

ISO/FDIS 13209-4:2024(E)

ISO/TC 22/SC 31/AWG 5

Secretariat: DIN

Date: 2024-07-10

Road vehicles — Open Test sequence eXchange format (OTX) —

Part 4: Expanded extensions interface definition

Véhicules routiers — Format ~~public~~public d'échange de séquence-tests (OTX) —

Partie 4: Définition de l'interface des extensions étendues

ISO/FDIS 13209-4
<https://standards.iteh.ai/standards/iso/eead0d3e-8160-42d4-a98d-4c2da6956859/iso-fdis-13209-4>
FDIS stage

ISO/FDIS 13209-4:2024(~~En~~)

© ISO ~~2023~~2024

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: + 41 22 749 01 11
~~Email~~E-mail: copyright@iso.org
Website: www.iso.org~~www.iso.org~~

Published in Switzerland

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ISO/FDIS 13209-4

<https://standards.iteh.ai/catalog/standards/iso/eead0d3e-8f60-42d4-a98d-2e2da6956859/iso-fdis-13209-4>

Contents—Page

Foreword.....	xv
Introduction	xvii
Part 4: Expanded extensions interface definition.....	1
1 Scope.....	1
2 Normative references	1
3 Terms, definitions and abbreviated terms.....	1
3.1 Terms and definitions.....	1
3.2 Abbreviated terms	2
4 Requirements	2
4.1 Basic principles for requirements definition.....	2
4.2 Requirement listing.....	2
4.2.1 Assertion requirements	2
4.2.2 BlackBox requirements.....	2
4.2.3 BusMonitoring requirements.....	3
4.2.4 ComInterface requirements.....	3
4.2.5 CommonDialogs requirements	3
4.2.6 DataType requirements	4
4.2.7 DiagComPlus requirements	4
4.2.8 DiagConfiguration requirements	5
4.2.9 DiagDataBrowsingPlus requirements	5
4.2.10 ECUConfiguration requirements	7
4.2.11 EcuStateChart requirements	7
4.2.12 EventPlus requirements.....	7
4.2.13 ExternalServiceProvider requirements.....	7
4.2.14 File requirements.....	8
4.2.15 FlashPlus requirements	8
4.2.16 Persistence requirements	8
4.2.17 Range requirements	9
4.2.18 SQL requirements.....	9
4.2.19 StateMachineProcedure requirements	9
4.2.20 StateVariable requirements.....	10
4.2.21 TestResultHandling requirements	10
4.2.22 Util requirements.....	11
4.2.23 VehicleInfo requirements.....	11
4.2.24 XML requirements.....	12
4.2.25 ZipHandling requirements	13
5 Extension overview.....	14
5.1 General.....	14
5.2 Dependencies	16
5.3 OTX packaging (PTX)	23
6 OTX Assertion extension.....	24
6.1 Assertion – General.....	24
6.2 Assertion – Exceptions.....	24
6.2.1 Exceptions overview.....	24

6.2.2	Exceptions syntax.....	24
6.2.3	Exceptions semantics.....	25
6.3	Assertion – Actions.....	25
6.3.1	Actions overview.....	25
6.3.2	Actions syntax.....	25
6.3.3	Actions general semantics.....	27
7	OTX BlackBox extension.....	27
7.1	BlackBox – General.....	27
7.2	BlackBox – Datatypes.....	28
7.2.1	Datatypes overview.....	28
7.2.2	Datatypes syntax.....	28
7.2.3	Datatypes semantics.....	29
7.3	BlackBox – Variable access.....	30
7.3.1	Variable access overview.....	30
7.3.2	Variable access syntax.....	30
7.3.3	Variable access semantics.....	31
7.4	BlackBox – Terms.....	31
7.4.1	Terms overview.....	31
7.4.2	Terms syntax.....	31
7.4.3	Terms general semantics.....	33
8	OTX BusMonitoring extension.....	33
8.1	BusMonitoring – General.....	33
8.2	BusMonitoring – Datatypes.....	34
8.2.1	Datatypes overview.....	34
8.2.2	Datatypes syntax.....	34
8.2.3	Datatypes semantics.....	35
8.3	BusMonitoring – Enumerations.....	36
8.3.1	Enumerations syntax.....	36
8.3.2	Enumerations semantics.....	37
8.4	BusMonitoring – Exceptions.....	37
8.4.1	Exceptions overview.....	37
8.4.2	Exceptions syntax.....	37
8.4.3	Exceptions semantics.....	39
8.5	BusMonitoring – Variable access.....	39
8.5.1	Variable access overview.....	39
8.5.2	Variable access syntax.....	39
8.5.3	Variable access semantics.....	40
8.6	BusMonitoring – Actions.....	41
8.6.1	Actions overview.....	41
8.6.2	Actions syntax.....	41
8.6.3	Actions general semantics.....	43
8.7	BusMonitoring – Terms.....	44
8.7.1	Terms overview.....	44
8.7.2	Terms syntax.....	44
8.7.3	Terms general semantics.....	46
9	OTX ComInterface extension.....	53
9.1	ComInterface – General.....	53
9.2	ComInterface – Datatypes.....	53
9.2.1	Datatypes overview.....	53

9.2.2	Datatypes syntax.....	53
9.2.3	Datatypes semantics.....	55
9.3	ComInterface – Enumerations.....	55
9.3.1	Enumerations syntax.....	55
9.3.2	Enumerations semantics.....	55
9.4	ComInterface – Exceptions.....	56
9.4.1	Exceptions overview.....	56
9.4.2	Exceptions syntax.....	56
9.4.3	Exceptions semantics.....	58
9.5	ComInterface – Variable access.....	58
9.5.1	Variable access overview.....	58
9.5.2	Variable access syntax.....	59
9.5.3	Variable access semantics.....	59
9.6	ComInterface – Actions.....	60
9.6.1	Actions overview.....	60
9.6.2	Actions syntax.....	60
9.6.3	Actions general semantics.....	63
9.7	ComInterface – Terms.....	66
9.7.1	Terms overview.....	66
9.7.2	Terms syntax.....	66
9.7.3	Semantics for ComInterface terms.....	68
9.7.4	Semantics for Enumeration terms.....	79
9.7.5	Terms general semantics.....	80
10	OTX CommonDialogs extension.....	81
10.1	CommonDialogs – General.....	81
10.2	CommonDialogs – Exceptions.....	81
10.2.1	Exceptions overview.....	81
10.2.2	Exceptions syntax.....	81
10.2.3	Exceptions semantics.....	82
10.3	CommonDialogs – Actions.....	82
10.3.1	Actions overview.....	82
10.3.2	Actions syntax.....	83
10.3.3	Actions general semantics.....	85
11	OTX DataType extension.....	88
11.1	DataType – General.....	88
11.2	DataType – Datatypes.....	88
11.2.1	Datatypes overview.....	88
11.2.2	Datatypes syntax.....	89
11.2.3	Datatypes semantics.....	91
11.3	DataType – Exceptions.....	95
11.3.1	Exceptions overview.....	95
11.3.2	Exceptions syntax.....	95
11.3.3	Exceptions semantics.....	96
11.4	DataType – Variable access.....	97
11.4.1	Variable access overview.....	97
11.4.2	Variable access syntax.....	97
11.4.3	Variable access semantics.....	99
11.5	DataType – Declaration and arguments.....	99

11.5.1 Declaration and arguments syntax.....	99
11.5.2 Declaration and arguments semantics.....	101
11.6 DataType – Signatures.....	101
11.6.1 Signatures overview.....	101
11.6.2 Signatures syntax.....	101
11.6.3 Semantics for Enumerations.....	103
11.6.4 Semantics for Structures.....	104
11.7 DataType – Terms.....	105
11.7.1 Terms overview.....	105
11.7.2 Semantics for Enumeration terms.....	105
11.7.3 Semantics for ResourceLocation terms.....	111
11.7.4 Semantics for Structure terms.....	116
12 OTX DiagComPlus extension.....	122
12.1 DiagComPlus – General.....	122
12.2 DiagComPlus – Datatypes.....	122
12.2.1 Datatypes overview.....	122
12.2.2 Datatypes syntax.....	122
12.2.3 Datatypes semantics.....	123
12.3 DiagComPlus – Enumerations.....	124
12.3.1 Enumerations syntax.....	124
12.3.2 Enumerations semantics.....	125
12.4 DiagComPlus – Exceptions.....	126
12.4.1 Exceptions overview.....	126
12.4.2 Exceptions syntax.....	126
12.4.3 Exceptions semantics.....	127
12.5 DiagComPlus – Variable access.....	127
12.5.1 Variable access overview.....	127
12.5.2 Variable access syntax.....	127
12.5.3 Variable access semantics.....	128
12.6 DiagComPlus – Actions.....	128
12.6.1 Actions overview.....	128
12.6.2 Actions syntax.....	128
12.6.3 Actions general semantics.....	130
12.7 DiagComPlus – Terms.....	134
12.7.1 Terms overview.....	134
12.7.2 Terms syntax.....	134
12.7.3 Terms general semantics.....	137
13 OTX DiagConfiguration extension.....	141
13.1 DiagConfiguration – General.....	141
13.2 DiagConfiguration – Exceptions.....	142
13.2.1 Exceptions overview.....	142
13.2.2 Exceptions syntax.....	142
13.2.3 Exceptions semantics.....	143
13.3 DiagConfiguration – Actions.....	144
13.3.1 Actions overview.....	144
13.3.2 Actions syntax.....	144
13.3.3 Actions general semantics.....	145
13.4 DiagConfiguration – Terms.....	146
13.4.1 Terms overview.....	146

13.4.2	Terms syntax.....	146
13.4.3	Terms general semantics.....	148
14	OTX DiagDataBrowsingPlus extension.....	150
14.1	DiagDataBrowsingPlus – General.....	150
14.2	DiagDataBrowsingPlus – Datatypes	151
14.2.1	Datatypes overview	151
14.2.2	Datatypes syntax.....	151
14.2.3	Datatypes semantics.....	153
14.3	DiagDataBrowsingPlus – Enumerations	158
14.3.1	Enumerations syntax.....	158
14.3.2	Enumerations semantics.....	160
14.4	DiagDataBrowsingPlus – Exceptions.....	164
14.4.1	Exceptions overview.....	164
14.4.2	Exceptions syntax.....	164
14.4.3	Exceptions semantics.....	165
14.5	DiagDataBrowsingPlus – Variable access.....	166
14.5.1	Variable access overview.....	166
14.5.2	Variable access syntax.....	166
14.5.3	Variable access semantics.....	168
14.6	DiagDataBrowsingPlus – Terms	168
14.6.1	Terms overview	168
14.6.2	Semantics for DbComChannel terms.....	168
14.6.3	Semantics for DbDiagService terms	171
14.6.4	Semantics for DbDiagTroubleCode terms	179
14.6.5	Semantics for DbEcuVariant terms.....	185
14.6.6	Semantics for DbEnvDataDesc terms.....	186
14.6.7	Semantics for DbFaultMemory terms	189
14.6.8	Semantics for DbMatchingParameter terms	192
14.6.9	Semantics for DbObject terms.....	194
14.6.10	Semantics for DbParameter terms	199
14.6.11	Semantics for DbRequest terms	216
14.6.12	Semantics for DbResponse terms	221
14.6.13	Semantics for DbSpecialDataElement terms.....	226
14.6.14	Semantics for DbSpecialDataGroup terms.....	229
14.6.15	Semantics for DbSubComponent terms	235
14.6.16	Semantics for DbTable terms.....	242
14.6.17	Semantics for Interval terms.....	249
14.6.18	Semantics for McdDataType terms.....	253
14.6.19	Semantics for McdParameterType terms.....	255
14.6.20	Semantics for McdResponseType terms.....	258
14.6.21	Semantics for Parameter terms.....	260
14.6.22	Semantics for TextTableElement terms	265
15	OTX EcuConfiguration extension.....	269
15.1	EcuConfiguration – General.....	269
15.2	EcuConfiguration – Datatypes	269
15.2.1	Datatypes overview	269
15.2.2	Datatypes syntax.....	269
15.2.3	Datatypes semantics.....	270

15.3	EcuConfiguration – Exceptions.....	271
15.3.1	Exceptions overview.....	271
15.3.2	Exceptions syntax.....	271
15.3.3	Exceptions semantics.....	272
15.4	EcuConfiguration – Variable access.....	273
15.4.1	Variable access overview.....	273
15.4.2	Variable access syntax.....	273
15.4.3	Variable access semantics.....	275
15.5	EcuConfiguration – Actions.....	276
15.5.1	Actions overview.....	276
15.5.2	Actions syntax.....	276
15.5.3	Semantics for ConfigurationRecord actions.....	278
15.5.4	Semantics for ConfigurationRecords actions.....	279
15.5.5	Semantics for OptionItem actions.....	282
15.6	EcuConfiguration – Terms.....	283
15.6.1	Terms overview.....	283
15.6.2	Semantics for ConfigurationRecord terms.....	283
15.6.3	Semantics for ConfigurationRecords terms.....	289
15.6.4	Semantics for DbConfigurationData terms.....	290
15.6.5	Semantics for DbConfigurationRecord terms.....	293
15.6.6	Semantics for DbDataRecord terms.....	296
15.6.7	Semantics for DbItemValue terms.....	301
15.6.8	Semantics for DbOptionItem terms.....	306
15.6.9	Semantics for OptionItem terms.....	315
16	OTX EcuStateChart extension.....	321
16.1	EcuStateChart – General.....	321
16.2	EcuStateChart – Datatypes.....	321
16.2.1	Datatypes overview.....	321
16.2.2	Datatypes syntax.....	321
16.2.3	Datatypes semantics.....	323
16.3	EcuStateChart – Exceptions.....	323
16.3.1	Exceptions overview.....	323
16.3.2	Exceptions syntax.....	323
16.3.3	Exceptions semantics.....	324
16.4	EcuStateChart – Variable access.....	325
16.4.1	Variable access overview.....	325
16.4.2	Variable access syntax.....	325
16.4.3	Variable access semantics.....	326
16.5	EcuStateChart – Terms.....	326
16.5.1	Terms overview.....	326
16.5.2	Semantics for DbEcuState terms.....	326
16.5.3	Semantics for ListTerm related terms.....	329
16.5.4	Semantics for SimpleTerm related terms.....	336
16.5.5	Terms general semantics.....	340
17	OTX EventPlus extension.....	346
17.1	EventPlus – General.....	346
17.2	EventPlus – Exceptions.....	346
17.2.1	Exceptions overview.....	346
17.2.2	Exceptions syntax.....	346

17.2.3	Exceptions semantics	347
17.3	EventPlus - Terms	347
17.3.1	Terms overview	347
17.3.2	Terms syntax.....	347
17.3.3	Terms general semantics	348
18	OTX ExternalServiceProvider extension	349
18.1	ExternalServiceProvider - General	349
18.2	ExternalServiceProvider - Datatypes	350
18.2.1	Datatypes overview	350
18.2.2	Datatypes syntax.....	350
18.2.3	Datatypes semantics.....	351
18.3	ExternalServiceProvider - Enumerations	353
18.3.1	Enumerations syntax.....	353
18.3.2	Enumerations semantics.....	353
18.4	ExternalServiceProvider - Exceptions	354
18.4.1	Exceptions overview.....	354
18.4.2	Exceptions syntax.....	354
18.4.3	Exceptions semantics	356
18.5	ExternalServiceProvider - Variable access.....	357
18.5.1	Variable access overview	357
18.5.2	Variable access syntax	357
18.5.3	Variable access semantics	359
18.6	ExternalServiceProvider - Declaration and arguments	359
18.6.1	Declaration and arguments syntax.....	359
18.6.2	Declaration and arguments semantics	361
18.7	ExternalServiceProvider - Signatures.....	362
18.7.1	Signatures overview	362
18.7.2	Signatures syntax	362
18.7.3	Signatures general semantics.....	364
18.8	ExternalServiceProvider - Actions	375
18.8.1	Actions overview	375
18.8.2	Actions syntax.....	375
18.8.3	Actions general semantics	378
18.9	ExternalServiceProvider - Terms	386
18.9.1	Terms overview	386
18.9.2	Terms syntax.....	386
18.9.3	Semantics for Enumeration terms	388
18.9.4	Semantics for External Service provider event query terms	390
18.9.5	Semantics for External service provider event source terms	392
18.9.6	Terms general semantics	394
19	OTX File extension	397
19.1	File - General	397
19.2	File - Datatypes	398
19.2.1	Datatypes overview	398
19.2.2	Datatypes syntax.....	398
19.2.3	Datatypes semantics.....	400
19.3	File - Exceptions	401
19.3.1	Exceptions overview.....	401

19.3.2	Exceptions syntax.....	401
19.3.3	Exceptions semantics.....	403
19.4	File – Variable access.....	404
19.4.1	Variable access overview.....	404
19.4.2	Variable access syntax.....	404
19.4.3	Variable access semantics.....	406
19.5	File – Actions.....	406
19.5.1	Actions overview.....	406
19.5.2	Actions syntax.....	406
19.5.3	Actions general semantics.....	409
19.6	File – Terms.....	412
19.6.1	Terms overview.....	412
19.6.2	Terms syntax.....	412
19.6.3	Terms general semantics.....	415
20	OTX FlashPlus extension.....	426
20.1	FlashPlus – General.....	426
20.2	FlashPlus – Exceptions.....	426
20.2.1	Exceptions overview.....	426
20.2.2	Exceptions syntax.....	426
20.2.3	Exceptions semantics.....	427
20.3	FlashPlus – Actions.....	427
20.3.1	Actions overview.....	427
20.3.2	Actions syntax.....	428
20.3.3	Actions general semantics.....	430
20.4	FlashPlus – Terms.....	431
20.4.1	Terms overview.....	431
20.4.2	Terms syntax.....	431
20.4.3	Terms general semantics.....	433
21	OTX Persistence extension.....	435
21.1	Persistence – General.....	435
21.2	Persistence – Exceptions.....	436
21.2.1	Exceptions overview.....	436
21.2.2	Exceptions syntax.....	436
21.2.3	Exceptions semantics.....	437
21.3	Persistence – Actions.....	438
21.3.1	Actions overview.....	438
21.3.2	Actions syntax.....	438
21.3.3	Actions general semantics.....	439
22	OTX Range extension.....	440
22.1	Range – General.....	440
22.2	Range – Datatypes.....	441
22.2.1	Datatypes overview.....	441
22.2.2	Datatypes syntax.....	441
22.2.3	Datatypes semantics.....	443
22.3	Range – Enumerations.....	448
22.3.1	Enumerations syntax.....	448
22.3.2	Enumerations semantics.....	449
22.4	Range – Exceptions.....	450
22.4.1	Exceptions overview.....	450

22.4.2	Exceptions syntax.....	450
22.4.3	Exceptions semantics.....	450
22.5	Range – Variable access.....	451
22.5.1	Variable access overview.....	451
22.5.2	Variable access syntax.....	451
22.5.3	Variable access semantics.....	453
22.6	Range – Actions.....	453
22.6.1	Actions overview.....	453
22.6.2	Actions syntax.....	453
22.6.3	Actions general semantics.....	455
22.7	Range – Terms.....	457
22.7.1	Terms overview.....	457
22.7.2	Terms syntax.....	457
22.7.3	Semantics for general terms.....	457
22.7.4	Semantics for Interval terms.....	469
22.7.5	Semantics for IntervalSemantic terms.....	481
22.7.6	Semantics for Ranged terms.....	484
23	OTX SQL extension.....	493
23.1	SQL – General.....	493
23.2	SQL – Datatypes.....	494
23.2.1	Datatypes overview.....	494
23.2.2	Datatypes syntax.....	494
23.2.3	Datatypes semantics.....	496
23.3	SQL – Exceptions.....	496
23.3.1	Exceptions overview.....	496
23.3.2	Exceptions syntax.....	496
23.3.3	Exceptions semantics.....	497
23.4	SQL – Variable access.....	498
23.4.1	Variable access overview.....	498
23.4.2	Variable access syntax.....	498
23.4.3	Variable access semantics.....	499
23.5	SQL – Actions.....	499
23.5.1	Actions overview.....	499
23.5.2	Actions syntax.....	499
23.5.3	Actions general semantics.....	500
23.6	SQL – Terms.....	502
23.6.1	Terms overview.....	502
23.6.2	Terms syntax.....	502
23.6.3	Terms general semantics.....	504
24	OTX StateMachineProcedure extension.....	511
24.1	StateMachineProcedure – General.....	511
24.2	StateMachineProcedure – Datatypes.....	514
24.2.1	Datatypes overview.....	514
24.2.2	Datatypes syntax.....	514
24.2.3	Datatypes semantics.....	516
24.3	StateMachineProcedure – Procedures.....	520
24.3.1	Procedures overview.....	520
24.3.2	Procedures syntax.....	520

24.3.3	Procedures general semantics	522
25	OTX StateVariable extension	525
25.1	StateVariable – General	525
25.2	StateVariable – Declaration and arguments	526
25.2.1	Declaration and arguments syntax	526
25.2.2	Declaration and arguments semantics	527
26	OTX TestResultHandling extension	527
26.1	TestResultHandling – General	527
26.2	TestResultHandling – Datatypes	527
26.2.1	Datatypes overview	527
26.2.2	Datatypes syntax	527
26.2.3	Datatypes semantics	529
26.3	TestResultHandling – Enumerations	531
26.3.1	Enumerations syntax	531
26.3.2	Enumerations semantics	532
26.4	TestResultHandling – Exceptions	533
26.4.1	Exceptions overview	533
26.4.2	Exceptions syntax	533
26.4.3	Exceptions semantics	535
26.5	TestResultHandling – Variable access	535
26.5.1	Variable access overview	535
26.5.2	Variable access syntax	535
26.5.3	Variable access semantics	537
26.6	TestResultHandling – Declaration and arguments	537
26.6.1	Declaration and arguments syntax	537
26.6.2	Declaration and arguments semantics	538
26.7	TestResultHandling – Actions	538
26.7.1	Actions overview	538
26.7.2	Actions syntax	538
26.7.3	Actions general semantics	541
26.8	TestResultHandling – Terms	551
26.8.1	Terms overview	551
26.8.2	Terms syntax	552
26.8.3	Semantics for Enumeration terms	555
26.8.4	Terms general semantics	558
27	OTX Util extension	561
27.1	Util – General	561
27.2	Util – Exceptions	561
27.2.1	Exceptions overview	561
27.2.2	Exceptions syntax	561
27.2.3	Exceptions semantics	563
27.3	Util – Terms	563
27.3.1	Terms overview	563
27.3.2	Terms syntax	563
27.3.3	Semantics for Util terms	565
28	OTX VehicleInfo extension	575
28.1	VehicleInfo – General	575
28.2	VehicleInfo – Datatypes	576

28.2.1	Datatypes overview	576
28.2.2	Datatypes syntax.....	576
28.2.3	Datatypes semantics.....	576
28.3	VehicleInfo – Enumerations.....	577
28.3.1	Enumerations syntax.....	577
28.3.2	Enumerations semantics.....	577
28.4	VehicleInfo – Exceptions	578
28.4.1	Exceptions overview.....	578
28.4.2	Exceptions syntax.....	578
28.4.3	Exceptions semantics	579
28.5	VehicleInfo – Variable access.....	580
28.5.1	Variable access overview	580
28.5.2	Variable access syntax	580
28.5.3	Variable access semantics	581
28.6	VehicleInfo – Terms	581
28.6.1	Terms overview	581
28.6.2	Terms syntax.....	581
28.6.3	Terms general semantics	583
29	OTX XML extension	586
29.1	XML – General	586
29.2	XML – Datatypes.....	586
29.2.1	Datatypes overview	586
29.2.2	Datatypes syntax.....	586
29.2.3	Datatypes semantics.....	587
29.3	XML – Exceptions	588
29.3.1	Exceptions overview.....	588
29.3.2	Exceptions syntax.....	588
29.3.3	Exceptions semantics	589
29.4	XML – Variable access	589
29.4.1	Variable access overview	589
29.4.2	Variable access syntax	589
29.4.3	Variable access semantics	590
29.5	XML – Actions.....	591
29.5.1	Actions overview	591
29.5.2	Actions syntax.....	591
29.5.3	Actions general semantics	593
29.6	XML – Terms.....	600
29.6.1	Terms overview	600
29.6.2	Terms syntax.....	600
29.6.3	Terms general semantics	603
30	OTX ZipHandling extension	610
30.1	ZipHandling – General	610
30.2	ZipHandling – Exceptions	610
30.2.1	Exceptions overview.....	610
30.2.2	Exceptions syntax.....	610
30.2.3	Exceptions semantics	612
30.3	ZipHandling – Actions	613
30.3.1	Actions overview	613

30.3.2	Actions syntax.....	613
30.3.3	Actions general semantics.....	615
Annex A (normative) Comprehensive checker rule listing..... 621		
A.1	Overview.....	621
A.2	Listing.....	621
A.2.1	Checker rules for BusMonitoring extension.....	621
A.2.2	Checker rules for ComInterface extension.....	621
A.2.3	Checker rules for CommonDialogs extension.....	621
A.2.4	Checker rules for DataType extension.....	621
A.2.5	Checker rules for DiagComPlus extension.....	623
A.2.6	Checker rules for ExternalServiceProvider extension.....	624
A.2.7	Checker rules for File extension.....	625
A.2.8	Checker rules for Persistence extension.....	626
A.2.9	Checker rules for Range extension.....	626
A.2.10	Checker rules for SQL extension.....	627
A.2.11	Checker rules for StateMachine extension.....	627
A.2.12	Checker rules for StateVariable extension.....	628
A.2.13	Checker rules for TestResultHandling extension.....	629
A.2.14	Checker rules for util extension.....	630
A.2.15	Checker rules for XML extension.....	630
A.2.16	Checker rules for ZipFiles extension.....	630
Annex B (normative) PTX file..... 632		
B.1	General.....	632
B.2	Security.....	633
B.2.1	Overview.....	633
B.2.2	Requirements.....	633
B.2.3	Solution.....	633
B.2.4	Signing PTX for transport.....	634
B.2.5	Verifying PTX against manipulation.....	636
B.2.6	Preparing the PTX content digest.....	640
Annex C (informative) diagValidationGroups..... 646		
C.1	Scope.....	646
Bibliography..... 647		