl,		460	AnyUri webUrl,
463	LanguageStringList Descriptions optional		461	LanguageStringList Descriptions optional
464	}		462	}
465			463	
466	type record VoiceCallType {		464	type record VoiceCallType {
467	UInt relativePreference optional,		465	UInt relativePreference optional,
468	LanguageStringList Descriptions optional,		466	LanguageStringList Descriptions optional,
469	set of AnyUri PhoneNumber optional		467	set of AnyUri PhoneNumber optional
470	}		468	}
471			469	
472	type record EmailTemplateType {		470	type record EmailTemplateType {
473	UInt relativePreference optional,		471	UInt relativePreference optional,
474	charstring toHeader,		472	charstring toHeader,
475	charstring ccHeader optional,		473	charstring ccHeader optional,
476	charstring bccHeader optional,		474	charstring bccHeader optional,
477	charstring subjectHeader optional,		475	charstring subjectHeader optional,
478	LanguageStringList Descriptions optional,		476	LanguageStringList Descriptions optional,
479	charstring MessageBody optional		477	charstring MessageBody optional
480	}		478	}
481			479	
482			480	
483	type record SMSTemplateType {		481	type record SMSTemplateType {
484	UInt relativePreference optional,		482	UInt relativePreference optional,
485	DescriptionList Descriptions optional,		483	DescriptionList Descriptions optional,
486	SelectChoiceList SelectChoices optional		484	SelectChoiceList SelectChoices optional
487	}		485	}
488			486	
489	type set length (1 .. infinity) of DescriptionType DescriptionList;		487	type set length (1 .. infinity) of DescriptionType DescriptionList;
490			488	
491	// change 25 (WK18): according to XML scheme OMA-SUP-XSD_bcast_si_interactivitymedi		489	// change 25 (WK18): according to XML scheme OMA-SUP-XSD_bcast_si_interactivitymedi

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492	type record DescriptionType {	490	type record DescriptionType {
493	XmlLang lang,	491	XmlLang lang,
494	charstring text optional,	492	charstring text optional,
495	XmlElementStringValue text_	493	XmlElementStringValue text_
496	}	494	}
497		495	
498	type set of SelectChoiceType SelectChoiceList;	496	type set of SelectChoiceType SelectChoiceList;
499		497	
500	type record SelectChoiceType {	498	type record SelectChoiceType {
501	AnyUri smsURI,	499	AnyUri smsURI,
502	LanguageStringList ChoiceTexts optional	500	LanguageStringList ChoiceTexts optional
503	}	501	}
504		502	
505	type set of ObjectType ObjectList;	503	type set of ObjectType ObjectList;
506		504	
507	type record ObjectType {	505	type record ObjectType {
508	AnyUri Content_Location optional,	506	AnyUri Content_Location optional,
509	charstring Content_Type,	507	charstring Content_Type,
510	boolean start_ optional,	508	boolean start_ optional,
511	PartTypeList PartTypes optional	509	PartTypeList PartTypes optional
512	} with {variant "replace '_' with '-'" }	510	} with {variant "replace '_' with '-'" }
513		511	
514	type set of charstring PartTypeList;	512	type set of charstring PartTypeList;
515		513	
516	type record ActionDescriptorType {	514	type record ActionDescriptorType {
517	UInt inputAllowedTime optional,	515	UInt inputAllowedTime optional,
518	AnyUri onTimeoutPointer optional,	516	AnyUri onTimeoutPointer optional,
519	boolean updateFlag optional,	517	boolean updateFlag optional,
520	AnyUri onActionPointer optional	518	AnyUri onActionPointer optional
521	}	519	}
522	}	520	}
523		521	
524	// change 23 (WK 6): type definitions for DVB-H bootstrapping	522	// change 23 (WK 6): type definitions for DVB-H bootstrapping
525	group dvbhBootstrapDescriptor {	523	group dvbhBootstrapDescriptor {
526	type record DvbhEsgDescriptor {	524	type record DvbhEsgDescriptor {
527	ESGProviderDiscoveryType ESGProviderDiscovery,	525	ESGProviderDiscoveryType ESGProviderDiscovery,
528	ESGAccessType ESGAccess	526	ESGAccessType ESGAccess
529	}	527	}
530		528	
531	// * @desc ESGProviderDiscovery structure as defined in ETSI TS 102 471 section 9.1	529	// * @desc ESGProviderDiscovery structure as defined in ETSI TS 102 471 section 9.1
532	type record ESGProviderDiscoveryType {	530	type record ESGProviderDiscoveryType {
533	ServiceProviderList ServiceProviders	531	ServiceProviderList ServiceProviders
534	} with {variant "namespacedef nsprefix = '' nsuri = 'urn:dvb:ipdc:esgbs:2005'"};	532	} with {variant "namespacedef nsprefix = '' nsuri = 'urn:dvb:ipdc:esgbs:2005'"};
535		533	
536	type record ServiceProviderType {	534	type record ServiceProviderType {
537	charstring format,	535	charstring format,
538	ProviderURIType ProviderURI,	536	ProviderURIType ProviderURI,
539	ProviderNameType ProviderName,	537	ProviderNameType ProviderName,
540	ProviderIDType ProviderID	538	ProviderIDType ProviderID
541	}	539	}
542		540	
543	type set length (1 .. infinity) of ServiceProviderType ServiceProviderList;	541	type set length (1 .. infinity) of ServiceProviderType ServiceProviderList;
544		542	
545	type record ProviderURIType {	543	type record ProviderURIType {
546	XmlElementStringValue text_	544	XmlElementStringValue text_
547	}	545	}
548		546	
549	type record ProviderNameType {	547	type record ProviderNameType {
550	XmlElementStringValue text_	548	XmlElementStringValue text_
551	}	549	}
552		550	
553	type record ProviderIDType {	551	type record ProviderIDType {
554	XmlElementStringValue text_	552	XmlElementStringValue text_
555	}	553	}
556		554	
557	type record ESGAccessType {	555	type record ESGAccessType {
558	UInt8 ESGEntryVersion,	556	UInt8 ESGEntryVersion,
559	boolean MultipleStreamTransport,	557	boolean MultipleStreamTransport,
560	boolean IPVersion6,	558	boolean IPVersion6,
561	UInt16 ProviderID,	559	UInt16 ProviderID,

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562	charstring SrcIpAddress,	560	charstring SrcIpAddress,
563	charstring DstIpAddress,	561	charstring DstIpAddress,
564	UInt16 DstIpPort,	562	UInt16 DstIpPort,
565	UInt16 TSI	563	UInt16 TSI
566	}	564	}
567		565	
568	} // end of group dvbvhBootstrapDescriptor	566	} // end of group dvbvhBootstrapDescriptor
569		567	
570	} // end group pduTypes	568	} // end group pduTypes
571		569	
572	group xmlFragments {	570	group xmlFragments {
573		571	
574	group commonTypes {	572	group commonTypes {
575		573	
576	type set length (1 .. infinity) of AnyXmlElement AnyXmlElementList;	574	type set length (1 .. infinity) of AnyXmlElement AnyXmlElementList;
577		575	
578	type record AnyXmlElement {	576	type record AnyXmlElement {
579	AnyXmlAttributeList attributes optional,	577	AnyXmlAttributeList attributes optional,
580	charstring name_,	578	charstring name_,
581	XmlElementStringValue text_ optional,	579	XmlElementStringValue text_ optional,
582	AnyXmlElementList childs optional	580	AnyXmlElementList childs optional
583	}	581	}
584		582	
585	type set length (1 .. infinity) of AnyXmlAttribute AnyXmlAttributeList;	583	type set length (1 .. infinity) of AnyXmlAttribute AnyXmlAttributeList;
586		584	
587	type record AnyXmlAttribute {	585	type record AnyXmlAttribute {
588	charstring name_,	586	charstring name_,
589	charstring text_ optional	587	charstring text_ optional
590	}	588	}
591		589	
592	type DateTime XmlElementDateTimeValue;	590	type DateTime XmlElementDateTimeValue;
593		591	
594	type UInt8 XmlElementUnsignedByteValue;	592	type UInt8 XmlElementUnsignedByteValue;
595		593	
596	type UInt16 XmlElementUnsignedShortValue;	594	type UInt16 XmlElementUnsignedShortValue;
597		595	
598	type UInt XmlElementUnsignedIntValue;	596	type UInt XmlElementUnsignedIntValue;
599		597	
600	type charstring XmlElementStringValue;	598	type charstring XmlElementStringValue;
601		599	
602	type float XmlElementDecimalValue;	600	type float XmlElementDecimalValue;
603		601	
604	type AnyUri XmlElementAnyURIValue;	602	type AnyUri XmlElementAnyURIValue;
605		603	
606	type charstring XmlLang with {variant "namespace prefix = 'xml'"};	604	type charstring XmlLang with {variant "namespace prefix = 'xml'"};
607		605	
608	type charstring XmlSpace with {variant "namespace prefix = 'xml'"};	606	type charstring XmlSpace with {variant "namespace prefix = 'xml'"};
609		607	
610	type XmlSpace PreserveXmlSpace ("preserve");	608	type XmlSpace PreserveXmlSpace ("preserve");
611		609	
612	type set length (1 .. infinity) of LanguageString LanguageStringList;	610	type set length (1 .. infinity) of LanguageString LanguageStringList;
613		611	
614	type record LanguageString {	612	type record LanguageString {
615	XmlLang lang optional,	613	XmlLang lang optional,
616	XmlElementStringValue text_	614	XmlElementStringValue text_
617	}	615	}
618		616	
619	type record EncodedLanguageString {	617	type record EncodedLanguageString {
620	XmlLang lang optional,	618	XmlLang lang optional,
621	charstring encoding optional,	619	charstring encoding optional,
622	XmlElementStringValue text_	620	XmlElementStringValue text_
623	}	621	}
624		622	
625	type set length (1 .. infinity) of EncodedLanguageString EncodedLanguageStringList;	623	type set length (1 .. infinity) of EncodedLanguageString EncodedLanguageStringList;
626		624	
627	// the AudioOrTextLanguageType type is an extension of the LanguageString type	625	// the AudioOrTextLanguageType type is an extension of the LanguageString type
628	type record AudioOrTextLanguageType {	626	type record AudioOrTextLanguageType {
629	XmlLang lang optional,	627	XmlLang lang optional,
630	AnyUri id optional,	628	AnyUri id optional,
631	charstring languageSDPTag,	629	charstring languageSDPTag,

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632	XmlElementStringValue text_	630	XmlElementStringValue text_
633	}	631	}
634		632	
635	type set length (1 .. infinity) of AudioOrTextLanguageType AudioOrTextLanguageList;	633	type set length (1 .. infinity) of AudioOrTextLanguageType AudioOrTextLanguageList;
636		634	
637	type record ExtensionType {	635	type record ExtensionType {
638	AnyUri url,	636	AnyUri url,
639	LanguageStringList Descriptions optional	637	LanguageStringList Descriptions optional
640	}	638	}
641		639	
642	type set length (1 .. infinity) of ExtensionType ExtensionList;	640	type set length (1 .. infinity) of ExtensionType ExtensionList;
643		641	
644	type record ParentalRatingType {	642	type record ParentalRatingType {
645	charstring ratingSystem optional,	643	charstring ratingSystem optional,
646	XmlElementStringValue text_	644	XmlElementStringValue text_
647	}	645	}
648		646	
649	type set length (1 .. infinity) of ParentalRatingType ParentalRatingList;	647	type set length (1 .. infinity) of ParentalRatingType ParentalRatingList;
650	}	648	}
651		649	
652	group serviceFragment {	650	group serviceFragment {
653	type record ServiceType {	651	type record ServiceType {
654	// The attributes	652	// The attributes
655	AnyUri id,	653	AnyUri id,
656	UInt version,	654	UInt version,
657	UInt validFrom optional,	655	UInt validFrom optional,
658	UInt validTo optional,	656	UInt validTo optional,
659	AnyUri globalServiceID optional,	657	AnyUri globalServiceID optional,
660	UInt16 weight optional,	658	UInt16 weight optional,
661	//boolean serviceContentProtection optional,	659	//boolean serviceContentProtection optional,
662	charstring baseCID optional,	660	charstring baseCID optional,
663	boolean emergency optional,	661	boolean emergency optional,
664	// The Elements	662	// The Elements
665	ProtectionKeyIDList ProtectionKeyIDs optional,	663	ProtectionKeyIDList ProtectionKeyIDs optional,
666	ServiceTypeRangeList ServiceTypes optional,	664	ServiceTypeRangeList ServiceTypes optional,
667	// Start of program guide information	665	// Start of program guide information
668	//NameList Names,	666	//NameList Names,
669	LanguageStringList Names,	667	LanguageStringList Names,
670	LanguageStringList Descriptions optional,	668	LanguageStringList Descriptions optional,
671	AudioOrTextLanguageList AudioLanguages optional,	669	AudioOrTextLanguageList AudioLanguages optional,
672	AudioOrTextLanguageList TextLanguages optional,	670	AudioOrTextLanguageList TextLanguages optional,
673	ParentalRatingList ParentalRatings optional,	671	ParentalRatingList ParentalRatings optional,
674	TargetUserProfileList TargetUserProfiles optional,	672	TargetUserProfileList TargetUserProfiles optional,
675	GenreList Genres optional,	673	GenreList Genres optional,
676	ExtensionList Extensions optional,	674	ExtensionList Extensions optional,
677	// End of Service guide	675	// End of Service guide
678	PreviewDataReferenceList PreviewDataReferences optional,	676	PreviewDataReferenceList PreviewDataReferences optional,
679	BroadcastAreaType BroadcastArea optional,	677	BroadcastAreaType BroadcastArea optional,
680	TermsOfUseList TermsOfUses optional,	678	TermsOfUseList TermsOfUses optional,
681	PrivateExtType PrivateExt optional	679	PrivateExtType PrivateExt optional
682	} with { // CR WK 35/08: variant extension for definitions of XML de	680	} with { // CR WK 35/08: variant extension for definitions of XML de
683	variant "namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bcast:sg:fragments	681	variant "namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bcast:sg:fragments
684	}	682	}
685		683	
686	type record ProtectionKeyIDType {	684	type record ProtectionKeyIDType {
687	UInt8 type_,	685	UInt8 type_,
688	// simple content base64Binary	686	// simple content base64Binary
689	XmlElementStringValue text_	687	XmlElementStringValue text_
690	}	688	}
691		689	
692	type set length (1 .. infinity) of ProtectionKeyIDType ProtectionKeyIDList;	690	type set length (1 .. infinity) of ProtectionKeyIDType ProtectionKeyIDList;
693		691	
694	type record ProtectionKeyIDMinMaxType {	692	type record ProtectionKeyIDMinMaxType {
695	UInt8 type_,	693	UInt8 type_,
696	UInt min optional,	694	UInt min optional,
697	UInt max optional,	695	UInt max optional,
698	// simple content base64Binary	696	// simple content base64Binary
699	XmlElementStringValue text_	697	XmlElementStringValue text_
700	}	698	}
701		699	

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702	type set length (1 .. infinity) of ProtectionKeyIDMinMaxType ProtectionKeyIDMinMaxType;	700	type set length (1 .. infinity) of ProtectionKeyIDMinMaxType ProtectionKeyIDMinMaxType;
703		701	
704	// Key Domain ID concatenated with SEK/PEK ID, where both values are as used in the	702	// Key Domain ID concatenated with SEK/PEK ID, where both values are as used in the
705	const XmlElementStringValue c_protectionKeyId_keyDomainId := "0";	703	const XmlElementStringValue c_protectionKeyId_keyDomainId := "0";
706		704	
707	// simpleType unsignedByte	705	// simpleType unsignedByte
708	type record ServiceTypeRangeType {	706	type record ServiceTypeRangeType {
709	XmlElementUnsignedByteValue text_	707	XmlElementUnsignedByteValue text_
710	}	708	}
711		709	
712	type set length (1 .. infinity) of ServiceTypeRangeType ServiceTypeRangeList;	710	type set length (1 .. infinity) of ServiceTypeRangeType ServiceTypeRangeList;
713		711	
714	const XmlElementUnsignedByteValue c_unspecified_ServiceType := 0;	712	const XmlElementUnsignedByteValue c_unspecified_ServiceType := 0;
715	const XmlElementUnsignedByteValue c_basicTv_ServiceType := 1;	713	const XmlElementUnsignedByteValue c_basicTv_ServiceType := 1;
716	const XmlElementUnsignedByteValue c_basicRadio_ServiceType := 2;	714	const XmlElementUnsignedByteValue c_basicRadio_ServiceType := 2;
717	const XmlElementUnsignedByteValue c_riServices_ServiceType := 3;	715	const XmlElementUnsignedByteValue c_riServices_ServiceType := 3;
718	const XmlElementUnsignedByteValue c_cachecast_ServiceType := 4;	716	const XmlElementUnsignedByteValue c_cachecast_ServiceType := 4;
719	const XmlElementUnsignedByteValue c_fileDownloadServices_ServiceType := 5;	717	const XmlElementUnsignedByteValue c_fileDownloadServices_ServiceType := 5;
720	const XmlElementUnsignedByteValue c_softwareManagementServices_ServiceType := 6;	718	const XmlElementUnsignedByteValue c_softwareManagementServices_ServiceType := 6;
721	const XmlElementUnsignedByteValue c_notification_ServiceType := 7;	719	const XmlElementUnsignedByteValue c_notification_ServiceType := 7;
722	const XmlElementUnsignedByteValue c_serviceGuide_ServiceType := 8;	720	const XmlElementUnsignedByteValue c_serviceGuide_ServiceType := 8;
723	const XmlElementUnsignedByteValue c_terminalProvisioning_ServiceType := 9;	721	const XmlElementUnsignedByteValue c_terminalProvisioning_ServiceType := 9;
724		722	
725	type record TargetUserProfileType {	723	type record TargetUserProfileType {
726	charstring attributeName,	724	charstring attributeName,
727	charstring attributeValue	725	charstring attributeValue
728	}	726	}
729		727	
730	type set length (1 .. infinity) of TargetUserProfileType TargetUserProfileList;	728	type set length (1 .. infinity) of TargetUserProfileType TargetUserProfileList;
731		729	
732	type record GenreType {	730	type record GenreType {
733	XmlLang lang optional,	731	XmlLang lang optional,
734	AnyUri href optional,	732	AnyUri href optional,
735	GenreTypeType type_ optional,	733	GenreTypeType type_ optional,
736	XmlElementStringValue text_	734	XmlElementStringValue text_
737	}	735	}
738		736	
739	type set length (1 .. infinity) of GenreType GenreList;	737	type set length (1 .. infinity) of GenreType GenreList;
740		738	
741	type enumerated GenreTypeType { main, secondary, other };	739	type enumerated GenreTypeType { main, secondary, other };
742		740	
743	type record PreviewDataReferenceType {	741	type record PreviewDataReferenceType {
744	AnyUri idRef,	742	AnyUri idRef,
745	UInt8 usage	743	UInt8 usage
746	}	744	}
747		745	
748	type set length (1 .. infinity) of PreviewDataReferenceType PreviewDataReferenceList;	746	type set length (1 .. infinity) of PreviewDataReferenceType PreviewDataReferenceList;
749		747	
750	const UInt8 c_unspecified_usage := 0;	748	const UInt8 c_unspecified_usage := 0;
751	const UInt8 c_serviceByServiceSwitching_usage := 1;	749	const UInt8 c_serviceByServiceSwitching_usage := 1;
752	const UInt8 c_serviceGuideBrowsing_usage := 2;	750	const UInt8 c_serviceGuideBrowsing_usage := 2;
753	const UInt8 c_servicePreview_usage := 3;	751	const UInt8 c_servicePreview_usage := 3;
754	const UInt8 c_barker_usage := 4;	752	const UInt8 c_barker_usage := 4;
755	const UInt8 c_alternativeToBlackout_usage := 5;	753	const UInt8 c_alternativeToBlackout_usage := 5;
756		754	
757	type record BroadcastAreaType {	755	type record BroadcastAreaType {
758	boolean polarity optional,	756	boolean polarity optional,
759	TargetAreaList TargetAreas optional,	757	TargetAreaList TargetAreas optional,
760	hor_accList hor_accs optional	758	hor_accList hor_accs optional
761	}	759	}
762		760	
763	type set length (1 .. infinity) of TargetAreaType TargetAreaList;	761	type set length (1 .. infinity) of TargetAreaType TargetAreaList;
764		762	
765	type record TargetAreaType {	763	type record TargetAreaType {
766	shapeType shape optional,	764	shapeType shape optional,
767	ccType cc optional,	765	ccType cc optional,
768	LanguageStringList name_areas optional,	766	LanguageStringList name_areas optional,
769	ZipCodeType ZipCode optional,	767	ZipCodeType ZipCode optional,
770	CellTargetAreaType CellTargetArea optional	768	CellTargetAreaType CellTargetArea optional
771	}	769	}

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772		770	
773	type record shapeType {	771	type record shapeType {
774	AnyXmlElementList elements optional	772	AnyXmlElementList elements optional
775	}	773	}
776		774	
777	type record ccType {	775	type record ccType {
778	XmlElementUnsignedShortValue text_	776	XmlElementUnsignedShortValue text_
779	}	777	}
780		778	
781	type record ZipCodeType {	779	type record ZipCodeType {
782	XmlElementStringValue text_	780	XmlElementStringValue text_
783	}	781	}
784		782	
785	type record CellTargetAreaType {	783	type record CellTargetAreaType {
786	UInt8 type_,	784	UInt8 type_,
787	CellAreaType CellArea	785	CellAreaType CellArea
788	}	786	}
789		787	
790	type record CellAreaType {	788	type record CellAreaType {
791	UInt16 value_,	789	UInt16 value_,
792	PP2CellIDList PP2CellIDs optional	790	PP2CellIDList PP2CellIDs optional
793	}	791	}
794		792	
795	type record PP2CellIDType {	793	type record PP2CellIDType {
796	XmlElementUnsignedIntValue text_	794	XmlElementUnsignedIntValue text_
797	}	795	}
798		796	
799	type set length (1 .. infinity) of PP2CellIDType PP2CellIDList;	797	type set length (1 .. infinity) of PP2CellIDType PP2CellIDList;
800		798	
801	type record hor_accType {	799	type record hor_accType {
802	XmlElementStringValue text_	800	XmlElementStringValue text_
803	}	801	}
804		802	
805	type set length (1 .. infinity) of hor_accType hor_accList;	803	type set length (1 .. infinity) of hor_accType hor_accList;
806		804	
807	type set length (1 .. infinity) of TermsOfUseType TermsOfUseList;	805	type set length (1 .. infinity) of TermsOfUseType TermsOfUseList;
808		806	
809	type record TermsOfUseType {	807	type record TermsOfUseType {
810	UInt8 type_,	808	UInt8 type_,
811	AnyUri id,	809	AnyUri id,
812	boolean userConsentRequired,	810	boolean userConsentRequired,
813	CountryList Countrys,	811	CountryList Countrys,
814	LanguageType Language,	812	LanguageType Language,
815	TermsOfUseTypeChoice choice	813	TermsOfUseTypeChoice choice
816	}	814	}
817		815	
818	type set length (1 .. infinity) of CountryType CountryList;	816	type set length (1 .. infinity) of CountryType CountryList;
819		817	
820	type record CountryType {	818	type record CountryType {
821	XmlElementStringValue text_	819	XmlElementStringValue text_
822	}	820	}
823		821	
824	type record LanguageType {	822	type record LanguageType {
825	XmlElementStringValue text_	823	XmlElementStringValue text_
826	}	824	}
827		825	
828	type union TermsOfUseTypeChoice {	826	type union TermsOfUseTypeChoice {
829	PreviewDataIDRefList PreviewDataIDRefs,	827	PreviewDataIDRefList PreviewDataIDRefs,
830	TermsOfUseTextType TermsOfUseText	828	TermsOfUseTextType TermsOfUseText
831	}	829	}
832		830	
833	type set length (1 .. infinity) of PreviewDataIDRefType PreviewDataIDRefList;	831	type set length (1 .. infinity) of PreviewDataIDRefType PreviewDataIDRefList;
834		832	
835	type record PreviewDataIDRefType {	833	type record PreviewDataIDRefType {
836	AnyUri text_	834	AnyUri text_
837	}	835	}
838		836	
839	type record TermsOfUseTextType {	837	type record TermsOfUseTextType {
840	XmlElementStringValue text_	838	XmlElementStringValue text_
841	}	839	}

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842	}	840	}
843		841	
844	group scheduleFragment {	842	group scheduleFragment {
845	type record ScheduleType {	843	type record ScheduleType {
846	AnyUri id,	844	AnyUri id,
847	UInt version,	845	UInt version,
848	boolean defaultSchedule optional,	846	boolean defaultSchedule optional,
849	boolean onDemand optional,	847	boolean onDemand optional,
850	UInt validFrom optional,	848	UInt validFrom optional,
851	UInt validTo optional,	849	UInt validTo optional,
852	ScheduleServiceReferenceType ServiceReference,	850	ScheduleServiceReferenceType ServiceReference,
853	InteractivityDataReferenceList InteractivityDataReferences optional,	851	InteractivityDataReferenceList InteractivityDataReferences optional,
854	ContentReferenceList ContentReferences optional,	852	ContentReferenceList ContentReferences optional,
855	PreviewDataReferenceList PreviewDataReferences optional,	853	PreviewDataReferenceList PreviewDataReferences optional,
856	TermsOfUseList TermsOfUses optional,	854	TermsOfUseList TermsOfUses optional,
857	PrivateExtType PrivateExt optional	855	PrivateExtType PrivateExt optional
858	} with { // CR WK 35/08: variant extension for definitions of XML de	856	} with { // CR WK 35/08: variant extension for definitions of XML de
859	variant "namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bcast:sg:fragments	857	variant "namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bcast:sg:fragments
860	}	858	}
861		859	
862	type record ScheduleServiceReferenceType {	860	type record ScheduleServiceReferenceType {
863	AnyUri idRef,	861	AnyUri idRef,
864	AnyUri audioLanguageIDRef optional,	862	AnyUri audioLanguageIDRef optional,
865	AnyUri textLanguageIDRef optional	863	AnyUri textLanguageIDRef optional
866	}	864	}
867		865	
868	type record InteractivityDataReferenceType {	866	type record InteractivityDataReferenceType {
869	AnyUri idRef,	867	AnyUri idRef,
870	AutoStartList AutoStarts optional,	868	AutoStartList AutoStarts optional,
871	DistributionWindowList DistributionWindows optional	869	DistributionWindowList DistributionWindows optional
872	}	870	}
873		871	
874	type set length (1 .. infinity) of InteractivityDataReferenceType InteractivityData	872	type set length (1 .. infinity) of InteractivityDataReferenceType InteractivityData
875		873	
876	type record AutoStartType {	874	type record AutoStartType {
877	XmlElementUnsignedIntValue text_	875	XmlElementUnsignedIntValue text_
878	}	876	}
879		877	
880	type set length (1 .. infinity) of AutoStartType AutoStartList;	878	type set length (1 .. infinity) of AutoStartType AutoStartList;
881		879	
882	type record DistributionWindowType {	880	type record DistributionWindowType {
883	UInt startTime optional,	881	UInt startTime optional,
884	UInt endTime optional,	882	UInt endTime optional,
885	UInt duration optional,	883	UInt duration optional,
886	UInt id optional	884	UInt id optional
887	}	885	}
888		886	
889	type set length (1 .. infinity) of DistributionWindowType DistributionWindowList;	887	type set length (1 .. infinity) of DistributionWindowType DistributionWindowList;
890		888	
891	type record ContentReferenceType {	889	type record ContentReferenceType {
892	AnyUri idRef,	890	AnyUri idRef,
893	AnyUri contentLocation optional, // change 24 (WK 6): change	891	AnyUri contentLocation optional, // change 24 (WK 6): change
894	AnyUri audioLanguageIDRef optional,	892	AnyUri audioLanguageIDRef optional,
895	AnyUri textLanguageIDRef optional,	893	AnyUri textLanguageIDRef optional,
896	boolean repeatPlayback optional,	894	boolean repeatPlayback optional,
897	AutoStartList AutoStarts optional,	895	AutoStartList AutoStarts optional,
898	DistributionWindowList DistributionWindows optional,	896	DistributionWindowList DistributionWindows optional,
899	PresentationWindowList PresentationWindows optional	897	PresentationWindowList PresentationWindows optional
900	}	898	}
901		899	
902	type set length (1 .. infinity) of ContentReferenceType ContentReferenceList;	900	type set length (1 .. infinity) of ContentReferenceType ContentReferenceList;
903		901	
904	/** @desc Used for expressing start and end time for scheduled rendering of cached	902	/** @desc Used for expressing start and end time for scheduled rendering of cached
905	type record PresentationWindowType {	903	type record PresentationWindowType {
906	UInt startTime optional,	904	UInt startTime optional,
907	UInt endTime optional,	905	UInt endTime optional,
908	UInt duration optional,	906	UInt duration optional,
909	UInt id optional	907	UInt id optional
910	}	908	}
911		909	

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912	type set length (1 .. infinity) of PresentationWindowType PresentationWindowList;	910	type set length (1 .. infinity) of PresentationWindowType PresentationWindowList;
913	}	911	}
914		912	
915	group contentFragment {	913	group contentFragment {
916	type record ContentType {	914	type record ContentType {
917	AnyUri id,	915	AnyUri id,
918	UInt version,	916	UInt version,
919	UInt validFrom optional,	917	UInt validFrom optional,
920	UInt validTo optional,	918	UInt validTo optional,
921	AnyUri globalContentID optional,	919	AnyUri globalContentID optional,
922	boolean emergency optional,	920	boolean emergency optional,
923	//boolean serviceContentProtection optional,	921	//boolean serviceContentProtection optional,
924	charstring baseCID optional,	922	charstring baseCID optional,
925	ContentServiceReferenceList ServiceReferences optional,	923	ContentServiceReferenceList ServiceReferences optional,
926	ProtectionKeyIDMinMaxList ProtectionKeyIDs optional,	924	ProtectionKeyIDMinMaxList ProtectionKeyIDs optional,
927	// Start of Service guide	925	// Start of Service guide
928	// Service name list	926	// Service name list
929	LanguageStringList Names,	927	LanguageStringList Names,
930	LanguageStringList Descriptions optional,	928	LanguageStringList Descriptions optional,
931	// Applicable to scheduled rendering of non-cachecast content	929	// Applicable to scheduled rendering of non-cachecast content
932	StartTimeType StartTime optional,	930	StartTimeType StartTime optional,
933	// Applicable to scheduled rendering of non-cachecast content	931	// Applicable to scheduled rendering of non-cachecast content
934	EndTimeType EndTime optional,	932	EndTimeType EndTime optional,
935	AudioOrTextLanguageList AudioLanguages optional,	933	AudioOrTextLanguageList AudioLanguages optional,
936	AudioOrTextLanguageList TextLanguages optional,	934	AudioOrTextLanguageList TextLanguages optional,
937	ParentalRatingList ParentalRatings optional,	935	ParentalRatingList ParentalRatings optional,
938	TargetUserProfileList TargetUserProfiles optional,	936	TargetUserProfileList TargetUserProfiles optional,
939	GenreList Genres optional,	937	GenreList Genres optional,
940	ExtensionList Extensions optional,	938	ExtensionList Extensions optional,
941	// End of Service guide	939	// End of Service guide
942	PreviewDataReferenceList PreviewDataReferences optional,	940	PreviewDataReferenceList PreviewDataReferences optional,
943	BroadcastAreaType BroadcastArea optional,	941	BroadcastAreaType BroadcastArea optional,
944	TermsOfUseList TermsOfUses optional,	942	TermsOfUseList TermsOfUses optional,
945	PrivateExtType PrivateExt optional	943	PrivateExtType PrivateExt optional
946	} with { // CR WK 35/08: variant extension for definitions of XML de	944	} with { // CR WK 35/08: variant extension for definitions of XML de
947	variant "namespacedef nsprefix = ' ' nsuri = 'urn:oma:xml:bcast:sg:fragments	945	variant "namespacedef nsprefix = ' ' nsuri = 'urn:oma:xml:bcast:sg:fragments
948	}	946	}
949		947	
950	type record ContentServiceReferenceType {	948	type record ContentServiceReferenceType {
951	AnyUri idRef,	949	AnyUri idRef,
952	UInt16 weight optional	950	UInt16 weight optional
953	}	951	}
954		952	
955	type set length (1 .. infinity) of ContentServiceReferenceType ContentServiceRefere	953	type set length (1 .. infinity) of ContentServiceReferenceType ContentServiceRefere
956		954	
957	type record StartTimeType {	955	type record StartTimeType {
958	XmlElementDateTimeValue text_	956	XmlElementDateTimeValue text_
959	}	957	}
960		958	
961	type record EndTimeType {	959	type record EndTimeType {
962	XmlElementDateTimeValue text_	960	XmlElementDateTimeValue text_
963	}	961	}
964	}	962	}
965		963	
966	group accessFragment {	964	group accessFragment {
967	type record AccessType {	965	type record AccessType {
968	AnyUri id,	966	AnyUri id,
969	UInt version,	967	UInt version,
970	UInt validFrom optional,	968	UInt validFrom optional,
971	UInt validTo optional,	969	UInt validTo optional,
972	AccessTypeType AccessType,	970	AccessTypeType AccessType,
973	KeyManagementSystemList KeyManagementSystems optional,	971	KeyManagementSystemList KeyManagementSystems optional,
974	EncryptionTypeList EncryptionTypes optional,	972	EncryptionTypeList EncryptionTypes optional,
975	AccessTypeReferenceChoice choice optional,	973	AccessTypeReferenceChoice choice optional,
976	TerminalCapabilityRequirementType TerminalCapabilityRequirement optional,	974	TerminalCapabilityRequirementType TerminalCapabilityRequirement optional,
977	BandwidthRequirementType BandwidthRequirement optional,	975	BandwidthRequirementType BandwidthRequirement optional,
978	ServiceClassList ServiceClassss,	976	ServiceClassList ServiceClassss,
979	PreviewDataReferenceList PreviewDataReferences optional,	977	PreviewDataReferenceList PreviewDataReferences optional,
980	NotificationReceptionType NotificationReception optional,	978	NotificationReceptionType NotificationReception optional,
981	PrivateExtType PrivateExt optional	979	PrivateExtType PrivateExt optional

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982	} with {	// CR WK 35/08: variant extension for definitions of XML de	980	} with {	// CR WK 35/08: variant extension for definitions of XML de
983	variant "namespacedef nsprefix = ' ' nsuri = 'urn:oma:xml:bcast:sg:fragments		981	variant "namespacedef nsprefix = ' ' nsuri = 'urn:oma:xml:bcast:sg:fragments	
984	}		982	}	
985			983		
986	type record AccessTypeType {		984	type record AccessTypeType {	
987	AccessTypeChoice choice		985	AccessTypeChoice choice	
988	}		986	}	
989			987		
990	type union AccessTypeChoice {		988	type union AccessTypeChoice {	
991	BroadcastServiceDeliveryType BroadcastServiceDelivery,		989	BroadcastServiceDeliveryType BroadcastServiceDelivery,	
992	UnicastServiceDeliveryList UnicastServiceDeliverys		990	UnicastServiceDeliveryList UnicastServiceDeliverys	
993	}		991	}	
994			992		
995	type record BroadcastServiceDeliveryType {		993	type record BroadcastServiceDeliveryType {	
996	BDSTypeType BDSType optional,		994	BDSTypeType BDSType optional,	
997	SessionDescriptionType SessionDescription,		995	SessionDescriptionType SessionDescription,	
998	/* field shall be present with ALC but shall not be present with FLUTE		996	/* field shall be present with ALC but shall not be present with FLUTE	
999	FileDescriptionType FileDescription optional		997	FileDescriptionType FileDescription optional	
1000	}		998	}	
1001			999		
1002	type record BDSTypeType {		1000	type record BDSTypeType {	
1003	BDSTypeRangeType Type optional,		1001	BDSTypeRangeType Type optional,	
1004	VersionList Versions optional		1002	VersionList Versions optional	
1005	}		1003	}	
1006			1004		
1007	type record VersionType {		1005	type record VersionType {	
1008	XmlElementStringValue text_		1006	XmlElementStringValue text_	
1009	}		1007	}	
1010			1008		
1011	type set length (1 .. infinity) of VersionType VersionList;		1009	type set length (1 .. infinity) of VersionType VersionList;	
1012			1010		
1013	type record BDSTypeRangeType {		1011	type record BDSTypeRangeType {	
1014	XmlElementUnsignedByteValue text_		1012	XmlElementUnsignedByteValue text_	
1015	}		1013	}	
1016			1014		
1017	const UInt8 c_ipdcOverDvbH_bcType := 0;		1015	const UInt8 c_ipdcOverDvbH_bcType := 0;	
1018	const UInt8 c_3gppMbms_bcType := 1;		1016	const UInt8 c_3gppMbms_bcType := 1;	
1019	const UInt8 c_3gpp2Bcmcs_bcType := 2;		1017	const UInt8 c_3gpp2Bcmcs_bcType := 2;	
1020			1018		
1021	/**		1019	/**	
1022	*		1020	*	
1023	* @remark		1021	* @remark	
1024	* The presence of sdp and sdpRef fields is mutually		1022	* The presence of sdp and sdpRef fields is mutually	
1025	* exclusive!		1023	* exclusive!	
1026	*/		1024	*/	
1027	type record SessionDescriptionType {		1025	type record SessionDescriptionType {	
1028	/* inline SDP		1026	/* inline SDP	
1029	SessionDescriptionTypeChoice choice,		1027	SessionDescriptionTypeChoice choice,	
1030	SessionDescriptionReferenceType USBDRef optional,		1028	SessionDescriptionReferenceType USBDRef optional,	
1031	SessionDescriptionReferenceType ADPRef optional		1029	SessionDescriptionReferenceType ADPRef optional	
1032	}		1030	}	
1033			1031		
1034	/**		1032	/**	
1035	*		1033	*	
1036	* @remark		1034	* @remark	
1037	* If both uri and idRef are present they must be identical		1035	* If both uri and idRef are present they must be identical	
1038	*/		1036	*/	
1039	type record SessionDescriptionReferenceType {		1037	type record SessionDescriptionReferenceType {	
1040	AnyUri uri optional,		1038	AnyUri uri optional,	
1041	AnyUri idRef optional		1039	AnyUri idRef optional	
1042	}		1040	}	
1043			1041		
1044	type union SessionDescriptionTypeChoice {		1042	type union SessionDescriptionTypeChoice {	
1045	SDPType SDP,		1043	SDPType SDP,	
1046	SessionDescriptionReferenceType SDPRef		1044	SessionDescriptionReferenceType SDPRef	
1047	}		1045	}	
1048			1046		
1049	type record SDPType {		1047	type record SDPType {	
1050	PreserveXmlSpace space,		1048	PreserveXmlSpace space,	
1051	charstring encoding optional,		1049	charstring encoding optional,	

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1052	XmlElementStringValue text_	1050	XmlElementStringValue text_
1053	}	1051	}
1054		1052	
1055	type union AccessTypeReferenceChoice {	1053	type union AccessTypeReferenceChoice {
1056	IDRefTypeList ServiceReferences,	1054	IDRefTypeList ServiceReferences,
1057	ScheduleReferenceList ScheduleReferences	1055	ScheduleReferenceList ScheduleReferences
1058	}	1056	}
1059		1057	
1060	type record ScheduleReferenceType {	1058	type record ScheduleReferenceType {
1061	AnyUri idRef,	1059	AnyUri idRef,
1062	DistributionWindowIDList DistributionWindowIDs optional	1060	DistributionWindowIDList DistributionWindowIDs optional
1063	}	1061	}
1064		1062	
1065	type set length (1 .. infinity) of ScheduleReferenceType ScheduleReferenceList;	1063	type set length (1 .. infinity) of ScheduleReferenceType ScheduleReferenceList;
1066		1064	
1067	type record DistributionWindowIDType {	1065	type record DistributionWindowIDType {
1068	XmlElementUnsignedIntValue text_	1066	XmlElementUnsignedIntValue text_
1069	}	1067	}
1070		1068	
1071	type set length (1 .. infinity) of DistributionWindowIDType DistributionWindowIDList;	1069	type set length (1 .. infinity) of DistributionWindowIDType DistributionWindowIDList;
1072		1070	
1073	type record FileDescriptionType {	1071	type record FileDescriptionType {
1074	charstring Content_Type optional,	1072	charstring Content_Type optional,
1075	charstring Content_Encoding optional,	1073	charstring Content_Encoding optional,
1076	UInt8 FEC_OTI_FEC_Encoding_ID optional,	1074	UInt8 FEC_OTI_FEC_Encoding_ID optional,
1077	UInt32 FEC_OTI_FEC_Instance_ID optional,	1075	UInt32 FEC_OTI_FEC_Instance_ID optional,
1078	UInt32 FEC_OTI_Maximum_Source_Block_Length optional,	1076	UInt32 FEC_OTI_Maximum_Source_Block_Length optional,
1079	UInt32 FEC_OTI_Encoding_Symbol_Length optional,	1077	UInt32 FEC_OTI_Encoding_Symbol_Length optional,
1080	UInt32 FEC_OTI_Max_Number_of_Encoding_Symbols optional,	1078	UInt32 FEC_OTI_Max_Number_of_Encoding_Symbols optional,
1081	charstring FEC_OTI_Scheme_Specific_Info optional,	1079	charstring FEC_OTI_Scheme_Specific_Info optional,
1082	FileList Files	1080	FileList Files
1083	} with {variant "replace '_' with '-'" }	1081	} with {variant "replace '_' with '-'" }
1084		1082	
1085	/**	1083	/**
1086	*	1084	*
1087	* @desc	1085	* @desc
1088	* More info on parameters available in RFC 3926 3.4.2	1086	* More info on parameters available in RFC 3926 3.4.2
1089	*/	1087	*/
1090	type record FileType {	1088	type record FileType {
1091	AnyUri Content_Location,	1089	AnyUri Content_Location,
1092	UInt TOI,	1090	UInt TOI,
1093	UInt32 Content_Length optional,	1091	UInt32 Content_Length optional,
1094	UInt32 Transfer_Length optional,	1092	UInt32 Transfer_Length optional,
1095	charstring Content_Type optional,	1093	charstring Content_Type optional,
1096	charstring Content_Encoding optional,	1094	charstring Content_Encoding optional,
1097	charstring Content_MD5 optional,	1095	charstring Content_MD5 optional,
1098	UInt8 FEC_OTI_FEC_Encoding_ID optional,	1096	UInt8 FEC_OTI_FEC_Encoding_ID optional,
1099	UInt32 FEC_OTI_FEC_Instance_ID optional,	1097	UInt32 FEC_OTI_FEC_Instance_ID optional,
1100	UInt32 FEC_OTI_Maximum_Source_Block_Length optional,	1098	UInt32 FEC_OTI_Maximum_Source_Block_Length optional,
1101	UInt32 FEC_OTI_Encoding_Symbol_Length optional,	1099	UInt32 FEC_OTI_Encoding_Symbol_Length optional,
1102	UInt32 FEC_OTI_Max_Number_of_Encoding_Symbols optional,	1100	UInt32 FEC_OTI_Max_Number_of_Encoding_Symbols optional,
1103	charstring FEC_OTI_Scheme_Specific_Info optional	1101	charstring FEC_OTI_Scheme_Specific_Info optional
1104	} with {variant "replace '_' with '-'" }	1102	} with {variant "replace '_' with '-'" }
1105		1103	
1106	type set length (1 .. infinity) of FileType FileList;	1104	type set length (1 .. infinity) of FileType FileList;
1107		1105	
1108	type record UnicastServiceDeliveryType {	1106	type record UnicastServiceDeliveryType {
1109	UInt8 type_,	1107	UInt8 type_,
1110	AccessServerURLList AccessServerURLs,	1108	AccessServerURLList AccessServerURLs,
1111	SessionDescriptionType SessionDescription optional,	1109	SessionDescriptionType SessionDescription optional,
1112	ServiceAccessNotificationURLList ServiceAccessNotificationURLs optional	1110	ServiceAccessNotificationURLList ServiceAccessNotificationURLs optional
1113	}	1111	}
1114		1112	
1115	type set length (1 .. infinity) of UnicastServiceDeliveryType UnicastServiceDeliveryList;	1113	type set length (1 .. infinity) of UnicastServiceDeliveryType UnicastServiceDeliveryList;
1116		1114	
1117	type record AccessServerURLType {	1115	type record AccessServerURLType {
1118	XmlElementAnyURIValue text_	1116	XmlElementAnyURIValue text_
1119	}	1117	}
1120		1118	
1121	type set length (1 .. infinity) of AccessServerURLType AccessServerURLList;	1119	type set length (1 .. infinity) of AccessServerURLType AccessServerURLList;

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1122		1120	
1123	type record ServiceAccessNotificationURLType {	1121	type record ServiceAccessNotificationURLType {
1124	XmlElementAnyURIValue text_	1122	XmlElementAnyURIValue text_
1125	}	1123	}
1126		1124	
1127	type set length (1 .. infinity) of ServiceAccessNotificationURLType ServiceAccessNo	1125	type set length (1 .. infinity) of ServiceAccessNotificationURLType ServiceAccessNo
1128		1126	
1129	const UInt8 c_http_ucType := 0;	1127	const UInt8 c_http_ucType := 0;
1130	const UInt8 c_wap10_ucType := 1;	1128	const UInt8 c_wap10_ucType := 1;
1131	const UInt8 c_wap2x_ucType := 2;	1129	const UInt8 c_wap2x_ucType := 2;
1132	const UInt8 c_rtspRtp_ucType := 3;	1130	const UInt8 c_rtspRtp_ucType := 3;
1133	const UInt8 c_rtspRtp3gppPss_ucType := 4;	1131	const UInt8 c_rtspRtp3gppPss_ucType := 4;
1134	const UInt8 c_rtspRtp3gpp2Mss_ucType := 5;	1132	const UInt8 c_rtspRtp3gpp2Mss_ucType := 5;
1135	const UInt8 c_fluteUnicast_ucType := 6;	1133	const UInt8 c_fluteUnicast_ucType := 6;
1136		1134	
1137	type record KeyManagementSystemType {	1135	type record KeyManagementSystemType {
1138	UInt8 kmsType,	1136	UInt8 kmsType,
1139	UInt8 protectionType,	1137	UInt8 protectionType,
1140	PermissionsIssuerURIType PermissionsIssuerURI,	1138	PermissionsIssuerURIType PermissionsIssuerURI,
1141	ProtectionKeyIDList ProtectionKeyIDs optional,	1139	ProtectionKeyIDList ProtectionKeyIDs optional,
1142	TerminalBindingKeyIDType TerminalBindingKeyID optional	1140	TerminalBindingKeyIDType TerminalBindingKeyID optional
1143	}	1141	}
1144		1142	
1145	type set length (1 .. infinity) of KeyManagementSystemType KeyManagementSystemList;	1143	type set length (1 .. infinity) of KeyManagementSystemType KeyManagementSystemList;
1146		1144	
1147	type record PermissionsIssuerURIType {	1145	type record PermissionsIssuerURIType {
1148	//boolean type_,	1146	//boolean type_,
1149	XmlElementAnyURIValue text_	1147	XmlElementAnyURIValue text_
1150	}	1148	}
1151		1149	
1152	type record TerminalBindingKeyIDType {	1150	type record TerminalBindingKeyIDType {
1153	AnyUri tbkPermissionsIssuerURI optional,	1151	AnyUri tbkPermissionsIssuerURI optional,
1154	XmlElementUnsignedIntValue text_	1152	XmlElementUnsignedIntValue text_
1155	}	1153	}
1156		1154	
1157	type record EncryptionTypeType {	1155	type record EncryptionTypeType {
1158	XmlElementUnsignedByteValue text_ (0..3)	1156	XmlElementUnsignedByteValue text_ (0..3)
1159	}	1157	}
1160		1158	
1161	type set length (1 .. infinity) of EncryptionTypeType EncryptionTypeList;	1159	type set length (1 .. infinity) of EncryptionTypeType EncryptionTypeList;
1162		1160	
1163	const UInt8 c_ipsec_encryptType := 0;	1161	const UInt8 c_ipsec_encryptType := 0;
1164	const UInt8 c_strp_encryptType := 1;	1162	const UInt8 c_strp_encryptType := 1;
1165	const UInt8 c_ismaCryp_encryptType := 2;	1163	const UInt8 c_ismaCryp_encryptType := 2;
1166	const UInt8 c_dcf_encryptType := 3;	1164	const UInt8 c_dcf_encryptType := 3;
1167		1165	
1168	type record IDRefType {	1166	type record IDRefType {
1169	AnyUri idRef	1167	AnyUri idRef
1170	}	1168	}
1171		1169	
1172	type set length (1 .. infinity) of IDRefType IDRefTypeList;	1170	type set length (1 .. infinity) of IDRefType IDRefTypeList;
1173		1171	
1174	type record TerminalCapabilityRequirementType {	1172	type record TerminalCapabilityRequirementType {
1175	VideoType Video optional,	1173	VideoType Video optional,
1176	AudioType Audio optional,	1174	AudioType Audio optional,
1177	DownloadFileType DownloadFile optional	1175	DownloadFileType DownloadFile optional
1178	}	1176	}
1179		1177	
1180	type record VideoType {	1178	type record VideoType {
1181	VideoComplexityType Complexity	1179	VideoComplexityType Complexity
1182	}	1180	}
1183		1181	
1184	type record VideoComplexityType {	1182	type record VideoComplexityType {
1185	BitrateType Bitrate optional,	1183	BitrateType Bitrate optional,
1186	ResolutionType Resolution optional,	1184	ResolutionType Resolution optional,
1187	MinimumBufferSizeType MinimumBufferSize optional	1185	MinimumBufferSizeType MinimumBufferSize optional
1188	}	1186	}
1189		1187	
1190	type record BitrateType {	1188	type record BitrateType {
1191	UInt16 average optional, // change 24 (WK 6): change necess	1189	UInt16 average optional, // change 24 (WK 6): change necess

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1192	UInt16 maximum optional	// change 24 (WK 6): change necess	1190	UInt16 maximum optional	// change 24 (WK 6): change necess
1193	}		1191	}	
1194			1192		
1195	type record ResolutionType {		1193	type record ResolutionType {	
1196	UInt16 horizontal,	// change 24 (WK 6): change necess	1194	UInt16 horizontal,	// change 24 (WK 6): change necess
1197	UInt16 vertical,	// change 24 (WK 6): change necess	1195	UInt16 vertical,	// change 24 (WK 6): change necess
1198	float temporal		1196	float temporal	
1199	}		1197	}	
1200			1198		
1201	type record MinimumBufferSizeType {		1199	type record MinimumBufferSizeType {	
1202	XmlElementUnsignedIntValue text_		1200	XmlElementUnsignedIntValue text_	
1203	}		1201	}	
1204			1202		
1205	type record AudioType {		1203	type record AudioType {	
1206	AudioComplexityType Complexity		1204	AudioComplexityType Complexity	
1207	}		1205	}	
1208			1206		
1209	type record AudioComplexityType {		1207	type record AudioComplexityType {	
1210	BitrateType Bitrate optional,		1208	BitrateType Bitrate optional,	
1211	MinimumBufferSizeType MinimumBufferSize optional		1209	MinimumBufferSizeType MinimumBufferSize optional	
1212	}		1210	}	
1213			1211		
1214	type record DownloadFileType {		1212	type record DownloadFileType {	
1215	MIMETypeList MIMETypes		1213	MIMETypeList MIMETypes	
1216	}		1214	}	
1217			1215		
1218	type record MIMETypeType {		1216	type record MIMETypeType {	
1219	charstring codec optional,		1217	charstring codec optional,	
1220	XmlElementStringValue text_		1218	XmlElementStringValue text_	
1221	}		1219	}	
1222			1220		
1223	type set length (1 .. infinity) of MIMETypeType MIMETypeList;		1221	type set length (1 .. infinity) of MIMETypeType MIMETypeList;	
1224			1222		
1225	type record BandwidthRequirementType {		1223	type record BandwidthRequirementType {	
1226	XmlElementUnsignedIntValue text_		1224	XmlElementUnsignedIntValue text_	
1227	}		1225	}	
1228			1226		
1229	/*		1227	/*	
1230	* Note: TS SG 20071220 proposes a complexType for ServiceClass which is not XML-co		1228	* Note: TS SG 20071220 proposes a complexType for ServiceClass which is not XML-co	
1231	* Until this is resolved in BCAST group, ServiceClass datatype is not changed in s		1229	* Until this is resolved in BCAST group, ServiceClass datatype is not changed in s	
1232	*/		1230	*/	
1233	type record ServiceClassType {		1231	type record ServiceClassType {	
1234	XmlElementStringValue text_		1232	XmlElementStringValue text_	
1235	}		1233	}	
1236			1234		
1237	type set length (1 .. infinity) of ServiceClassType ServiceClassList;		1235	type set length (1 .. infinity) of ServiceClassType ServiceClassList;	
1238			1236		
1239	}		1237	}	
1240			1238		
1241	group purchaseItemFragment {		1239	group purchaseItemFragment {	
1242	type record PurchaseItemType {		1240	type record PurchaseItemType {	
1243	AnyUri id,		1241	AnyUri id,	
1244	UInt version,		1242	UInt version,	
1245	UInt validFrom optional,		1243	UInt validFrom optional,	
1246	UInt validTo optional,		1244	UInt validTo optional,	
1247	AnyUri globalPurchaseItemID,		1245	AnyUri globalPurchaseItemID,	
1248	UInt binaryPurchaseItemID optional,		1246	UInt binaryPurchaseItemID optional,	
1249	UInt16 weight optional,		1247	UInt16 weight optional,	
1250	boolean closed optional,		1248	boolean closed optional,	
1251	PurchaseItemChoice choice,		1249	PurchaseItemChoice choice,	
1252	ProtectionKeyIDList ProtectionKeyIDs optional,		1250	ProtectionKeyIDList ProtectionKeyIDs optional,	
1253	LanguageStringList Names,		1251	LanguageStringList Names,	
1254	LanguageStringList Descriptions optional,		1252	LanguageStringList Descriptions optional,	
1255	StartTimeType StartTime optional,		1253	StartTimeType StartTime optional,	
1256	EndTimeType EndTime optional,		1254	EndTimeType EndTime optional,	
1257	ParentalRatingList ParentalRatings optional,		1255	ParentalRatingList ParentalRatings optional,	
1258	ExtensionList Extensions optional,		1256	ExtensionList Extensions optional,	
1259	IDRefTypeList DependencyReferences optional,		1257	IDRefTypeList DependencyReferences optional,	
1260	IDRefTypeList ExclusionReferences optional,		1258	IDRefTypeList ExclusionReferences optional,	
1261	PrivateExtType PrivateExt optional		1259	PrivateExtType PrivateExt optional	

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1262	} with {	// CR WK 35/08: variant extension for definitions of XML de	1260	} with {	// CR WK 35/08: variant extension for definitions of XML de
1263	variant "namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bcast:sg:fragments		1261	variant "namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bcast:sg:fragments	
1264	}		1262	}	
1265			1263		
1266	type union PurchaseItemChoice {		1264	type union PurchaseItemChoice {	
1267	IDRefTypeList ServiceReferences,		1265	IDRefTypeList ServiceReferences,	
1268	ScheduleReferenceList ScheduleReferences,		1266	ScheduleReferenceList ScheduleReferences,	
1269	IDRefTypeList ContentReferences,		1267	IDRefTypeList ContentReferences,	
1270	IDRefTypeList PurchaseItemReferences		1268	IDRefTypeList PurchaseItemReferences	
1271	}		1269	}	
1272	}		1270	}	
1273			1271		
1274	group purchaseDataFragment {		1272	group purchaseDataFragment {	
1275	type record PurchaseDataType {		1273	type record PurchaseDataType {	
1276	AnyUri id,		1274	AnyUri id,	
1277	UInt version,		1275	UInt version,	
1278	UInt validFrom optional,		1276	UInt validFrom optional,	
1279	UInt validTo optional,		1277	UInt validTo optional,	
1280	LanguageStringList Descriptions optional,		1278	LanguageStringList Descriptions optional,	
1281	PriceInfoType PriceInfo optional,		1279	PriceInfoType PriceInfo optional,	
1282	PromotionInfoList PromotionInfos optional,		1280	PromotionInfoList PromotionInfos optional,	
1283	ExtensionList Extensions optional,		1281	ExtensionList Extensions optional,	
1284	IDRefType PurchaseItemReference,		1282	IDRefType PurchaseItemReference,	
1285	IDRefTypeList PurchaseChannelReferences,		1283	IDRefTypeList PurchaseChannelReferences,	
1286	PreviewDataReferenceList PreviewDataReferences optional,		1284	PreviewDataReferenceList PreviewDataReferences optional,	
1287	TermsOfUseList TermsOfUses optional,		1285	TermsOfUseList TermsOfUses optional,	
1288	PrivateExtType PrivateExt optional		1286	PrivateExtType PrivateExt optional	
1289	} with {	// CR WK 35/08: variant extension for definitions of XML de	1287	} with {	// CR WK 35/08: variant extension for definitions of XML de
1290	variant "namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bcast:sg:fragments		1288	variant "namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bcast:sg:fragments	
1291	}		1289	}	
1292			1290		
1293	group PurchaseDataUsage {		1291	group PurchaseDataUsage {	
1294	const UInt8 c_PurchaseDataUsage_unspecified := 0;		1292	const UInt8 c_PurchaseDataUsage_unspecified := 0;	
1295	const UInt8 c_PurchaseDataUsage_ServiceByServiceSwitching := 1;		1293	const UInt8 c_PurchaseDataUsage_ServiceByServiceSwitching := 1;	
1296	const UInt8 c_PurchaseDataUsage_ServiceGuideBrowsing := 2;		1294	const UInt8 c_PurchaseDataUsage_ServiceGuideBrowsing := 2;	
1297	const UInt8 c_PurchaseDataUsage_ServiceGuidePreview := 3;		1295	const UInt8 c_PurchaseDataUsage_ServiceGuidePreview := 3;	
1298	const UInt8 c_PurchaseDataUsage_Barker := 4;		1296	const UInt8 c_PurchaseDataUsage_Barker := 4;	
1299	const UInt8 c_PurchaseDataUsage_AlternativToBlackout := 5;		1297	const UInt8 c_PurchaseDataUsage_AlternativToBlackout := 5;	
1300	}		1298	}	
1301			1299		
1302	group subscriptionTypes {		1300	group subscriptionTypes {	
1303	const UInt c_openTimeSubscription := 0;		1301	const UInt c_openTimeSubscription := 0;	
1304	const UInt c_openEndedSubscription := 1;		1302	const UInt c_openEndedSubscription := 1;	
1305	}		1303	}	
1306			1304		
1307	type record PriceInfoType {		1305	type record PriceInfoType {	
1308	UInt subscriptionType,		1306	UInt subscriptionType,	
1309	PriceList MonetaryPrices optional,		1307	PriceList MonetaryPrices optional,	
1310	TotalNumberTokenType TotalNumberToken optional,		1308	TotalNumberTokenType TotalNumberToken optional,	
1311	SubscriptionPeriodType SubscriptionPeriod optional		1309	SubscriptionPeriodType SubscriptionPeriod optional	
1312	}		1310	}	
1313			1311		
1314	type record SubscriptionPeriodType {		1312	type record SubscriptionPeriodType {	
1315	XmlElementStringValue text_		1313	XmlElementStringValue text_	
1316	}		1314	}	
1317			1315		
1318	type record PromotionInfoType {		1316	type record PromotionInfoType {	
1319	AnyUri id,		1317	AnyUri id,	
1320	UInt validFrom optional,		1318	UInt validFrom optional,	
1321	UInt validTo optional,		1319	UInt validTo optional,	
1322	LanguageStringList Titles,		1320	LanguageStringList Titles,	
1323	TargetUserProfileList TargetUserProfiles optional,		1321	TargetUserProfileList TargetUserProfiles optional,	
1324	LanguageStringList Descriptions optional,		1322	LanguageStringList Descriptions optional,	
1325	PromotionExtensionURLList PromotionExtensions optional		1323	PromotionExtensionURLList PromotionExtensions optional	
1326	}		1324	}	
1327			1325		
1328	type set length (1 .. infinity) of PromotionInfoType PromotionInfoList;		1326	type set length (1 .. infinity) of PromotionInfoType PromotionInfoList;	
1329			1327		
1330	type record PromotionExtensionURLType {		1328	type record PromotionExtensionURLType {	
1331	AnyUri url,		1329	AnyUri url,	

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1332	LanguageStringList Descriptions optional	1330	LanguageStringList Descriptions optional
1333	}	1331	}
1334		1332	
1335	type set length (1 .. infinity) of PromotionExtensionURLType PromotionExtensionURLType	1333	type set length (1 .. infinity) of PromotionExtensionURLType PromotionExtensionURLType
1336		1334	
1337	group tokenTypes {	1335	group tokenTypes {
1338	const UInt8 c_tokenType_unspecified := 0;	1336	const UInt8 c_tokenType_unspecified := 0;
1339	const UInt8 c_tokenType_tokensForDrmProfile := 1;	1337	const UInt8 c_tokenType_tokensForDrmProfile := 1;
1340	const UInt8 c_tokenType_timeTokensForServicePurseSmartcard := 2;	1338	const UInt8 c_tokenType_timeTokensForServicePurseSmartcard := 2;
1341	const UInt8 c_tokenType_timeTokensForUserPurseSmartcard := 3;	1339	const UInt8 c_tokenType_timeTokensForUserPurseSmartcard := 3;
1342	const UInt8 c_tokenType_playTokensForServicePurseSmartcard := 4;	1340	const UInt8 c_tokenType_playTokensForServicePurseSmartcard := 4;
1343	const UInt8 c_tokenType_playTokensForUserPurseSmartcard := 5;	1341	const UInt8 c_tokenType_playTokensForUserPurseSmartcard := 5;
1344	}	1342	}
1345		1343	
1346	group consumptionUnits {	1344	group consumptionUnits {
1347	// used for token type 2 or 3	1345	// used for token type 2 or 3
1348	const UInt8 c_consumptionUnit_timeInSeconds := 0;	1346	const UInt8 c_consumptionUnit_timeInSeconds := 0;
1349	// used for token type 2 or 3	1347	// used for token type 2 or 3
1350	const UInt8 c_consumptionUnit_timeInMinutes := 1;	1348	const UInt8 c_consumptionUnit_timeInMinutes := 1;
1351	// used for token type 2 or 3	1349	// used for token type 2 or 3
1352	const UInt8 c_consumptionUnit_timeInHours := 2;	1350	const UInt8 c_consumptionUnit_timeInHours := 2;
1353	// used for token type 4 or 5	1351	// used for token type 4 or 5
1354	const UInt8 c_consumptionUnit_numberOfPlays := 0;	1352	const UInt8 c_consumptionUnit_numberOfPlays := 0;
1355	}	1353	}
1356		1354	
1357	type record TotalNumberTokenType {	1355	type record TotalNumberTokenType {
1358	UInt8 tokenType,	1356	UInt8 tokenType,
1359	UInt16 consumptionAmount optional,	1357	UInt16 consumptionAmount optional,
1360	UInt8 consumptionUnit,	1358	UInt8 consumptionUnit,
1361	UInt16 maxReplay optional,	1359	UInt16 maxReplay optional,
1362	XmlElementUnsignedShortValue text_	1360	XmlElementUnsignedShortValue text_
1363	}	1361	}
1364		1362	
1365	type record PriceType {	1363	type record PriceType {
1366	charstring currency,	1364	charstring currency,
1367	XmlElementDecimalValue text_	1365	XmlElementDecimalValue text_
1368	}	1366	}
1369		1367	
1370	type set length (1 .. infinity) of PriceType PriceList;	1368	type set length (1 .. infinity) of PriceType PriceList;
1371	}	1369	}
1372		1370	
1373	group purchaseChannelFragment {	1371	group purchaseChannelFragment {
1374	type record PurchaseChannelType {	1372	type record PurchaseChannelType {
1375	AnyUri id,	1373	AnyUri id,
1376	UInt version,	1374	UInt version,
1377	UInt validFrom optional,	1375	UInt validFrom optional,
1378	UInt validTo optional,	1376	UInt validTo optional,
1379	AnyUri rightsIssuerURI optional,	1377	AnyUri rightsIssuerURI optional,
1380	LanguageStringList Names,	1378	LanguageStringList Names,
1381	LanguageStringList Descriptions optional,	1379	LanguageStringList Descriptions optional,
1382	ContactInfoType ContactInfo optional,	1380	ContactInfoType ContactInfo optional,
1383	PortalURLType PortalURL optional,	1381	PortalURLType PortalURL optional,
1384	PurchaseURLList PurchaseURLs optional ,	1382	PurchaseURLList PurchaseURLs optional ,
1385	ExtensionList Extensions optional,	1383	ExtensionList Extensions optional,
1386	PrivateExtType PrivateExt optional	1384	PrivateExtType PrivateExt optional
1387	} with { // CR WK 35/08: variant extension for definitions of XML de	1385	} with { // CR WK 35/08: variant extension for definitions of XML de
1388	variant "namespacedef nsprefix = ' ' nsuri = 'urn:oma:xml:bcast:sg:fragments	1386	variant "namespacedef nsprefix = ' ' nsuri = 'urn:oma:xml:bcast:sg:fragments
1389	}	1387	}
1390		1388	
1391	type record ContactInfoType {	1389	type record ContactInfoType {
1392	XmlElementStringValue text_	1390	XmlElementStringValue text_
1393	}	1391	}
1394		1392	
1395	type record PortalURLType {	1393	type record PortalURLType {
1396	UInt8 supportedService optional,	1394	UInt8 supportedService optional,
1397	XmlElementAnyURIValue text_	1395	XmlElementAnyURIValue text_
1398	}	1396	}
1399		1397	
1400	type record PurchaseURLType {	1398	type record PurchaseURLType {
1401	XmlElementAnyURIValue text_	1399	XmlElementAnyURIValue text_

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1402	}	1400	}
1403		1401	
1404	type set length (1 .. infinity) of PurchaseURLType PurchaseURLList;	1402	type set length (1 .. infinity) of PurchaseURLType PurchaseURLList;
1405	}	1403	}
1406		1404	
1407	group previewDataFragment {	1405	group previewDataFragment {
1408	type record PreviewDataType {	1406	type record PreviewDataType {
1409	AnyUri id,	1407	AnyUri id,
1410	UInt version,	1408	UInt version,
1411	UInt validFrom optional,	1409	UInt validFrom optional,
1412	UInt validTo optional,	1410	UInt validTo optional,
1413	SMILType SMIL optional,	1411	SMILType SMIL optional,
1414	VideoPType Video optional,	1412	VideoPType Video optional,
1415	AudioPType Audio optional,	1413	AudioPType Audio optional,
1416	PictureType Picture optional,	1414	PictureType Picture optional,
1417	EncodedLanguageStringList Texts optional,	1415	EncodedLanguageStringList Texts optional,
1418	AccessReferenceType AccessReference optional,	1416	AccessReferenceType AccessReference optional,
1419	PrivateExtType PrivateExt optional	1417	PrivateExtType PrivateExt optional
1420	} with { // CR WK 35/08: variant extension for definitions of XML de	1418	} with { // CR WK 35/08: variant extension for definitions of XML de
1421	variant "namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bcast:sg:fragments	1419	variant "namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bcast:sg:fragments
1422	}	1420	}
1423		1421	
1424	type record SMILType {	1422	type record SMILType {
1425	UInt8 type_ optional,	1423	UInt8 type_ optional,
1426	charstring encoding optional,	1424	charstring encoding optional,
1427	// could be further structured	1425	// could be further structured
1428	XmlElementStringValue text_	1426	XmlElementStringValue text_
1429	}	1427	}
1430		1428	
1431	type record VideoPType {	1429	type record VideoPType {
1432	VideoURIType VideoURI,	1430	VideoURIType VideoURI,
1433	MIMETYPEType MIMETYPE optional,	1431	MIMETYPEType MIMETYPE optional,
1434	LanguageStringList AlternativeTexts optional,	1432	LanguageStringList AlternativeTexts optional,
1435	PictureType AlternativePicture optional	1433	PictureType AlternativePicture optional
1436	}	1434	}
1437		1435	
1438	type record VideoURIType {	1436	type record VideoURIType {
1439	XmlElementAnyURIValue text_	1437	XmlElementAnyURIValue text_
1440	}	1438	}
1441		1439	
1442	type record AudioPType {	1440	type record AudioPType {
1443	AudioURIType AudioURI,	1441	AudioURIType AudioURI,
1444	MIMETYPEType MIMETYPE optional,	1442	MIMETYPEType MIMETYPE optional,
1445	LanguageStringList AlternativeTexts optional,	1443	LanguageStringList AlternativeTexts optional,
1446	PictureType AlternativePicture optional	1444	PictureType AlternativePicture optional
1447	}	1445	}
1448		1446	
1449	type record AudioURIType {	1447	type record AudioURIType {
1450	XmlElementAnyURIValue text_	1448	XmlElementAnyURIValue text_
1451	}	1449	}
1452		1450	
1453	type record PictureType {	1451	type record PictureType {
1454	PictureChoice choice,	1452	PictureChoice choice,
1455	MIMETYPEType MIMETYPE optional,	1453	MIMETYPEType MIMETYPE optional,
1456	LanguageStringList AlternativeTexts optional	1454	LanguageStringList AlternativeTexts optional
1457	}	1455	}
1458		1456	
1459	type union PictureChoice {	1457	type union PictureChoice {
1460	PictureURIType PictureURI,	1458	PictureURIType PictureURI,
1461	PictureDataType PictureData	1459	PictureDataType PictureData
1462	}	1460	}
1463		1461	
1464	type record PictureURIType {	1462	type record PictureURIType {
1465	XmlElementAnyURIValue text_	1463	XmlElementAnyURIValue text_
1466	}	1464	}
1467		1465	
1468	type record PictureDataType {	1466	type record PictureDataType {
1469	XmlElementStringValue text_	1467	XmlElementStringValue text_
1470	}	1468	}
1471		1469	

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(Fortsetzung)

1472	type charstring Text;	1470	type charstring Text;
1473		1471	
1474	type record AccessReferenceType {	1472	type record AccessReferenceType {
1475	AnyUri idRef,	1473	AnyUri idRef,
1476	UInt8 usage	1474	UInt8 usage
1477	}	1475	}
1478		1476	
1479	}	1477	}
1480		1478	
1481	group interactivityDataFragment {	1479	group interactivityDataFragment {
1482	type record InteractivityDataType {	1480	type record InteractivityDataType {
1483	AnyUri id,	1481	AnyUri id,
1484	UInt version,	1482	UInt version,
1485	UInt validFrom optional,	1483	UInt validFrom optional,
1486	UInt validTo optional,	1484	UInt validTo optional,
1487	boolean preListenIndicator,	1485	boolean preListenIndicator,
1488	AnyUri interactivityMediaDocumentPointer,	1486	AnyUri interactivityMediaDocumentPointer,
1489	LanguageStringList InteractivityTypes optional,	1487	LanguageStringList InteractivityTypes optional,
1490	IDRefType ServiceReference,	1488	IDRefType ServiceReference,
1491	InteractivityDataChoice choice optional,	1489	InteractivityDataChoice choice optional,
1492	InteractivityDeliveryType InteractivityDelivery optional,	1490	InteractivityDeliveryType InteractivityDelivery optional,
1493	ExtensionType Extension optional,	1491	ExtensionType Extension optional,
1494	BackOffTimingType BackOffTiming optional,	1492	BackOffTimingType BackOffTiming optional,
1495	TermsOfUseList TermsOfUses optional,	1493	TermsOfUseList TermsOfUses optional,
1496	PrivateExtType PrivateExt optional	1494	PrivateExtType PrivateExt optional
1497	} with { // CR WK 35/08: variant extension for definitions of XML de	1495	} with { // CR WK 35/08: variant extension for definitions of XML de
1498	variant "namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bcast:sg:fragments	1496	variant "namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bcast:sg:fragments
1499	}	1497	}
1500		1498	
1501	type union InteractivityDataChoice {	1499	type union InteractivityDataChoice {
1502	IDRefTypeList ContentReferences,	1500	IDRefTypeList ContentReferences,
1503	ScheduleReferenceList ScheduleReferences,	1501	ScheduleReferenceList ScheduleReferences,
1504	InteractivityWindowList InteractivityWindows	1502	InteractivityWindowList InteractivityWindows
1505	}	1503	}
1506		1504	
1507	type record BackOffTimingType {	1505	type record BackOffTimingType {
1508	float offsetTime,	1506	float offsetTime,
1509	float randomTime	1507	float randomTime
1510	}	1508	}
1511		1509	
1512	type record InteractivityDeliveryType {	1510	type record InteractivityDeliveryType {
1513	AnyUri interactivityMediaURL optional,	1511	AnyUri interactivityMediaURL optional,
1514	boolean pushDelivery optional	1512	boolean pushDelivery optional
1515	}	1513	}
1516		1514	
1517	type record InteractivityWindowType {	1515	type record InteractivityWindowType {
1518	UInt startTime,	1516	UInt startTime,
1519	UInt endTime	1517	UInt endTime
1520	}	1518	}
1521		1519	
1522	type set length (1 .. infinity) of InteractivityWindowType InteractivityWindowList;	1520	type set length (1 .. infinity) of InteractivityWindowType InteractivityWindowList;
1523	}	1521	}
1524	} // end group xmlFragments	1522	} // end group xmlFragments
1525	} // end module LibBCast_ServiceGuide_TypesAndValues	1523	} // end module LibBCast_ServiceGuide_TypesAndValues

Datei: LibBCast_ServicePrimitives_TypesAndValues.ttcn

```

1  /**
2  *
3  * @author
4  *   ETSI CTI OMA BCAST CON Project
5  * @version
6  *   $Id$
7  * @desc
8  *   This module specifies message types and values that are used to
9  *   sconfigure the transport of BCAST messages. There are no requirements
10 *   regarding the encoding of these primitives.
11 * @remark
12 *   End users should be aware that any changes made to this file may
13 *   negatively affect the interworking of test suite code with the BCAST
14 *   SUT Adapter during test execution.
15 */
16 module LibBCast_ServicePrimitives_TypesAndValues {
17     import from LibBCast_FileStreamDistribution_TypesAndValues all;
18     import from LibBCast_ServiceGuide_TypesAndValues all;
19     import from LibCommon_BasicTypesAndValues all;
20     import from LibBCast_FileStreamDistribution_TypesAndValues all;
21     import from LibBCast_Common_TypesAndValues all;
22     import from LibCommon_TextStrings all;
23     // change 3 (WK34): Service Protection: secure streaming service
24     import from LibCommon_DataStrings all;
25
26     /**
27     *
28     * @desc
29     *   This group specifies information to be forwarded from TTCN-3 to
30     *   the FLUTE application
31     */
32     group fluteConfigPrimitives {
33
34         /**
35         *
36         * @desc
37         *   Send to the SA to request the start of a flute session
38         * @member
39         *   fluteSessionId The flute session identifier
40         * @member
41         *   FDT_Instance The used FDT
42         * @member
43         *   fluteSessionPayload Includes a SGDU or SGDD
44         */
45         type record StartFluteSessionRequest {
46             UInt FluteSessionId,
47             charstring FluteSessionIp, // change 22 (WK 6): further struct
48             IPAddressType FluteSessionIpType, // change 22 (WK 6): further struct
49             UInt16 FluteSessionPort, // change 22 (WK 6): further struct
50             UInt32 FluteUpdateID, // CR (WK 34/2008): Flute Update S
51             FDT_InstanceType FDT_Instance,
52             FluteSessionPayloadType FluteSessionPayload
53         }
54
55         type union FluteSessionPayloadType {
56             LibBCast_ServicePrimitives_TypesAndValues.ServiceGuideDeliveryUnitList ServiceGuide
57             ServiceGuideDeliveryDescriptorList ServiceGuideDeliveryDescriptors,
58             DvvhEsgDescriptor ESGDescriptor // change 13 (WK 6): send DVB-H bootstr
59         }
60
61         type set of InteractivityMediaDocumentType InteractivityMediaDocumentList;
62
63         type set of ServiceGuideDeliveryUnit ServiceGuideDeliveryUnitList;
64
65         //type set length(1 .. infinity) of ServiceGuideDeliveryDescriptor ServiceGuideDeliveryDesc
66
67         type record FDT_InstanceType {
68             FileList Files,
69             MBMS_Session_Identity_Expiry_List MBMS_Session_Identity_Expirys optional,
70             charstring Expires,
71

```

```

1  /**
2  *
3  * @author
4  *   ETSI CTI OMA BCAST CON Project
5  * @version
6  *   $Id$
7  * @desc
8  *   This module specifies message types and values that are used to
9  *   sconfigure the transport of BCAST messages. There are no requirements
10 *   regarding the encoding of these primitives.
11 * @remark
12 *   End users should be aware that any changes made to this file may
13 *   negatively affect the interworking of test suite code with the BCast
14 *   SUT Adapter during test execution.
15 */
16 module LibBCast_ServicePrimitives_TypesAndValues {
17     import from LibBCast_FileStreamDistribution_TypesAndValues all;
18     import from LibBCast_ServiceGuide_TypesAndValues all;
19     import from LibCommon_BasicTypesAndValues all;
20     import from LibBCast_FileStreamDistribution_TypesAndValues all;
21     import from LibBCast_Common_TypesAndValues all;
22     import from LibCommon_TextStrings all;
23     // change 3 (WK34): Service Protection: secure streaming service
24     import from LibCommon_DataStrings all;
25
26     /**
27     *
28     * @desc
29     *   This group specifies information to be forwarded from TTCN-3 to
30     *   the FLUTE application
31     */
32     group fluteConfigPrimitives {
33
34         /**
35         *
36         * @desc
37         *   Send to the SA to request the start of a flute session
38         * @member
39         *   fluteSessionId The flute session identifier
40         * @member
41         *   FDT_Instance The used FDT
42         * @member
43         *   fluteSessionPayload Includes a SGDU or SGDD
44         */
45         type record StartFluteSessionRequest {
46             UInt FluteSessionId,
47             charstring FluteSessionIp, // change 22 (WK 6): further struct
48             IPAddressType FluteSessionIpType, // change 22 (WK 6): further struct
49             UInt16 FluteSessionPort, // change 22 (WK 6): further struct
50             UInt32 FluteUpdateID, // CR (WK 34/2008): Flute Update S
51             FDT_InstanceType FDT_Instance,
52             FluteSessionPayloadType FluteSessionPayload
53         }
54
55         type union FluteSessionPayloadType {
56             LibBCast_ServicePrimitives_TypesAndValues.ServiceGuideDeliveryUnitList ServiceGuide
57             ServiceGuideDeliveryDescriptorList ServiceGuideDeliveryDescriptors,
58             DvvhEsgDescriptor ESGDescriptor // change 13 (WK 6): send DVB-H bootstr
59         }
60
61         type set of InteractivityMediaDocumentType InteractivityMediaDocumentList;
62
63         type set of ServiceGuideDeliveryUnit ServiceGuideDeliveryUnitList;
64
65         //type set length(1 .. infinity) of ServiceGuideDeliveryDescriptor ServiceGuideDeliveryDesc
66
67
68         type record FDT_InstanceType {
69             FileList Files,
70             MBMS_Session_Identity_Expiry_List MBMS_Session_Identity_Expirys optional,
71             charstring Expires,

```

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(Fortsetzung)

72	boolean Complete optional,	72	boolean Complete optional,
73	charstring Content_Type optional,	73	charstring Content_Type optional,
74	charstring Content_Encoding optional,	74	charstring Content_Encoding optional,
75	UInt8 FEC_OTI_FEC_Encoding_ID optional,	75	UInt8 FEC_OTI_FEC_Encoding_ID optional,
76	UInt32 FEC_OTI_FEC_Instance_ID optional,	76	UInt32 FEC_OTI_FEC_Instance_ID optional,
77	UInt32 FEC_OTI_Maximum_Source_Block_Length optional,	77	UInt32 FEC_OTI_Maximum_Source_Block_Length optional,
78	UInt32 FEC_OTI_Encoding_Symbol_Length optional,	78	UInt32 FEC_OTI_Encoding_Symbol_Length optional,
79	UInt32 FEC_OTI_Max_Number_of_Encoding_Symbols optional,	79	UInt32 FEC_OTI_Max_Number_of_Encoding_Symbols optional,
80	charstring FEC_OTI_Scheme_Specific_Info optional,	80	charstring FEC_OTI_Scheme_Specific_Info optional,
81	boolean FullFDT optional,	81	boolean FullFDT optional,
82	UInt32 Version_ID_Length optional	82	UInt32 Version_ID_Length optional
83	} with { // change 25 (WK 6): variant extension for definitions of XML namespaces	83	} with { // change 25 (WK 6): variant extension for definitions of XML namespaces
84	variant "replace '_' with '-' && namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bc	84	variant "replace '_' with '-' && namespacedef nsprefix = '' nsuri = 'urn:oma:xml:bc
85	}	85	}
86		86	
87		87	
88	type set length (1 .. infinity) of FileType FileList;	88	type set length (1 .. infinity) of FileType FileList;
89		89	
90	type record FileType {	90	type record FileType {
91	MBMS_Session_Identity_List MBMS_Session_Identity optional,	91	MBMS_Session_Identity_List MBMS_Session_Identity optional,
92	AnyUri Content_Location,	92	AnyUri Content_Location,
93	UInt TOI,	93	UInt TOI,
94	UInt32 Content_Length optional,	94	UInt32 Content_Length optional,
95	UInt32 Transfer_Length optional,	95	UInt32 Transfer_Length optional,
96	charstring Content_Type optional,	96	charstring Content_Type optional,
97	charstring Content_Encoding optional,	97	charstring Content_Encoding optional,
98	charstring Content_MD5 optional,	98	charstring Content_MD5 optional,
99	UInt8 FEC_OTI_FEC_Encoding_ID optional,	99	UInt8 FEC_OTI_FEC_Encoding_ID optional,
100	UInt32 FEC_OTI_FEC_Instance_ID optional,	100	UInt32 FEC_OTI_FEC_Instance_ID optional,
101	UInt32 FEC_OTI_Maximum_Source_Block_Length optional,	101	UInt32 FEC_OTI_Maximum_Source_Block_Length optional,
102	UInt32 FEC_OTI_Encoding_Symbol_Length optional,	102	UInt32 FEC_OTI_Encoding_Symbol_Length optional,
103	UInt32 FEC_OTI_Max_Number_of_Encoding_Symbols optional,	103	UInt32 FEC_OTI_Max_Number_of_Encoding_Symbols optional,
104	charstring FEC_OTI_Scheme_Specific_Info optional,	104	charstring FEC_OTI_Scheme_Specific_Info optional,
105	UInt32 Version_ID_Length optional	105	UInt32 Version_ID_Length optional
106	} with {variant "replace '_' with '-'" }	106	} with {variant "replace '_' with '-'" }
107		107	
108	type set length (1 .. infinity) of MBMS_Session_Identity_Expiry_Type MBMS_Session_Identity	108	type set length (1 .. infinity) of MBMS_Session_Identity_Expiry_Type MBMS_Session_Identity
109		109	
110	type set length (1 .. infinity) of MBMS_Session_Identity_Type MBMS_Session_Identity_List;	110	type set length (1 .. infinity) of MBMS_Session_Identity_Type MBMS_Session_Identity_List;
111		111	
112	type record MBMS_Session_Identity_Expiry_Type {	112	type record MBMS_Session_Identity_Expiry_Type {
113	UInt8 text_	113	UInt8 text_
114	UInt32 value_	114	UInt32 value_
115	}	115	}
116		116	
117	type record MBMS_Session_Identity_Type {	117	type record MBMS_Session_Identity_Type {
118	UInt8 text_	118	UInt8 text_
119	}	119	}
120		120	
121	/**	121	/**
122	*	122	*
123	* @desc	123	* @desc
124	* Send by the SA to indicate that a start flute session request	124	* Send by the SA to indicate that a start flute session request
125	* could be send.	125	* could be send.
126	* @member	126	* @member
127	* returnCode 0 - success 1+ - error code	127	* returnCode 0 - success 1+ - error code
128	* @member	128	* @member
129	* reason should be set if return code > 0	129	* reason should be set if return code > 0
130	*/	130	*/
131	type record StartFluteSessionResponse {	131	type record StartFluteSessionResponse {
132	UInt returnCode,	132	UInt returnCode,
133	charstring reason optional	133	charstring reason optional
134	}	134	}
135	} with {	135	} with {
136	encode "FLUTECodec"	136	encode "FLUTECodec"
137	} // End fluteConfigPrimitives	137	} // End fluteConfigPrimitives
138		138	
139	/**	139	/**
140	*	140	*
141	* @desc	141	* @desc

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(Fortsetzung)

```
142      *   These primitives extract information from or provide it to the
143      *   upper interface of a HTTP stack
144      */
145      group httpConfigPrimitives {
146
147          /**
148           *
149           * @desc
150           *   The http request which is send by the end user to subscribe
151           *   to a service.
152           * @member
153           *   connectionId Contains a unique identifier for the (TCP)
154           *   connection on which the POST was received
155           * @member
156           *   serviceName Contains the name of the service which the end
157           *   user want to subscribe.
158           */
159          type record HttpSubscriptionRequestIndication {
160              UInt connectionId,
161              charstring serviceName
162          }
163
164          // change 26 (WK18): (additional to 17) clearing of HTTP request/responses for Interaction
165          /**
166           * Note: Modifications to types still likely to cover HTTP use in
167           * service provisioning
168           *
169           * @desc
170           *   Used for terminal requests on interactive channel
171           * @member
172           *   keyValuePairs Indicates more detailed SG requests
173           * @remark
174           *   if serviceGuideRequestType and keyValuePairs are both omitted
175           *   then default view to service guide shall be sent (see OMA SG
176           *   doc 5.4.3.2)
177           */
178          type record HttpPostIndication {
179              KeyValuePairList keyValuePairs optional
180          }
181
182          /**
183           *
184           * @desc
185           *   Used for terminal signalling of file repair or to request
186           *   fragments referenced in a SGDU
187           * @member
188           *   connectionId Contains a unique identifier for the (TCP)
189           *   connection on which the GET was received
190           * @member
191           *   messageUri The message URI
192           */
193          type record HttpGetIndication {
194              UInt connectionId,
195              AnyUri messageUri
196          }
197
198          type enumerated ServiceGuideRequestType {
199              e_sgdd,
200              e_sgdu,
201              e_sgdd_sgdu
202          }
203
204          type record length (0 .. infinity) of KeyValuePair KeyValuePairList;
205
206          type record KeyValuePair {
207              charstring key,
208              charstring valuePart optional
209          }
210
211          // change 26 (WK18): (additional to 17) clearing of HTTP request/responses for Interaction
```

```
142      *   These primitives extract information from or provide it to the
143      *   upper interface of a HTTP stack
144      */
145      group httpConfigPrimitives {
146
147          /**
148           *
149           * @desc
150           *   The http request which is send by the end user to subscribe
151           *   to a service.
152           * @member
153           *   connectionId Contains a unique identifier for the (TCP)
154           *   connection on which the POST was received
155           * @member
156           *   serviceName Contains the name of the service which the end
157           *   user want to subscribe.
158           */
159          type record HttpSubscriptionRequestIndication {
160              UInt connectionId,
161              charstring serviceName
162          }
163
164          // change 26 (WK18): (additional to 17) clearing of HTTP request/responses for Interaction
165          /**
166           * Note: Modifications to types still likely to cover HTTP use in
167           * service provisioning
168           *
169           * @desc
170           *   Used for terminal requests on interactive channel
171           * @member
172           *   keyValuePairs Indicates more detailed SG requests
173           * @remark
174           *   if serviceGuideRequestType and keyValuePairs are both omitted
175           *   then default view to service guide shall be sent (see OMA SG
176           *   doc 5.4.3.2)
177           */
178          type record HttpPostIndication {
179              KeyValuePairList keyValuePairs optional
180          }
181
182          /**
183           *
184           * @desc
185           *   Used for terminal signalling of file repair or to request
186           *   fragments referenced in a SGDU
187           * @member
188           *   connectionId Contains a unique identifier for the (TCP)
189           *   connection on which the GET was received
190           * @member
191           *   messageUri The message URI
192           */
193          type record HttpGetIndication {
194              UInt connectionId,
195              AnyUri messageUri
196          }
197
198          type enumerated ServiceGuideRequestType {
199              e_sgdd,
200              e_sgdu,
201              e_sgdd_sgdu
202          }
203
204          type record length (0 .. infinity) of KeyValuePair KeyValuePairList;
205
206          type record KeyValuePair {
207              charstring key,
208              charstring valuePart optional
209          }
210
211          // change 26 (WK18): (additional to 17) clearing of HTTP request/responses for Interaction
```

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(Fortsetzung)

212	/**	212	/**
213	* @desc	213	* @desc
214	* Used for terminal response on interactive channel	214	* Used for terminal response on interactive channel
215	* @member	215	* @member
216	* responseCode http status code to be used, e.g., 200 (OK)	216	* responseCode http status code to be used, e.g., 200 (OK)
217	* @member	217	* @member
218	* responseHeaders additional http header	218	* responseHeaders additional http header
219	* @member	219	* @member
220	* responsePayload This field shall only be set in case of	220	* responsePayload This field shall only be set in case of
221	* file repair responses; syntax is follows the one used in the	221	* file repair responses; syntax is follows the one used in the
222	* corresponding HTTP GET URI	222	* corresponding HTTP GET URI
223	*/	223	*/
224	type record HttpResponseRequest {	224	type record HttpResponseRequest {
225	UInt responseCode,	225	UInt responseCode,
226	ResponseHeaderList responseHeaders optional,	226	ResponseHeaderList responseHeaders optional,
227	ResponsePayload responsePayload optional	227	ResponsePayload responsePayload optional
228	}	228	}
229		229	
230	// change 26 (WK18): (additional to 17) clearing of HTTP request/responses for Interaction	230	// change 26 (WK18): (additional to 17) clearing of HTTP request/responses for Interaction
231	type record length (0 .. infinity) of ResponseHeader ResponseHeaderList;	231	type record length (0 .. infinity) of ResponseHeader ResponseHeaderList;
232		232	
233	// change 26 (WK18): (additional to 17) clearing of HTTP request/responses for Interaction	233	// change 26 (WK18): (additional to 17) clearing of HTTP request/responses for Interaction
234	type record ResponseHeader {	234	type record ResponseHeader {
235	charstring name,	235	charstring name,
236	charstring valuePart optional	236	charstring valuePart optional
237	}	237	}
238		238	
239	type union ResponsePayload {	239	type union ResponsePayload {
240	ServiceGuidePayload serviceGuidePayload,	240	ServiceGuidePayload serviceGuidePayload,
241	charstring text	241	charstring text
242	}	242	}
243		243	
244	type record ServiceGuidePayload {	244	type record ServiceGuidePayload {
245	ServiceGuideResponse serviceGuideResponse,	245	ServiceGuideResponse serviceGuideResponse,
246	ServiceGuideDeliveryUnit serviceGuideDeliveryUnit optional	246	ServiceGuideDeliveryUnit serviceGuideDeliveryUnit optional
247	}	247	}
248		248	
249	/**	249	/**
250	*	250	*
251	* @desc	251	* @desc
252	* Send by the SA to indicate that a http response could be send	252	* Send by the SA to indicate that a http response could be send
253	* or not	253	* or not
254	* @member	254	* @member
255	* returnCode 0 - success 1+ - error code	255	* returnCode 0 - success 1+ - error code
256	* @member	256	* @member
257	* reason should be set if return code > 0	257	* reason should be set if return code > 0
258	*/	258	*/
259	type record HttpResponseResponse {	259	type record HttpResponseResponse {
260	UInt returnCode,	260	UInt returnCode,
261	charstring reason optional	261	charstring reason optional
262	}	262	}
263	} with {	263	} with {
264	encode "HTTPCodec" // change 26 (WK18): (additional to 17) clearing of HTTP request/respons	264	encode "HTTPCodec" // change 26 (WK18): (additional to 17) clearing of HTTP request/respons
265	} // end httpConfigPrimitives	265	} // end httpConfigPrimitives
266		266	
267		267	
268	group smsConfigPrimitives {	268	group smsConfigPrimitives {
269	/**	269	/**
270	*	270	*
271	* @desc	271	* @desc
272	* Send by the SA to indicate that a sms was received.	272	* Send by the SA to indicate that a sms was received.
273	* @member	273	* @member
274	* messageBody The message body of the sms	274	* messageBody The message body of the sms
275	*/	275	*/
276	type record SmsGetIndication {	276	type record SmsGetIndication {
277	charstring messageBody // should be further structured	277	charstring messageBody // should be further structured
278	}	278	}
279	} with {	+-	
280	encode "SMS-Codec" // change 2 (WK43/08): codec name for SMS/MMS types		
281	} // end smsConfigPrimitives	=	279 } // end smsConfigPrimitives

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(Fortsetzung)

282			280	
283			281	
284	group mmsConfigPrimitives {		282	group mmsConfigPrimitives {
285	/**		283	/**
286	*		284	*
287	* @desc		285	* @desc
288	* Send by the SA to indicate that a mms was received.		286	* Send by the SA to indicate that a mms was received.
289	* @member		287	* @member
290	* messageBody The message body of the mms		288	* messageBody The message body of the mms
291	*/		289	*/
292	type record MmsGetIndication {		290	type record MmsGetIndication {
293	charstring messageBody // should be further structured		291	charstring messageBody // should be further structured
294	}		292	}
295	} with {	+-		
296	encode "MMS-Codec" // change 2 (WK43/08): codec name for SMS/MMS types			
297	} // end mmsConfigPrimitives	=	293	} // end mmsConfigPrimitives
298		+-		
299				
300	/**	=	294	/**
301	*		295	*
302	* @desc This group specifies information to be forwarded from TTCN-3 to the streaming server		296	* @desc This group specifies information to be forwarded from TTCN-3 to the streaming server
303	*/		297	*/
304	group streamingServerPrimitives {		298	group streamingServerPrimitives {
305	/**		299	/**
306	*		300	*
307	* @desc		301	* @desc
308	* Sends start streaming request to a streaming server		302	* Sends start streaming request to a streaming server
309	* @member		303	* @member
310	* streamId The stream identifier		304	* streamId The stream identifier
311	* @member		305	* @member
312	* fileName The file name reference to a file which should be		306	* fileName The file name reference to a file which should be
313	* streamed.		307	* streamed.
314	* @member		308	* @member
315	* sdp Includes IP information, codecs, rates, unicast vs		309	* sdp Includes IP information, codecs, rates, unicast vs
316	* broadcast, etc		310	* broadcast, etc
317	* @member		311	* @member
318	* contentProtection For future use		312	* contentProtection For future use
319	* @member		313	* @member
320	* serviceProtection For future use		314	* serviceProtection For future use
321	*/		315	*/
322	type record StartStreamingRequest {		316	type record StartStreamingRequest {
323	UInt streamId,		317	UInt streamId,
324	charstring fileName,		318	charstring fileName,
325	Sdp sdp,		319	Sdp sdp,
326	charstring destinationIpAddress, // change 14 (WK18): dynamic setting of destination		320	charstring destinationIpAddress, // change 14 (WK18): dynamic setting of destination
327	ContentProtection contentProtection optional, // for future use		321	ContentProtection contentProtection optional, // for future use
328	ServiceProtection serviceProtection optional // for future use		322	ServiceProtection serviceProtection optional // for future use
329	};		323	};
330			324	
331	type charstring ContentProtection;		325	type charstring ContentProtection;
332	type charstring ServiceProtection;		326	type charstring ServiceProtection;
333			327	
334	/**		328	/**
335	*		329	*
336	* @desc		330	* @desc
337	* Send by the SA to indicate that a start streaming request		331	* Send by the SA to indicate that a start streaming request
338	* could be send.		332	* could be send.
339	* @member		333	* @member
340	* returnCode 0 - success 1+ - error code		334	* returnCode 0 - success 1+ - error code
341	* @member		335	* @member
342	* reason should be set if return code > 0		336	* reason should be set if return code > 0
343	*/		337	*/
344	type record StartStreamingResponse {		338	type record StartStreamingResponse {
345	UInt returnCode,		339	UInt returnCode,
346	charstring reason optional		340	charstring reason optional
347	}		341	}
348			342	
349	/**		343	/**
350	*		344	*
351	* @desc		345	* @desc

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```
352      *      Send to a streaming server to stop streaming.
353      * @member
354      *      streamId The stream identifier
355      */
356      type record StopStreamingRequest {
357          UInt streamId
358      };
359
360      /**
361      *
362      * @desc
363      *      Send by the SA to indicate that a stop streaming request
364      *      could be send.
365      * @member
366      *      returnCode 0 - success 1+ - error code
367      * @member
368      *      reason should be set if return code > 0
369      */
370      type record StopStreamingResponse {
371          UInt returnCode,
372          charstring reason optional
373      }
374      // change 3 (WK34): Service Protection: secure streaming service
375      group secureStreamingPrimitives {
376          type record UpdateKeyRequest {
377              ListOfSTKMKeys keys
378          }
379
380          type record of SecureStreamingKey ListOfSTKMKeys;
381
382          type record SecureStreamingKey {
383              octetstring masterKey,
384              octetstring saltKey optional
385          }
386
387          type record UpdateKeyResponse {
388              UInt returnCode,
389              charstring reason optional
390          }
391
392          type record ActivateKeyRequest {
393              integer keyListNumber,
394              SecureStreamingKey activeKey optional
395          }
396
397          type record ActivateKeyResponse {
398              UInt returnCode,
399              charstring reason optional
400          }
401
402          type record StartSecureStreamingRequest {
403              charstring destinationIPAddress,
404              Oct4 ssrc
405          }
406
407          type record StartSecureStreamingResponse {
408              UInt returnCode,
409              charstring reason optional
410          }
411
412          type record StopSecureStreamingRequest {
413          }
414
415          type record StopSecureStreamingResponse {
416              UInt returnCode,
417              charstring reason optional
418          }
419      }
420      } with {      // change 26 (WK 6): support of new codec
421      encode "StreamingServerCodec"
```

```
346      *      Send to a streaming server to stop streaming.
347      * @member
348      *      streamId The stream identifier
349      */
350      type record StopStreamingRequest {
351          UInt streamId
352      };
353
354      /**
355      *
356      * @desc
357      *      Send by the SA to indicate that a stop streaming request
358      *      could be send.
359      * @member
360      *      returnCode 0 - success 1+ - error code
361      * @member
362      *      reason should be set if return code > 0
363      */
364      type record StopStreamingResponse {
365          UInt returnCode,
366          charstring reason optional
367      }
368      // change 3 (WK34): Service Protection: secure streaming service
369      group secureStreamingPrimitives {
370          type record UpdateKeyRequest {
371              ListOfSTKMKeys keys
372          }
373
374          type record of SecureStreamingKey ListOfSTKMKeys;
375
376          type record SecureStreamingKey {
377              octetstring masterKey,
378              octetstring saltKey optional
379          }
380
381          type record UpdateKeyResponse {
382              UInt returnCode,
383              charstring reason optional
384          }
385
386          type record ActivateKeyRequest {
387              integer keyListNumber,
388              SecureStreamingKey activeKey optional
389          }
390
391          type record ActivateKeyResponse {
392              UInt returnCode,
393              charstring reason optional
394          }
395
396          type record StartSecureStreamingRequest {
397              charstring destinationIPAddress,
398              Oct4 ssrc
399          }
400
401          type record StartSecureStreamingResponse {
402              UInt returnCode,
403              charstring reason optional
404          }
405
406          type record StopSecureStreamingRequest {
407          }
408
409          type record StopSecureStreamingResponse {
410              UInt returnCode,
411              charstring reason optional
412          }
413      }
414      } with {      // change 26 (WK 6): support of new codec
415      encode "StreamingServerCodec"
```

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422	} // end streamServerPrimitives	416	} // end streamServerPrimitives
423		417	
424	group fileServerPrimitives {	418	group fileServerPrimitives {
425	/**	419	/**
426	*	420	*
427	* @desc	421	* @desc
428	* The message wich triggers the file server to transfer files.	422	* The message wich triggers the file server to transfer files.
429	* @member	423	* @member
430	* transferId The id of the transfer	424	* transferId The id of the transfer
431	* @member	425	* @member
432	* fileList The list of file which should be transfered by the	426	* fileList The list of file which should be transfered by the
433	* file server	427	* file server
434	* @member	428	* @member
435	* sdp Includes IP information, codecs, rates, unicast vs	429	* sdp Includes IP information, codecs, rates, unicast vs
436	* broadcast, etc	430	* broadcast, etc
437	* @member	431	* @member
438	* contentProtection for futher use	432	* contentProtection for futher use
439	* @member	433	* @member
440	* serviceProtection for futher use	434	* serviceProtection for futher use
441	*/	435	*/
442	type record StartFileTransferRequest {	436	type record StartFileTransferRequest {
443	UInt transferId,	437	UInt transferId,
444	charstring FluteSessionIp, // change 20 (WK18): (additional to 11) further	438	charstring FluteSessionIp, // change 20 (WK18): (additional to 11) further
445	IPAddressType FluteSessionIpType, // change 20 (WK18): (additional to 11) further	439	IPAddressType FluteSessionIpType, // change 20 (WK18): (additional to 11) further
446	UInt16 FluteSessionPort, // change 20 (WK18): (additional to 11) further	440	UInt16 FluteSessionPort, // change 20 (WK18): (additional to 11) further
447	UInt32 FluteUpdateID, // CR (WK 34/2008): Flute Update Signalling	441	UInt32 FluteUpdateID, // CR (WK 34/2008): Flute Update Signalling
448	FDT_InstanceType FDT_Instance, // change 20 (WK18): (additional to 11) further	442	FDT_InstanceType FDT_Instance, // change 20 (WK18): (additional to 11) further
449	TransferFileList fileList,	443	TransferFileList fileList,
450	Sdp sdp,	444	Sdp sdp,
451	ContentProtection contentProtection optional,	445	ContentProtection contentProtection optional,
452	ServiceProtection serviceProtection optional // for future use	446	ServiceProtection serviceProtection optional // for future use
453	};	447	};
454		448	
455	// change 20 (WK18): (additional to 11) further structured TTCN-3 types	449	// change 20 (WK18): (additional to 11) further structured TTCN-3 types
456	/**	450	/**
457	*	451	*
458	* @desc	452	* @desc
459	* A list of Transfer files used by the file server	453	* A list of Transfer files used by the file server
460	*/	454	*/
461	type set of TransferFileWithHeaders TransferFileList;	455	type set of TransferFileWithHeaders TransferFileList;
462		456	
463	// change 20 (WK18): (additional to 11) further structured TTCN-3 types	457	// change 20 (WK18): (additional to 11) further structured TTCN-3 types
464	type record TransferFileWithHeaders {	458	type record TransferFileWithHeaders {
465	AnyUri Content_Location,	459	AnyUri Content_Location,
466	charstring Content_Type optional,	460	charstring Content_Type optional,
467	charstring Content_Encoding optional,	461	charstring Content_Encoding optional,
468	TransferFile file optional // if omit use the content-location as file reference	462	TransferFile file optional // if omit use the content-location as file reference
469	}	463	}
470		464	
471	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2	465	// change 4 (WK18): according to OMA-TS-BCAST_Services 5.3.6.2
472	/**	466	/**
473	*	467	*
474	* @desc	468	* @desc
475	* This type represents a Transfer file. A transfer file could	469	* This type represents a Transfer file. A transfer file could
476	* be a zip file or an interactivity media	470	* be a zip file or an interactivity media
477	* document.	471	* document.
478	* @member	472	* @member
479	* zipFile	473	* zipFile
480	* @member	474	* @member
481	* interactivityMediaDocument	475	* interactivityMediaDocument
482	*/	476	*/
483	type union TransferFile {	477	type union TransferFile {
484	ZipFile zipFile,	478	ZipFile zipFile,
485	InteractivityMediaDocumentType InteractivityMediaDocument	479	InteractivityMediaDocumentType InteractivityMediaDocument
486	}	480	}
487		481	
488	/**	482	/**
489	*	483	*
490	* @desc	484	* @desc
491	* This type represents a file reference.	485	* This type represents a file reference.

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```
492      */
493      type charstring FileReference;
494
495      /**
496       *
497       * @desc
498       *   This type is a list of file references.
499       */
500      type set of FileReference FileReferenceList;
501
502      /**
503       *
504       * @desc
505       *   This type represents a zip file. It includes all imformation
506       *   for building the zip file at the test adaption.
507       * @member
508       *   name The name of the zip file
509       * @member
510       *   fileList The list of file references which should be included
511       *   inside the zip file
512       */
513      type record ZipFile {
514          charstring name,
515          FileReferenceList fileList
516      }
517
518      /**
519       *
520       * @desc
521       *   This response will be send by the file server to indicate the
522       *   status of the file transfer start.
523       * @member
524       *   returnCode 0 - success, 1+ - error code
525       * @member
526       *   reason should be set if return code > 0
527       */
528      type record StartFileTransferResponse {
529          UInt returnCode,
530          charstring reason optional
531      }
532
533      /**
534       *
535       * @desc
536       *   Send to a file server to stop streaming.
537       * @member
538       *   transferId The stream identifier
539       */
540      type record StopFileTransferRequest {
541          UInt transferId
542      };
543
544      /**
545       *
546       * @desc
547       *   Send by the SA to indicate that a stop fiel transfer request
548       *   could be send.
549       * @member
550       *   returnCode 0 - success 1+ - error code
551       * @member
552       *   reason should be set if return code > 0
553       */
554      type record StopFileTransferResponse {
555          UInt returnCode,
556          charstring reason optional
557      }
558
559      } with {
560          encode "FileTransferCodec" // change 27 (WK18): support of new codec
561      } // end fileServerPrimitives
```

```
486      */
487      type charstring FileReference;
488
489      /**
490       *
491       * @desc
492       *   This type is a list of file references.
493       */
494      type set of FileReference FileReferenceList;
495
496      /**
497       *
498       * @desc
499       *   This type represents a zip file. It includes all imformation
500       *   for building the zip file at the test adaption.
501       * @member
502       *   name The name of the zip file
503       * @member
504       *   fileList The list of file references which should be included
505       *   inside the zip file
506       */
507      type record ZipFile {
508          charstring name,
509          FileReferenceList fileList
510      }
511
512      /**
513       *
514       * @desc
515       *   This response will be send by the file server to indicate the
516       *   status of the file transfer start.
517       * @member
518       *   returnCode 0 - success, 1+ - error code
519       * @member
520       *   reason should be set if return code > 0
521       */
522      type record StartFileTransferResponse {
523          UInt returnCode,
524          charstring reason optional
525      }
526
527      /**
528       *
529       * @desc
530       *   Send to a file server to stop streaming.
531       * @member
532       *   transferId The stream identifier
533       */
534      type record StopFileTransferRequest {
535          UInt transferId
536      };
537
538      /**
539       *
540       * @desc
541       *   Send by the SA to indicate that a stop fiel transfer request
542       *   could be send.
543       * @member
544       *   returnCode 0 - success 1+ - error code
545       * @member
546       *   reason should be set if return code > 0
547       */
548      type record StopFileTransferResponse {
549          UInt returnCode,
550          charstring reason optional
551      }
552
553      } with {
554          encode "FileTransferCodec" // change 27 (WK18): support of new codec
555      } // end fileServerPrimitives
```


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562	}	// end module AtsBCast_ConfigPrimitives_TypesAndValues			556	}	// end module AtsBCast_ConfigPrimitives_TypesAndValues
-----	---	--	--	--	-----	---	--