

# PSI Interface Control Document



## PSI-ICD

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## Table of Contents

1	Document Meta Information	27
1.1	Document Signature Table . . . . .	27
1.1.1	Document Change Record . . . . .	27
1.2	Documents . . . . .	29
1.2.1	Reference Documents . . . . .	29
1.2.2	External Annexes . . . . .	29
2	Introduction	30
2.1	Scope of Document . . . . .	31
2.1.1	Compiled Document . . . . .	31
2.1.2	Signature . . . . .	31
2.1.3	Development State . . . . .	32
2.1.4	PSI Release Notes . . . . .	32
2.1.5	Outlook . . . . .	34
2.1.6	Feedback and Contributions . . . . .	34
2.2	High-Level Connection . . . . .	34
2.3	Security Considerations . . . . .	35
2.3.1	Transport Encryption . . . . .	35
2.3.2	Authentication . . . . .	36
2.3.3	Authorization and Data Visibility . . . . .	36
2.3.4	Other Security Aspects . . . . .	37
2.4	Types and Characteristics . . . . .	37
2.4.1	Examples . . . . .	37
2.4.2	JSON Schemas . . . . .	46
2.4.3	Integration of Service Monitoring Specification into Performance Monitoring API . . . . .	47
3	REST APIs	50
3.1	alarm (/alarm) . . . . .	50
3.1.1	GET /alarm . . . . .	50
3.1.2	GET /alarm/{id} . . . . .	51
3.2	attachment (/documentManagement) . . . . .	52
3.2.1	GET /document/{documentId}/attachment . . . . .	52
3.2.2	POST /document/{documentId}/attachment . . . . .	53
3.2.3	GET /document/{documentId}/attachment/{attachmentId} . . . . .	54
3.2.4	DELETE /document/{documentId}/attachment/{attachmentId} . . . . .	55
3.2.5	PATCH /document/{documentId}/attachment/{attachmentId} . . . . .	56
3.2.6	GET /document/{documentId}/attachment/{attachmentId}/content . . . . .	57
3.2.7	PUT /document/{documentId}/attachment/{attachmentId}/content . . . . .	58
3.3	cancelPerformanceJob (/performanceMonitoring) . . . . .	59
3.3.1	GET /cancelPerformanceJob . . . . .	59
3.3.2	POST /cancelPerformanceJob . . . . .	61
3.3.3	GET /cancelPerformanceJob/{id} . . . . .	62
3.4	checkProductStock (/stock) . . . . .	63
3.4.1	POST /checkProductStock . . . . .	63
3.4.2	GET /checkProductStock/{id} . . . . .	64
3.5	customerBill (/customerBillManagement) . . . . .	65
3.5.1	GET /customerBill . . . . .	65

3.5.2	POST /customerBill . . . . .	66
3.5.3	GET /customerBill/{id} . . . . .	67
3.5.4	DELETE /customerBill/{id} . . . . .	68
3.5.5	PATCH /customerBill/{id} . . . . .	69
3.6	customerInquiry (/customerInquiry) . . . . .	70
3.6.1	POST /customerInquiry . . . . .	70
3.6.2	GET /customerInquiry/{id} . . . . .	71
3.6.3	DELETE /customerInquiry/{id} . . . . .	72
3.6.4	PATCH /customerInquiry/{id} . . . . .	73
3.6.5	GET /customerInquiry/{id}/results . . . . .	74
3.7	document (/documentManagement) . . . . .	75
3.7.1	GET /document . . . . .	75
3.7.2	POST /document . . . . .	76
3.7.3	GET /document/{id} . . . . .	77
3.7.4	DELETE /document/{id} . . . . .	78
3.7.5	PATCH /document/{id} . . . . .	79
3.8	hub (/eventManagement) . . . . .	80
3.8.1	GET /topic . . . . .	80
3.8.2	GET /topic/{topicId}/hub . . . . .	81
3.8.3	POST /topic/{topicId}/hub . . . . .	82
3.8.4	DELETE /topic/{topicId}/hub/{id} . . . . .	83
3.9	individual (/partyManagement) . . . . .	84
3.9.1	GET /individual . . . . .	84
3.9.2	POST /individual . . . . .	85
3.9.3	GET /individual/{id} . . . . .	86
3.9.4	DELETE /individual/{id} . . . . .	87
3.9.5	PATCH /individual/{id} . . . . .	88
3.10	keyIndicator (/serviceQuality) . . . . .	89
3.10.1	GET /keyIndicator . . . . .	89
3.10.2	POST /keyIndicator . . . . .	90
3.10.3	GET /keyIndicator/{id} . . . . .	91
3.10.4	DELETE /keyIndicator/{id} . . . . .	92
3.10.5	PATCH /keyIndicator/{id} . . . . .	93
3.11	listener (/eventManagement) . . . . .	94
3.11.1	GET /topic/{topicId}/event . . . . .	94
3.11.2	POST /topic/{topicId}/event . . . . .	95
3.12	mission (/missionManagement) . . . . .	96
3.12.1	GET /mission . . . . .	96
3.12.2	POST /mission . . . . .	97
3.12.3	GET /mission/{id} . . . . .	98
3.12.4	DELETE /mission/{id} . . . . .	99
3.12.5	PATCH /mission/{id} . . . . .	100
3.13	modifyPerformanceJob (/performanceMonitoring) . . . . .	101
3.13.1	GET /modifyPerformanceJob . . . . .	101
3.13.2	POST /modifyPerformanceJob . . . . .	103
3.13.3	GET /modifyPerformanceJob/{id} . . . . .	104
3.14	organization (/partyManagement) . . . . .	105
3.14.1	GET /organization . . . . .	105
3.14.2	POST /organization . . . . .	106

3.14.3	GET /organization/{id}	107
3.14.4	DELETE /organization/{id}	108
3.14.5	PATCH /organization/{id}	109
3.15	performanceJob (/performanceMonitoring)	110
3.15.1	GET /performanceJob	110
3.15.2	POST /performanceJob	112
3.15.3	GET /performanceJob/{id}	113
3.16	performanceJobComplexQuery (/performanceMonitoring)	114
3.16.1	POST /performanceJobComplexQuery	114
3.17	performanceReport (/performanceMonitoring)	115
3.17.1	GET /performanceReport	115
3.17.2	POST /performanceReport	117
3.17.3	GET /performanceReport/{id}	118
3.18	performanceReportComplexQuery (/performanceMonitoring)	119
3.18.1	POST /performanceReportComplexQuery	119
3.19	product (/productInventory)	120
3.19.1	GET /product	120
3.19.2	POST /product	121
3.19.3	GET /product/{id}	122
3.19.4	DELETE /product/{id}	123
3.19.5	PATCH /product/{id}	124
3.20	productOffering (/productCatalog)	125
3.20.1	GET /productOffering	125
3.20.2	POST /productOffering	126
3.20.3	GET /productOffering/{id}	127
3.20.4	DELETE /productOffering/{id}	128
3.20.5	PATCH /productOffering/{id}	129
3.21	productOrder (/productOrdering)	130
3.21.1	GET /productOrder	130
3.21.2	POST /productOrder	131
3.21.3	GET /productOrder/{id}	132
3.21.4	DELETE /productOrder/{id}	133
3.21.5	PATCH /productOrder/{id}	134
3.22	productSpecification (/productCatalog)	135
3.22.1	GET /productSpecification	135
3.22.2	POST /productSpecification	136
3.22.3	GET /productSpecification/{id}	137
3.22.4	DELETE /productSpecification/{id}	138
3.22.5	PATCH /productSpecification/{id}	139
3.23	productTemplate (/productCatalog)	140
3.23.1	GET /productTemplate	140
3.23.2	POST /productTemplate	141
3.23.3	GET /productTemplate/{id}	142
3.23.4	DELETE /productTemplate/{id}	143
3.23.5	PATCH /productTemplate/{id}	144
3.24	resource (/resourceInventory)	145
3.24.1	GET /resource	145
3.24.2	POST /resource	146
3.24.3	GET /resource/{id}	147

3.24.4	DELETE /resource/{id} . . . . .	148
3.24.5	PATCH /resource/{id} . . . . .	149
3.25	resourceSpecification (/resourceCatalog) . . . . .	150
3.25.1	GET /resourceSpecification . . . . .	150
3.25.2	POST /resourceSpecification . . . . .	151
3.25.3	GET /resourceSpecification/{id} . . . . .	152
3.25.4	DELETE /resourceSpecification/{id} . . . . .	153
3.25.5	PATCH /resourceSpecification/{id} . . . . .	154
3.26	resourceTemplate (/resourceCatalog) . . . . .	155
3.26.1	GET /resourceTemplate . . . . .	155
3.26.2	POST /resourceTemplate . . . . .	156
3.26.3	GET /resourceTemplate/{id} . . . . .	157
3.26.4	DELETE /resourceTemplate/{id} . . . . .	158
3.26.5	PATCH /resourceTemplate/{id} . . . . .	159
3.27	resumePerformanceJob (/performanceMonitoring) . . . . .	160
3.27.1	GET /resumePerformanceJob . . . . .	160
3.27.2	POST /resumePerformanceJob . . . . .	162
3.27.3	GET /resumePerformanceJob/{id} . . . . .	163
3.28	service (/serviceInventory) . . . . .	164
3.28.1	GET /service . . . . .	164
3.28.2	POST /service . . . . .	165
3.28.3	GET /service/{id} . . . . .	166
3.28.4	DELETE /service/{id} . . . . .	167
3.28.5	PATCH /service/{id} . . . . .	168
3.29	serviceLevelObjective (/serviceQuality) . . . . .	169
3.29.1	GET /serviceLevelObjective . . . . .	169
3.29.2	POST /serviceLevelObjective . . . . .	170
3.29.3	GET /serviceLevelObjective/{id} . . . . .	171
3.29.4	DELETE /serviceLevelObjective/{id} . . . . .	172
3.29.5	PATCH /serviceLevelObjective/{id} . . . . .	173
3.30	serviceLevelSpecification (/serviceQuality) . . . . .	174
3.30.1	GET /serviceLevelSpecification . . . . .	174
3.30.2	POST /serviceLevelSpecification . . . . .	175
3.30.3	GET /serviceLevelSpecification/{id} . . . . .	176
3.30.4	DELETE /serviceLevelSpecification/{id} . . . . .	177
3.30.5	PATCH /serviceLevelSpecification/{id} . . . . .	178
3.31	serviceSpecification (/serviceCatalog) . . . . .	179
3.31.1	GET /serviceSpecification . . . . .	179
3.31.2	POST /serviceSpecification . . . . .	180
3.31.3	GET /serviceSpecification/{id} . . . . .	181
3.31.4	DELETE /serviceSpecification/{id} . . . . .	182
3.31.5	PATCH /serviceSpecification/{id} . . . . .	183
3.32	serviceTemplate (/serviceCatalog) . . . . .	184
3.32.1	GET /serviceTemplate . . . . .	184
3.32.2	POST /serviceTemplate . . . . .	185
3.32.3	GET /serviceTemplate/{id} . . . . .	186
3.32.4	DELETE /serviceTemplate/{id} . . . . .	187
3.32.5	PATCH /serviceTemplate/{id} . . . . .	188
3.33	suspendPerformanceJob (/performanceMonitoring) . . . . .	189

3.33.1	GET /suspendPerformanceJob . . . . .	189
3.33.2	POST /suspendPerformanceJob . . . . .	191
3.33.3	GET /suspendPerformanceJob/{id} . . . . .	192
3.34	troubleTicket (/troubleTicket) . . . . .	193
3.34.1	GET /troubleTicket . . . . .	193
3.34.2	POST /troubleTicket . . . . .	194
3.34.3	GET /troubleTicket/{id} . . . . .	195
3.34.4	DELETE /troubleTicket/{id} . . . . .	196
3.34.5	PATCH /troubleTicket/{id} . . . . .	197
4	Data-Transfer-Objects	<b>198</b>
4.1	Addressable . . . . .	198
4.2	AffectedService . . . . .	199
4.3	AgreementItemRef . . . . .	200
4.4	AgreementRef . . . . .	201
4.5	Alarm . . . . .	202
4.6	AlarmRef . . . . .	204
4.7	AlarmType . . . . .	205
4.8	AlarmedObject . . . . .	206
4.9	AlternateProductStock . . . . .	207
4.10	ApplicableTimePeriod . . . . .	208
4.11	AppliedPayment . . . . .	209
4.12	AppointmentRef . . . . .	210
4.13	AssociationSpecificationRef . . . . .	211
4.14	Attachment . . . . .	212
4.15	AttachmentOrDocumentRef . . . . .	213
4.16	AttachmentRef . . . . .	214
4.17	AttachmentURL . . . . .	215
4.18	Attachment_Create . . . . .	216
4.19	Attachment_Update . . . . .	217
4.20	AvailabilityResultType . . . . .	218
4.21	BillCycleRef . . . . .	219
4.22	BillingAccountRef . . . . .	220
4.23	BundledGroupProductOffering . . . . .	221
4.24	BundledGroupProductOfferingOption . . . . .	222
4.25	BundledProductOffering . . . . .	223
4.26	BundledProductOfferingOption . . . . .	224
4.27	BundledProductSpecification . . . . .	225
4.28	CancelPerformanceJob . . . . .	226
4.29	CancelPerformanceJob_Common . . . . .	227
4.30	CancelPerformanceJob_Create . . . . .	228
4.31	CancelPerformanceJob_Find . . . . .	229
4.32	CategoryRef . . . . .	230
4.33	ChannelRef . . . . .	231
4.34	Characteristic . . . . .	232
4.35	CharacteristicRelationship . . . . .	233
4.36	CharacteristicSpecification . . . . .	234
4.37	CharacteristicSpecificationRelationship . . . . .	235
4.38	CharacteristicValuePrecedence . . . . .	236

4.39	CharacteristicValueSpecification . . . . .	237
4.40	CheckProductStock . . . . .	238
4.41	CheckProductStockItem . . . . .	239
4.42	CheckProductStock_Create . . . . .	240
4.43	Comment . . . . .	241
4.44	ConstraintRef . . . . .	242
4.45	ContactMedium . . . . .	243
4.46	CrossedThresholdInformation . . . . .	244
4.47	CustomerBill . . . . .	245
4.48	CustomerBillRef . . . . .	246
4.49	CustomerBillRunType . . . . .	247
4.50	CustomerBillStateType . . . . .	248
4.51	CustomerBill_Create . . . . .	249
4.52	CustomerBill_Update . . . . .	250
4.53	CustomerCharacteristic . . . . .	251
4.54	CustomerInquiry . . . . .	252
4.55	CustomerInquiry_Create . . . . .	253
4.56	CustomerInquiry_Update . . . . .	254
4.57	Disability . . . . .	255
4.58	Document . . . . .	256
4.59	DocumentRef . . . . .	257
4.60	Document_Create . . . . .	258
4.61	Document_Update . . . . .	259
4.62	Duration . . . . .	260
4.63	Entity . . . . .	261
4.64	EntityRef . . . . .	262
4.65	EntitySpecificationRelationship . . . . .	263
4.66	EntityValue . . . . .	264
4.67	Error . . . . .	265
4.68	Error400 . . . . .	266
4.69	Error400Code . . . . .	267
4.70	Error401 . . . . .	268
4.71	Error401Code . . . . .	269
4.72	Error403 . . . . .	270
4.73	Error403Code . . . . .	271
4.74	Error404 . . . . .	272
4.75	Error422 . . . . .	273
4.76	Error422Code . . . . .	274
4.77	Error500 . . . . .	275
4.78	Error501 . . . . .	276
4.79	Event . . . . .	277
4.80	Event_Create . . . . .	278
4.81	Extensible . . . . .	279
4.82	ExternalReference . . . . .	280
4.83	Feature . . . . .	281
4.84	FeatureRelationship . . . . .	282
4.85	FeatureSpecification . . . . .	283
4.86	FeatureSpecificationCharacteristic . . . . .	284
4.87	FeatureSpecificationCharacteristicRelationship . . . . .	285

4.88	FeatureSpecificationRelationship . . . . .	286
4.89	FileTransferData . . . . .	287
4.90	FinancialAccountRef . . . . .	288
4.91	GeoJson . . . . .	289
4.92	GeoJsonFeature . . . . .	290
4.93	GeoJsonFeatureCollection . . . . .	291
4.94	GeographicAddress . . . . .	292
4.95	GeographicLocation . . . . .	293
4.96	GeographicLocationRef . . . . .	294
4.97	GeographicLocationRefOrValue . . . . .	295
4.98	Geometry . . . . .	296
4.99	HourRange . . . . .	297
4.100	HubSubscription . . . . .	298
4.101	HubSubscription_Create . . . . .	299
4.102	Individual . . . . .	300
4.103	IndividualIdentification . . . . .	302
4.104	IndividualStateType . . . . .	303
4.105	Individual_Create . . . . .	304
4.106	Individual_Update . . . . .	306
4.107	InquiredCharacteristicValueSpecification . . . . .	308
4.108	InquiredProduct . . . . .	309
4.109	InquiredProductCharacteristic . . . . .	310
4.110	InquiredProductRef . . . . .	311
4.111	InquiredProductRelationship . . . . .	312
4.112	InquiredProvider . . . . .	313
4.113	InquiryResult . . . . .	314
4.114	InquiryStateType . . . . .	315
4.115	Interval . . . . .	316
4.116	JobType . . . . .	317
4.117	KeyIndicator . . . . .	318
4.118	KeyIndicatorRelationship . . . . .	319
4.119	KeyIndicator_Create . . . . .	320
4.120	KeyIndicator_Update . . . . .	321
4.121	LanguageAbility . . . . .	322
4.122	LineString . . . . .	323
4.123	LogicalResource . . . . .	324
4.124	LogicalResourceSpecification . . . . .	325
4.125	MarketSegmentRef . . . . .	326
4.126	MeasurementTime . . . . .	327
4.127	MediumCharacteristic . . . . .	328
4.128	Mission . . . . .	329
4.129	MissionAsset . . . . .	330
4.130	MissionAssetRelationship . . . . .	331
4.131	MissionRelationship . . . . .	332
4.132	MissionStatusType . . . . .	333
4.133	Mission_Create . . . . .	334
4.134	Mission_Update . . . . .	335
4.135	ModifyPerformanceJob . . . . .	336
4.136	ModifyPerformanceJob_Common . . . . .	337



4.137	ModifyPerformanceJob_Create	338
4.138	ModifyPerformanceJob_Find	339
4.139	ModifyPerformanceJob_ProfileValue	340
4.140	Money	341
4.141	MonthlyScheduleDayOfWeekDefinition	342
4.142	MultiLineString	343
4.143	MultiPoint	344
4.144	MultiPolygon	345
4.145	Note	346
4.146	OrderItemType	347
4.147	OrderItemRelationship	348
4.148	OrderPrice	349
4.149	OrderTerm	350
4.150	Organization	351
4.151	OrganizationChildRelationship	352
4.152	OrganizationIdentification	353
4.153	OrganizationParentRelationship	354
4.154	OrganizationRef	355
4.155	OrganizationStateType	356
4.156	Organization_Create	357
4.157	Organization_Update	358
4.158	OtherNameIndividual	359
4.159	OtherNameOrganization	360
4.160	OutputFormat	361
4.161	POPAlteration	362
4.162	PartyCreditProfile	363
4.163	PaymentMethodRef	364
4.164	PaymentRef	365
4.165	PerceivedSeverity	366
4.166	PerformanceJob	367
4.167	PerformanceJobComplexQuery	368
4.168	PerformanceJobComplexQuery_Create	369
4.169	PerformanceJobProcessStateType	370
4.170	PerformanceJobRef	371
4.171	PerformanceJobRefOrValue	372
4.172	PerformanceJobStateType	373
4.173	PerformanceJobValue	374
4.174	PerformanceJob_Common	375
4.175	PerformanceJob_Create	376
4.176	PerformanceJob_Find	377
4.177	PerformanceProfileValue	378
4.178	PerformanceReport	379
4.179	PerformanceReportComplexQuery	380
4.180	PerformanceReportComplexQuery_Create	381
4.181	PerformanceReportRef	382
4.182	PerformanceReportStateType	383
4.183	PerformanceReport_Common	384
4.184	PerformanceReport_Create	385
4.185	PerformanceReport_Find	386

4.186	PhysicalResource . . . . .	387
4.187	PhysicalResourceSpecification . . . . .	388
4.188	Place . . . . .	389
4.189	PlaceRef . . . . .	390
4.190	PlaceRefOrValue . . . . .	391
4.191	Point . . . . .	392
4.192	Point2D . . . . .	393
4.193	Polygon . . . . .	394
4.194	Price . . . . .	395
4.195	PriceAlteration . . . . .	396
4.196	Product . . . . .	397
4.197	ProductOffering . . . . .	398
4.198	ProductOfferingPriceRef . . . . .	400
4.199	ProductOfferingPriceRefOrValue . . . . .	401
4.200	ProductOfferingQualificationItemRef . . . . .	402
4.201	ProductOfferingQualificationRef . . . . .	403
4.202	ProductOfferingRef . . . . .	404
4.203	ProductOfferingRelationship . . . . .	405
4.204	ProductOfferingTerm . . . . .	406
4.205	ProductOffering_Create . . . . .	407
4.206	ProductOffering_Update . . . . .	409
4.207	ProductOrder . . . . .	410
4.208	ProductOrderItem . . . . .	411
4.209	ProductOrderItemStateType . . . . .	412
4.210	ProductOrderRef . . . . .	413
4.211	ProductOrderStateType . . . . .	414
4.212	ProductOrder_Create . . . . .	415
4.213	ProductOrder_Update . . . . .	416
4.214	ProductPrice . . . . .	417
4.215	ProductPriceValue . . . . .	418
4.216	ProductRef . . . . .	419
4.217	ProductRefOrValue . . . . .	420
4.218	ProductRelationship . . . . .	422
4.219	ProductSpecification . . . . .	423
4.220	ProductSpecificationCharacteristic . . . . .	424
4.221	ProductSpecificationCharacteristicRelationship . . . . .	425
4.222	ProductSpecificationCharacteristicValueUse . . . . .	426
4.223	ProductSpecificationRef . . . . .	427
4.224	ProductSpecificationRelationship . . . . .	428
4.225	ProductSpecification_Create . . . . .	429
4.226	ProductSpecification_Update . . . . .	430
4.227	ProductStatusType . . . . .	431
4.228	ProductStock . . . . .	432
4.229	ProductStockRef . . . . .	433
4.230	ProductStockRelationship . . . . .	434
4.231	ProductStockStatusType . . . . .	435
4.232	ProductStockUsageType . . . . .	436
4.233	ProductTerm . . . . .	437
4.234	Product_Create . . . . .	438

4.235	Product_Update . . . . .	439
4.236	Quantity . . . . .	440
4.237	QuoteItemRef . . . . .	441
4.238	QuoteRef . . . . .	442
4.239	RecurringFrequency . . . . .	443
4.240	RelatedChannel . . . . .	444
4.241	RelatedEntity . . . . .	445
4.242	RelatedEntityRefOrValue . . . . .	446
4.243	RelatedParty . . . . .	447
4.244	RelatedPlaceRefOrValue . . . . .	448
4.245	RelatedProductOrderItem . . . . .	449
4.246	RelatedServiceOrderItem . . . . .	450
4.247	RelationshipCharacteristic . . . . .	451
4.248	RelativeTimePeriod . . . . .	452
4.249	ReportContentItem . . . . .	453
4.250	ReportingTimeframe . . . . .	454
4.251	Resource . . . . .	455
4.252	ResourceAdministrativeStateType . . . . .	456
4.253	ResourceCandidateRef . . . . .	457
4.254	ResourceOperationalStateType . . . . .	458
4.255	ResourceRef . . . . .	459
4.256	ResourceRefOrValue . . . . .	460
4.257	ResourceRelationship . . . . .	461
4.258	ResourceSpecification . . . . .	462
4.259	ResourceSpecificationCharacteristic . . . . .	463
4.260	ResourceSpecificationCharacteristicRelationship . . . . .	464
4.261	ResourceSpecificationRef . . . . .	465
4.262	ResourceSpecificationRelationship . . . . .	466
4.263	ResourceSpecification_Create . . . . .	467
4.264	ResourceSpecification_Update . . . . .	468
4.265	ResourceStatusType . . . . .	469
4.266	ResourceUsageStateType . . . . .	470
4.267	Resource_Create . . . . .	471
4.268	Resource_Update . . . . .	472
4.269	ResponseTime . . . . .	473
4.270	ResultFormat . . . . .	474
4.271	ResultPayload . . . . .	475
4.272	ResumePerformanceJob . . . . .	476
4.273	ResumePerformanceJob_Common . . . . .	477
4.274	ResumePerformanceJob_Create . . . . .	478
4.275	ResumePerformanceJob_Find . . . . .	479
4.276	ScheduleDefinition . . . . .	480
4.277	Service . . . . .	481
4.278	ServiceCandidateRef . . . . .	483
4.279	ServiceFeatureSpecification . . . . .	484
4.280	ServiceLevelObjective . . . . .	485
4.281	ServiceLevelObjectiveRef . . . . .	486
4.282	ServiceLevelObjectiveThreshold . . . . .	487
4.283	ServiceLevelObjective_Create . . . . .	488

4.284	ServiceLevelObjective_Update	489
4.285	ServiceLevelSpecConsequence	490
4.286	ServiceLevelSpecification	491
4.287	ServiceLevelSpecificationRef	492
4.288	ServiceLevelSpecification_Create	493
4.289	ServiceLevelSpecification_Update	494
4.290	ServicePayloadSpecificAttributes	495
4.291	ServiceRef	496
4.292	ServiceRefOrValue	497
4.293	ServiceRelationship	499
4.294	ServiceSpecRelationship	500
4.295	ServiceSpecification	501
4.296	ServiceSpecificationRef	502
4.297	ServiceSpecification_Create	503
4.298	ServiceSpecification_Update	504
4.299	ServiceStateType	505
4.300	Service_Create	506
4.301	Service_Update	507
4.302	Skill	508
4.303	StatusChange	509
4.304	SuspendPerformanceJob	510
4.305	SuspendPerformanceJob_Common	511
4.306	SuspendPerformanceJob_Create	512
4.307	SuspendPerformanceJob_Find	513
4.308	TargetEntitySchema	514
4.309	TargetProductSchema	515
4.310	TargetResourceSchema	516
4.311	TaskStateType	517
4.312	TaxDefinition	518
4.313	TaxExemptionCertificate	519
4.314	TaxItem	520
4.315	ThresholdRef	521
4.316	TimeInterval	522
4.317	TimePeriod	523
4.318	Topic	524
4.319	TotalPrice	525
4.320	TroubleTicket	526
4.321	TroubleTicketRelationship	527
4.322	TroubleTicketStatusType	528
4.323	TroubleTicket_Create	529
4.324	TroubleTicket_Update	530
4.325	UsageEstimation	531

## List of Figures

1.1	DCR QR-Code	29
2.1	The PSI consortium	31
2.2	Example Inquiry for Raw Bandwidth	38
2.3	Example Results for Raw Bandwidth	39

2.4	Example Inventory for Raw Bandwidth . . . . .	40
2.5	Example Inquiry for Anchoring Capacity . . . . .	41
2.6	Example Results for Anchoring Capacity . . . . .	41
2.7	Example Inventory for Anchoring Capacity . . . . .	42
2.8	Example Inquiry for End-to-End Service . . . . .	43
2.9	Example Results for End-to-End Service . . . . .	44
2.10	Example Inventory for End-to-End Service . . . . .	45
2.11	Example Of A Customer Inquiry of Internet Access / Bandwidth . . . . .	46
2.12	JSON Schema for InternetAccessService . . . . .	47
2.13	Performance Monitoring. . . . .	49

## List of Tables

1.1	Signature Table. . . . .	27
1.2	DCR Table. . . . .	28
1.3	GIT Changelog Table. . . . .	28
1.4	Reference Documents. . . . .	29
1.5	External Annexes . . . . .	29
3.1	Parameters of GET alarm. . . . .	50
3.2	Responses of GET alarm. . . . .	50
3.3	Parameters of GET alarm/{id}. . . . .	51
3.4	Responses of GET alarm/{id}. . . . .	51
3.5	Parameters of GET document/{documentId}/attachment. . . . .	52
3.6	Responses of GET document/{documentId}/attachment. . . . .	52
3.7	Parameters of POST document/{documentId}/attachment. . . . .	53
3.8	Request Body of POST document/{documentId}/attachment. . . . .	53
3.9	Responses of POST document/{documentId}/attachment. . . . .	53
3.10	Parameters of GET document/{documentId}/attachment/{attachmentId}. . . . .	54
3.11	Responses of GET document/{documentId}/attachment/{attachmentId}. . . . .	54
3.12	Parameters of DELETE document/{documentId}/attachment/{attachmentId}. . . . .	55
3.13	Responses of DELETE document/{documentId}/attachment/{attachmentId}. . . . .	55
3.14	Parameters of PATCH document/{documentId}/attachment/{attachmentId}. . . . .	56
3.15	Request Body of PATCH document/{documentId}/attachment/{attachmentId}. . . . .	56
3.16	Responses of PATCH document/{documentId}/attachment/{attachmentId}. . . . .	56
3.17	Parameters of GET document/{documentId}/attachment/{attachmentId}/content. . . . .	57
3.18	Responses of GET document/{documentId}/attachment/{attachmentId}/content. . . . .	57
3.19	Parameters of PUT document/{documentId}/attachment/{attachmentId}/content. . . . .	58
3.20	Request Body of PUT document/{documentId}/attachment/{attachmentId}/content. . . . .	58
3.21	Responses of PUT document/{documentId}/attachment/{attachmentId}/content. . . . .	58
3.22	Parameters of GET cancelPerformanceJob. . . . .	59
3.23	Responses of GET cancelPerformanceJob. . . . .	60
3.24	Request Body of POST cancelPerformanceJob. . . . .	61
3.25	Responses of POST cancelPerformanceJob. . . . .	61
3.26	Parameters of GET cancelPerformanceJob/{id}. . . . .	62
3.27	Responses of GET cancelPerformanceJob/{id}. . . . .	62
3.28	Request Body of POST checkProductStock. . . . .	63
3.29	Responses of POST checkProductStock. . . . .	63
3.30	Parameters of GET checkProductStock/{id}. . . . .	64
3.31	Responses of GET checkProductStock/{id}. . . . .	64

3.32	Parameters of GET customerBill. . . . .	65
3.33	Responses of GET customerBill. . . . .	65
3.34	Request Body of POST customerBill. . . . .	66
3.35	Responses of POST customerBill. . . . .	66
3.36	Parameters of GET customerBill/{id}. . . . .	67
3.37	Responses of GET customerBill/{id}. . . . .	67
3.38	Parameters of DELETE customerBill/{id}. . . . .	68
3.39	Responses of DELETE customerBill/{id}. . . . .	68
3.40	Parameters of PATCH customerBill/{id}. . . . .	69
3.41	Request Body of PATCH customerBill/{id}. . . . .	69
3.42	Responses of PATCH customerBill/{id}. . . . .	69
3.43	Request Body of POST customerInquiry. . . . .	70
3.44	Responses of POST customerInquiry. . . . .	70
3.45	Parameters of GET customerInquiry/{id}. . . . .	71
3.46	Responses of GET customerInquiry/{id}. . . . .	71
3.47	Parameters of DELETE customerInquiry/{id}. . . . .	72
3.48	Responses of DELETE customerInquiry/{id}. . . . .	72
3.49	Parameters of PATCH customerInquiry/{id}. . . . .	73
3.50	Request Body of PATCH customerInquiry/{id}. . . . .	73
3.51	Responses of PATCH customerInquiry/{id}. . . . .	73
3.52	Parameters of GET customerInquiry/{id}/results. . . . .	74
3.53	Responses of GET customerInquiry/{id}/results. . . . .	74
3.54	Parameters of GET document. . . . .	75
3.55	Responses of GET document. . . . .	75
3.56	Request Body of POST document. . . . .	76
3.57	Responses of POST document. . . . .	76
3.58	Parameters of GET document/{id}. . . . .	77
3.59	Responses of GET document/{id}. . . . .	77
3.60	Parameters of DELETE document/{id}. . . . .	78
3.61	Responses of DELETE document/{id}. . . . .	78
3.62	Parameters of PATCH document/{id}. . . . .	79
3.63	Request Body of PATCH document/{id}. . . . .	79
3.64	Responses of PATCH document/{id}. . . . .	79
3.65	Parameters of GET topic. . . . .	80
3.66	Responses of GET topic. . . . .	80
3.67	Parameters of GET topic/{topicId}/hub. . . . .	81
3.68	Responses of GET topic/{topicId}/hub. . . . .	81
3.69	Parameters of POST topic/{topicId}/hub. . . . .	82
3.70	Request Body of POST topic/{topicId}/hub. . . . .	82
3.71	Responses of POST topic/{topicId}/hub. . . . .	82
3.72	Parameters of DELETE topic/{topicId}/hub/{id}. . . . .	83
3.73	Responses of DELETE topic/{topicId}/hub/{id}. . . . .	83
3.74	Parameters of GET individual. . . . .	84
3.75	Responses of GET individual. . . . .	84
3.76	Request Body of POST individual. . . . .	85
3.77	Responses of POST individual. . . . .	85
3.78	Parameters of GET individual/{id}. . . . .	86
3.79	Responses of GET individual/{id}. . . . .	86
3.80	Parameters of DELETE individual/{id}. . . . .	87

3.81	Responses of DELETE individual/{id}. . . . .	87
3.82	Parameters of PATCH individual/{id}. . . . .	88
3.83	Request Body of PATCH individual/{id}. . . . .	88
3.84	Responses of PATCH individual/{id}. . . . .	88
3.85	Parameters of GET keyIndicator. . . . .	89
3.86	Responses of GET keyIndicator. . . . .	89
3.87	Request Body of POST keyIndicator. . . . .	90
3.88	Responses of POST keyIndicator. . . . .	90
3.89	Parameters of GET keyIndicator/{id}. . . . .	91
3.90	Responses of GET keyIndicator/{id}. . . . .	91
3.91	Parameters of DELETE keyIndicator/{id}. . . . .	92
3.92	Responses of DELETE keyIndicator/{id}. . . . .	92
3.93	Parameters of PATCH keyIndicator/{id}. . . . .	93
3.94	Request Body of PATCH keyIndicator/{id}. . . . .	93
3.95	Responses of PATCH keyIndicator/{id}. . . . .	93
3.96	Parameters of GET topic/{topicId}/event. . . . .	94
3.97	Responses of GET topic/{topicId}/event. . . . .	94
3.98	Parameters of POST topic/{topicId}/event. . . . .	95
3.99	Request Body of POST topic/{topicId}/event. . . . .	95
3.100	Responses of POST topic/{topicId}/event. . . . .	95
3.101	Parameters of GET mission. . . . .	96
3.102	Responses of GET mission. . . . .	96
3.103	Request Body of POST mission. . . . .	97
3.104	Responses of POST mission. . . . .	97
3.105	Parameters of GET mission/{id}. . . . .	98
3.106	Responses of GET mission/{id}. . . . .	98
3.107	Parameters of DELETE mission/{id}. . . . .	99
3.108	Responses of DELETE mission/{id}. . . . .	99
3.109	Parameters of PATCH mission/{id}. . . . .	100
3.110	Request Body of PATCH mission/{id}. . . . .	100
3.111	Responses of PATCH mission/{id}. . . . .	100
3.112	Parameters of GET modifyPerformanceJob. . . . .	101
3.113	Responses of GET modifyPerformanceJob. . . . .	102
3.114	Request Body of POST modifyPerformanceJob. . . . .	103
3.115	Responses of POST modifyPerformanceJob. . . . .	103
3.116	Parameters of GET modifyPerformanceJob/{id}. . . . .	104
3.117	Responses of GET modifyPerformanceJob/{id}. . . . .	104
3.118	Parameters of GET organization. . . . .	105
3.119	Responses of GET organization. . . . .	105
3.120	Request Body of POST organization. . . . .	106
3.121	Responses of POST organization. . . . .	106
3.122	Parameters of GET organization/{id}. . . . .	107
3.123	Responses of GET organization/{id}. . . . .	107
3.124	Parameters of DELETE organization/{id}. . . . .	108
3.125	Responses of DELETE organization/{id}. . . . .	108
3.126	Parameters of PATCH organization/{id}. . . . .	109
3.127	Request Body of PATCH organization/{id}. . . . .	109
3.128	Responses of PATCH organization/{id}. . . . .	109
3.129	Parameters of GET performanceJob. . . . .	110



3.130	Responses of GET performanceJob. . . . .	111
3.131	Request Body of POST performanceJob. . . . .	112
3.132	Responses of POST performanceJob. . . . .	112
3.133	Parameters of GET performanceJob/{id}. . . . .	113
3.134	Responses of GET performanceJob/{id}. . . . .	113
3.135	Request Body of POST performanceJobComplexQuery. . . . .	114
3.136	Responses of POST performanceJobComplexQuery. . . . .	114
3.137	Parameters of GET performanceReport. . . . .	116
3.138	Responses of GET performanceReport. . . . .	116
3.139	Request Body of POST performanceReport. . . . .	117
3.140	Responses of POST performanceReport. . . . .	117
3.141	Parameters of GET performanceReport/{id}. . . . .	118
3.142	Responses of GET performanceReport/{id}. . . . .	118
3.143	Request Body of POST performanceReportComplexQuery. . . . .	119
3.144	Responses of POST performanceReportComplexQuery. . . . .	119
3.145	Parameters of GET product. . . . .	120
3.146	Responses of GET product. . . . .	120
3.147	Request Body of POST product. . . . .	121
3.148	Responses of POST product. . . . .	121
3.149	Parameters of GET product/{id}. . . . .	122
3.150	Responses of GET product/{id}. . . . .	122
3.151	Parameters of DELETE product/{id}. . . . .	123
3.152	Responses of DELETE product/{id}. . . . .	123
3.153	Parameters of PATCH product/{id}. . . . .	124
3.154	Request Body of PATCH product/{id}. . . . .	124
3.155	Responses of PATCH product/{id}. . . . .	124
3.156	Parameters of GET productOffering. . . . .	125
3.157	Responses of GET productOffering. . . . .	125
3.158	Request Body of POST productOffering. . . . .	126
3.159	Responses of POST productOffering. . . . .	126
3.160	Parameters of GET productOffering/{id}. . . . .	127
3.161	Responses of GET productOffering/{id}. . . . .	127
3.162	Parameters of DELETE productOffering/{id}. . . . .	128
3.163	Responses of DELETE productOffering/{id}. . . . .	128
3.164	Parameters of PATCH productOffering/{id}. . . . .	129
3.165	Request Body of PATCH productOffering/{id}. . . . .	129
3.166	Responses of PATCH productOffering/{id}. . . . .	129
3.167	Parameters of GET productOrder. . . . .	130
3.168	Responses of GET productOrder. . . . .	130
3.169	Request Body of POST productOrder. . . . .	131
3.170	Responses of POST productOrder. . . . .	131
3.171	Parameters of GET productOrder/{id}. . . . .	132
3.172	Responses of GET productOrder/{id}. . . . .	132
3.173	Parameters of DELETE productOrder/{id}. . . . .	133
3.174	Responses of DELETE productOrder/{id}. . . . .	133
3.175	Parameters of PATCH productOrder/{id}. . . . .	134
3.176	Request Body of PATCH productOrder/{id}. . . . .	134
3.177	Responses of PATCH productOrder/{id}. . . . .	134
3.178	Parameters of GET productSpecification. . . . .	135



3.179	Responses of GET productSpecification. . . . .	135
3.180	Request Body of POST productSpecification. . . . .	136
3.181	Responses of POST productSpecification. . . . .	136
3.182	Parameters of GET productSpecification/{id}. . . . .	137
3.183	Responses of GET productSpecification/{id}. . . . .	137
3.184	Parameters of DELETE productSpecification/{id}. . . . .	138
3.185	Responses of DELETE productSpecification/{id}. . . . .	138
3.186	Parameters of PATCH productSpecification/{id}. . . . .	139
3.187	Request Body of PATCH productSpecification/{id}. . . . .	139
3.188	Responses of PATCH productSpecification/{id}. . . . .	139
3.189	Parameters of GET productTemplate. . . . .	140
3.190	Responses of GET productTemplate. . . . .	140
3.191	Request Body of POST productTemplate. . . . .	141
3.192	Responses of POST productTemplate. . . . .	141
3.193	Parameters of GET productTemplate/{id}. . . . .	142
3.194	Responses of GET productTemplate/{id}. . . . .	142
3.195	Parameters of DELETE productTemplate/{id}. . . . .	143
3.196	Responses of DELETE productTemplate/{id}. . . . .	143
3.197	Parameters of PATCH productTemplate/{id}. . . . .	144
3.198	Request Body of PATCH productTemplate/{id}. . . . .	144
3.199	Responses of PATCH productTemplate/{id}. . . . .	144
3.200	Parameters of GET resource. . . . .	145
3.201	Responses of GET resource. . . . .	145
3.202	Request Body of POST resource. . . . .	146
3.203	Responses of POST resource. . . . .	146
3.204	Parameters of GET resource/{id}. . . . .	147
3.205	Responses of GET resource/{id}. . . . .	147
3.206	Parameters of DELETE resource/{id}. . . . .	148
3.207	Responses of DELETE resource/{id}. . . . .	148
3.208	Parameters of PATCH resource/{id}. . . . .	149
3.209	Request Body of PATCH resource/{id}. . . . .	149
3.210	Responses of PATCH resource/{id}. . . . .	149
3.211	Parameters of GET resourceSpecification. . . . .	150
3.212	Responses of GET resourceSpecification. . . . .	150
3.213	Request Body of POST resourceSpecification. . . . .	151
3.214	Responses of POST resourceSpecification. . . . .	151
3.215	Parameters of GET resourceSpecification/{id}. . . . .	152
3.216	Responses of GET resourceSpecification/{id}. . . . .	152
3.217	Parameters of DELETE resourceSpecification/{id}. . . . .	153
3.218	Responses of DELETE resourceSpecification/{id}. . . . .	153
3.219	Parameters of PATCH resourceSpecification/{id}. . . . .	154
3.220	Request Body of PATCH resourceSpecification/{id}. . . . .	154
3.221	Responses of PATCH resourceSpecification/{id}. . . . .	154
3.222	Parameters of GET resourceTemplate. . . . .	155
3.223	Responses of GET resourceTemplate. . . . .	155
3.224	Request Body of POST resourceTemplate. . . . .	156
3.225	Responses of POST resourceTemplate. . . . .	156
3.226	Parameters of GET resourceTemplate/{id}. . . . .	157
3.227	Responses of GET resourceTemplate/{id}. . . . .	157

3.228	Parameters of DELETE resourceTemplate/{id}. . . . .	158
3.229	Responses of DELETE resourceTemplate/{id}. . . . .	158
3.230	Parameters of PATCH resourceTemplate/{id}. . . . .	159
3.231	Request Body of PATCH resourceTemplate/{id}. . . . .	159
3.232	Responses of PATCH resourceTemplate/{id}. . . . .	159
3.233	Parameters of GET resumePerformanceJob. . . . .	160
3.234	Responses of GET resumePerformanceJob. . . . .	161
3.235	Request Body of POST resumePerformanceJob. . . . .	162
3.236	Responses of POST resumePerformanceJob. . . . .	162
3.237	Parameters of GET resumePerformanceJob/{id}. . . . .	163
3.238	Responses of GET resumePerformanceJob/{id}. . . . .	163
3.239	Parameters of GET service. . . . .	164
3.240	Responses of GET service. . . . .	164
3.241	Request Body of POST service. . . . .	165
3.242	Responses of POST service. . . . .	165
3.243	Parameters of GET service/{id}. . . . .	166
3.244	Responses of GET service/{id}. . . . .	166
3.245	Parameters of DELETE service/{id}. . . . .	167
3.246	Responses of DELETE service/{id}. . . . .	167
3.247	Parameters of PATCH service/{id}. . . . .	168
3.248	Request Body of PATCH service/{id}. . . . .	168
3.249	Responses of PATCH service/{id}. . . . .	168
3.250	Parameters of GET serviceLevelObjective. . . . .	169
3.251	Responses of GET serviceLevelObjective. . . . .	169
3.252	Request Body of POST serviceLevelObjective. . . . .	170
3.253	Responses of POST serviceLevelObjective. . . . .	170
3.254	Parameters of GET serviceLevelObjective/{id}. . . . .	171
3.255	Responses of GET serviceLevelObjective/{id}. . . . .	171
3.256	Parameters of DELETE serviceLevelObjective/{id}. . . . .	172
3.257	Responses of DELETE serviceLevelObjective/{id}. . . . .	172
3.258	Parameters of PATCH serviceLevelObjective/{id}. . . . .	173
3.259	Request Body of PATCH serviceLevelObjective/{id}. . . . .	173
3.260	Responses of PATCH serviceLevelObjective/{id}. . . . .	173
3.261	Parameters of GET serviceLevelSpecification. . . . .	174
3.262	Responses of GET serviceLevelSpecification. . . . .	174
3.263	Request Body of POST serviceLevelSpecification. . . . .	175
3.264	Responses of POST serviceLevelSpecification. . . . .	175
3.265	Parameters of GET serviceLevelSpecification/{id}. . . . .	176
3.266	Responses of GET serviceLevelSpecification/{id}. . . . .	176
3.267	Parameters of DELETE serviceLevelSpecification/{id}. . . . .	177
3.268	Responses of DELETE serviceLevelSpecification/{id}. . . . .	177
3.269	Parameters of PATCH serviceLevelSpecification/{id}. . . . .	178
3.270	Request Body of PATCH serviceLevelSpecification/{id}. . . . .	178
3.271	Responses of PATCH serviceLevelSpecification/{id}. . . . .	178
3.272	Parameters of GET serviceSpecification. . . . .	179
3.273	Responses of GET serviceSpecification. . . . .	179
3.274	Request Body of POST serviceSpecification. . . . .	180
3.275	Responses of POST serviceSpecification. . . . .	180
3.276	Parameters of GET serviceSpecification/{id}. . . . .	181

3.277	Responses of GET serviceSpecification/{id}. . . . .	181
3.278	Parameters of DELETE serviceSpecification/{id}. . . . .	182
3.279	Responses of DELETE serviceSpecification/{id}. . . . .	182
3.280	Parameters of PATCH serviceSpecification/{id}. . . . .	183
3.281	Request Body of PATCH serviceSpecification/{id}. . . . .	183
3.282	Responses of PATCH serviceSpecification/{id}. . . . .	183
3.283	Parameters of GET serviceTemplate. . . . .	184
3.284	Responses of GET serviceTemplate. . . . .	184
3.285	Request Body of POST serviceTemplate. . . . .	185
3.286	Responses of POST serviceTemplate. . . . .	185
3.287	Parameters of GET serviceTemplate/{id}. . . . .	186
3.288	Responses of GET serviceTemplate/{id}. . . . .	186
3.289	Parameters of DELETE serviceTemplate/{id}. . . . .	187
3.290	Responses of DELETE serviceTemplate/{id}. . . . .	187
3.291	Parameters of PATCH serviceTemplate/{id}. . . . .	188
3.292	Request Body of PATCH serviceTemplate/{id}. . . . .	188
3.293	Responses of PATCH serviceTemplate/{id}. . . . .	188
3.294	Parameters of GET suspendPerformanceJob. . . . .	189
3.295	Responses of GET suspendPerformanceJob. . . . .	190
3.296	Request Body of POST suspendPerformanceJob. . . . .	191
3.297	Responses of POST suspendPerformanceJob. . . . .	191
3.298	Parameters of GET suspendPerformanceJob/{id}. . . . .	192
3.299	Responses of GET suspendPerformanceJob/{id}. . . . .	192
3.300	Parameters of GET troubleTicket. . . . .	193
3.301	Responses of GET troubleTicket. . . . .	193
3.302	Request Body of POST troubleTicket. . . . .	194
3.303	Responses of POST troubleTicket. . . . .	194
3.304	Parameters of GET troubleTicket/{id}. . . . .	195
3.305	Responses of GET troubleTicket/{id}. . . . .	195
3.306	Parameters of DELETE troubleTicket/{id}. . . . .	196
3.307	Responses of DELETE troubleTicket/{id}. . . . .	196
3.308	Parameters of PATCH troubleTicket/{id}. . . . .	197
3.309	Request Body of PATCH troubleTicket/{id}. . . . .	197
3.310	Responses of PATCH troubleTicket/{id}. . . . .	197
4.1	Fields of Addressable. . . . .	198
4.2	Fields of AffectedService. . . . .	199
4.3	Fields of AgreementItemRef. . . . .	200
4.4	Fields of AgreementRef. . . . .	201
4.5	Fields of Alarm. . . . .	203
4.6	Fields of AlarmRef. . . . .	204
4.7	Fields of AlarmType. . . . .	205
4.8	Fields of AlarmedObject. . . . .	206
4.9	Fields of AlternateProductStock. . . . .	207
4.10	Fields of ApplicableTimePeriod. . . . .	208
4.11	Fields of AppliedPayment. . . . .	209
4.12	Fields of AppointmentRef. . . . .	210
4.13	Fields of AssociationSpecificationRef. . . . .	211
4.14	Fields of Attachment. . . . .	212
4.15	Fields of AttachmentOrDocumentRef. . . . .	213

4.16	Fields of AttachmentRef. . . . .	214
4.17	Fields of AttachmentURL. . . . .	215
4.18	Fields of Attachment_Create. . . . .	216
4.19	Fields of Attachment_Update. . . . .	217
4.20	Fields of AvailabilityResultType. . . . .	218
4.21	Fields of BillCycleRef. . . . .	219
4.22	Fields of BillingAccountRef. . . . .	220
4.23	Fields of BundledGroupProductOffering. . . . .	221
4.24	Fields of BundledGroupProductOfferingOption. . . . .	222
4.25	Fields of BundledProductOffering. . . . .	223
4.26	Fields of BundledProductOfferingOption. . . . .	224
4.27	Fields of BundledProductSpecification. . . . .	225
4.28	Fields of CancelPerformanceJob. . . . .	226
4.29	Fields of CancelPerformanceJob_Common. . . . .	227
4.30	Fields of CancelPerformanceJob_Create. . . . .	228
4.31	Fields of CancelPerformanceJob_Find. . . . .	229
4.32	Fields of CategoryRef. . . . .	230
4.33	Fields of ChannelRef. . . . .	231
4.34	Fields of Characteristic. . . . .	232
4.35	Fields of CharacteristicRelationship. . . . .	233
4.36	Fields of CharacteristicSpecification. . . . .	234
4.37	Fields of CharacteristicSpecificationRelationship. . . . .	235
4.38	Fields of CharacteristicValuePrecedence. . . . .	236
4.39	Fields of CharacteristicValueSpecification. . . . .	237
4.40	Fields of CheckProductStock. . . . .	238
4.41	Fields of CheckProductStockItem. . . . .	239
4.42	Fields of CheckProductStock_Create. . . . .	240
4.43	Fields of Comment. . . . .	241
4.44	Fields of ConstraintRef. . . . .	242
4.45	Fields of ContactMedium. . . . .	243
4.46	Fields of CrossedThresholdInformation. . . . .	244
4.47	Fields of CustomerBill. . . . .	245
4.48	Fields of CustomerBillRef. . . . .	246
4.49	Fields of CustomerBillRunType. . . . .	247
4.50	Fields of CustomerBillStateType. . . . .	248
4.51	Fields of CustomerBill_Create. . . . .	249
4.52	Fields of CustomerBill_Update. . . . .	250
4.53	Fields of CustomerCharacteristic. . . . .	251
4.54	Fields of CustomerInquiry. . . . .	252
4.55	Fields of CustomerInquiry_Create. . . . .	253
4.56	Fields of CustomerInquiry_Update. . . . .	254
4.57	Fields of Disability. . . . .	255
4.58	Fields of Document. . . . .	256
4.59	Fields of DocumentRef. . . . .	257
4.60	Fields of Document_Create. . . . .	258
4.61	Fields of Document_Update. . . . .	259
4.62	Fields of Duration. . . . .	260
4.63	Fields of Entity. . . . .	261
4.64	Fields of EntityRef. . . . .	262

4.65	Fields of EntitySpecificationRelationship. . . . .	263
4.66	Fields of EntityValue. . . . .	264
4.67	Fields of Error. . . . .	265
4.68	Fields of Error400. . . . .	266
4.69	Fields of Error400Code. . . . .	267
4.70	Fields of Error401. . . . .	268
4.71	Fields of Error401Code. . . . .	269
4.72	Fields of Error403. . . . .	270
4.73	Fields of Error403Code. . . . .	271
4.74	Fields of Error404. . . . .	272
4.75	Fields of Error422. . . . .	273
4.76	Fields of Error422Code. . . . .	274
4.77	Fields of Error500. . . . .	275
4.78	Fields of Error501. . . . .	276
4.79	Fields of Event. . . . .	277
4.80	Fields of Event_Create. . . . .	278
4.81	Fields of Extensible. . . . .	279
4.82	Fields of ExternalReference. . . . .	280
4.83	Fields of Feature. . . . .	281
4.84	Fields of FeatureRelationship. . . . .	282
4.85	Fields of FeatureSpecification. . . . .	283
4.86	Fields of FeatureSpecificationCharacteristic. . . . .	284
4.87	Fields of FeatureSpecificationCharacteristicRelationship. . . . .	285
4.88	Fields of FeatureSpecificationRelationship. . . . .	286
4.89	Fields of FileTransferData. . . . .	287
4.90	Fields of FinancialAccountRef. . . . .	288
4.91	Fields of GeoJson. . . . .	289
4.92	Fields of GeoJsonFeature. . . . .	290
4.93	Fields of GeoJsonFeatureCollection. . . . .	291
4.94	Fields of GeographicAddress. . . . .	292
4.95	Fields of GeographicLocation. . . . .	293
4.96	Fields of GeographicLocationRef. . . . .	294
4.97	Fields of GeographicLocationRefOrValue. . . . .	295
4.98	Fields of Geometry. . . . .	296
4.99	Fields of HourRange. . . . .	297
4.100	Fields of HubSubscription. . . . .	298
4.101	Fields of HubSubscription_Create. . . . .	299
4.102	Fields of Individual. . . . .	301
4.103	Fields of IndividualIdentification. . . . .	302
4.104	Fields of IndividualStateType. . . . .	303
4.105	Fields of Individual_Create. . . . .	305
4.106	Fields of Individual_Update. . . . .	307
4.107	Fields of InquiredCharacteristicValueSpecification. . . . .	308
4.108	Fields of InquiredProduct. . . . .	309
4.109	Fields of InquiredProductCharacteristic. . . . .	310
4.110	Fields of InquiredProductRef. . . . .	311
4.111	Fields of InquiredProductRelationship. . . . .	312
4.112	Fields of InquiredProvider. . . . .	313
4.113	Fields of InquiryResult. . . . .	314

4.114	Fields of InquiryStateType. . . . .	315
4.115	Fields of Interval. . . . .	316
4.116	Fields of JobType. . . . .	317
4.117	Fields of KeyIndicator. . . . .	318
4.118	Fields of KeyIndicatorRelationship. . . . .	319
4.119	Fields of KeyIndicator_Create. . . . .	320
4.120	Fields of KeyIndicator_Update. . . . .	321
4.121	Fields of LanguageAbility. . . . .	322
4.122	Fields of LineString. . . . .	323
4.123	Fields of LogicalResource. . . . .	324
4.124	Fields of LogicalResourceSpecification. . . . .	325
4.125	Fields of MarketSegmentRef. . . . .	326
4.126	Fields of MeasurementTime. . . . .	327
4.127	Fields of MediumCharacteristic. . . . .	328
4.128	Fields of Mission. . . . .	329
4.129	Fields of MissionAsset. . . . .	330
4.130	Fields of MissionAssetRelationship. . . . .	331
4.131	Fields of MissionRelationship. . . . .	332
4.132	Fields of MissionStatusType. . . . .	333
4.133	Fields of Mission_Create. . . . .	334
4.134	Fields of Mission_Update. . . . .	335
4.135	Fields of ModifyPerformanceJob. . . . .	336
4.136	Fields of ModifyPerformanceJob_Common. . . . .	337
4.137	Fields of ModifyPerformanceJob_Create. . . . .	338
4.138	Fields of ModifyPerformanceJob_Find. . . . .	339
4.139	Fields of ModifyPerformanceJob_ProfileValue. . . . .	340
4.140	Fields of Money. . . . .	341
4.141	Fields of MonthlyScheduleDayOfWeekDefinition. . . . .	342
4.142	Fields of MultiLineString. . . . .	343
4.143	Fields of MultiPoint. . . . .	344
4.144	Fields of MultiPolygon. . . . .	345
4.145	Fields of Note. . . . .	346
4.146	Fields of OrderItemActionType. . . . .	347
4.147	Fields of OrderItemRelationship. . . . .	348
4.148	Fields of OrderPrice. . . . .	349
4.149	Fields of OrderTerm. . . . .	350
4.150	Fields of Organization. . . . .	351
4.151	Fields of OrganizationChildRelationship. . . . .	352
4.152	Fields of OrganizationIdentification. . . . .	353
4.153	Fields of OrganizationParentRelationship. . . . .	354
4.154	Fields of OrganizationRef. . . . .	355
4.155	Fields of OrganizationStateType. . . . .	356
4.156	Fields of Organization_Create. . . . .	357
4.157	Fields of Organization_Update. . . . .	358
4.158	Fields of OtherNameIndividual. . . . .	359
4.159	Fields of OtherNameOrganization. . . . .	360
4.160	Fields of OutputFormat. . . . .	361
4.161	Fields of POPAlteration. . . . .	362
4.162	Fields of PartyCreditProfile. . . . .	363



4.163	Fields of PaymentMethodRef. . . . .	364
4.164	Fields of PaymentRef. . . . .	365
4.165	Fields of PerceivedSeverity. . . . .	366
4.166	Fields of PerformanceJob. . . . .	367
4.167	Fields of PerformanceJobComplexQuery. . . . .	368
4.168	Fields of PerformanceJobComplexQuery_Create. . . . .	369
4.169	Fields of PerformanceJobProcessStateType. . . . .	370
4.170	Fields of PerformanceJobRef. . . . .	371
4.171	Fields of PerformanceJobRefOrValue. . . . .	372
4.172	Fields of PerformanceJobStateType. . . . .	373
4.173	Fields of PerformanceJobValue. . . . .	374
4.174	Fields of PerformanceJob_Common. . . . .	375
4.175	Fields of PerformanceJob_Create. . . . .	376
4.176	Fields of PerformanceJob_Find. . . . .	377
4.177	Fields of PerformanceProfileValue. . . . .	378
4.178	Fields of PerformanceReport. . . . .	379
4.179	Fields of PerformanceReportComplexQuery. . . . .	380
4.180	Fields of PerformanceReportComplexQuery_Create. . . . .	381
4.181	Fields of PerformanceReportRef. . . . .	382
4.182	Fields of PerformanceReportStateType. . . . .	383
4.183	Fields of PerformanceReport_Common. . . . .	384
4.184	Fields of PerformanceReport_Create. . . . .	385
4.185	Fields of PerformanceReport_Find. . . . .	386
4.186	Fields of PhysicalResource. . . . .	387
4.187	Fields of PhysicalResourceSpecification. . . . .	388
4.188	Fields of Place. . . . .	389
4.189	Fields of PlaceRef. . . . .	390
4.190	Fields of PlaceRefOrValue. . . . .	391
4.191	Fields of Point. . . . .	392
4.192	Fields of Point2D. . . . .	393
4.193	Fields of Polygon. . . . .	394
4.194	Fields of Price. . . . .	395
4.195	Fields of PriceAlteration. . . . .	396
4.196	Fields of Product. . . . .	397
4.197	Fields of ProductOffering. . . . .	399
4.198	Fields of ProductOfferingPriceRef. . . . .	400
4.199	Fields of ProductOfferingPriceRefOrValue. . . . .	401
4.200	Fields of ProductOfferingQualificationItemRef. . . . .	402
4.201	Fields of ProductOfferingQualificationRef. . . . .	403
4.202	Fields of ProductOfferingRef. . . . .	404
4.203	Fields of ProductOfferingRelationship. . . . .	405
4.204	Fields of ProductOfferingTerm. . . . .	406
4.205	Fields of ProductOffering_Create. . . . .	408
4.206	Fields of ProductOffering_Update. . . . .	409
4.207	Fields of ProductOrder. . . . .	410
4.208	Fields of ProductOrderItem. . . . .	411
4.209	Fields of ProductOrderItemStateType. . . . .	412
4.210	Fields of ProductOrderRef. . . . .	413
4.211	Fields of ProductOrderStateType. . . . .	414

4.212	Fields of ProductOrder_Create. . . . .	415
4.213	Fields of ProductOrder_Update. . . . .	416
4.214	Fields of ProductPrice. . . . .	417
4.215	Fields of ProductPriceValue. . . . .	418
4.216	Fields of ProductRef. . . . .	419
4.217	Fields of ProductRefOrValue. . . . .	421
4.218	Fields of ProductRelationship. . . . .	422
4.219	Fields of ProductSpecification. . . . .	423
4.220	Fields of ProductSpecificationCharacteristic. . . . .	424
4.221	Fields of ProductSpecificationCharacteristicRelationship. . . . .	425
4.222	Fields of ProductSpecificationCharacteristicValueUse. . . . .	426
4.223	Fields of ProductSpecificationRef. . . . .	427
4.224	Fields of ProductSpecificationRelationship. . . . .	428
4.225	Fields of ProductSpecification_Create. . . . .	429
4.226	Fields of ProductSpecification_Update. . . . .	430
4.227	Fields of ProductStatusType. . . . .	431
4.228	Fields of ProductStock. . . . .	432
4.229	Fields of ProductStockRef. . . . .	433
4.230	Fields of ProductStockRelationship. . . . .	434
4.231	Fields of ProductStockStatusType. . . . .	435
4.232	Fields of ProductStockUsageType. . . . .	436
4.233	Fields of ProductTerm. . . . .	437
4.234	Fields of Product_Create. . . . .	438
4.235	Fields of Product_Update. . . . .	439
4.236	Fields of Quantity. . . . .	440
4.237	Fields of QuoteItemRef. . . . .	441
4.238	Fields of QuoteRef. . . . .	442
4.239	Fields of RecurringFrequency. . . . .	443
4.240	Fields of RelatedChannel. . . . .	444
4.241	Fields of RelatedEntity. . . . .	445
4.242	Fields of RelatedEntityRefOrValue. . . . .	446
4.243	Fields of RelatedParty. . . . .	447
4.244	Fields of RelatedPlaceRefOrValue. . . . .	448
4.245	Fields of RelatedProductOrderItem. . . . .	449
4.246	Fields of RelatedServiceOrderItem. . . . .	450
4.247	Fields of RelationshipCharacteristic. . . . .	451
4.248	Fields of RelativeTimePeriod. . . . .	452
4.249	Fields of ReportContentItem. . . . .	453
4.250	Fields of ReportingTimeframe. . . . .	454
4.251	Fields of Resource. . . . .	455
4.252	Fields of ResourceAdministrativeStateType. . . . .	456
4.253	Fields of ResourceCandidateRef. . . . .	457
4.254	Fields of ResourceOperationalStateType. . . . .	458
4.255	Fields of ResourceRef. . . . .	459
4.256	Fields of ResourceRefOrValue. . . . .	460
4.257	Fields of ResourceRelationship. . . . .	461
4.258	Fields of ResourceSpecification. . . . .	462
4.259	Fields of ResourceSpecificationCharacteristic. . . . .	463
4.260	Fields of ResourceSpecificationCharacteristicRelationship. . . . .	464



4.261	Fields of ResourceSpecificationRef. . . . .	465
4.262	Fields of ResourceSpecificationRelationship. . . . .	466
4.263	Fields of ResourceSpecification_Create. . . . .	467
4.264	Fields of ResourceSpecification_Update. . . . .	468
4.265	Fields of ResourceStatusType. . . . .	469
4.266	Fields of ResourceUsageStateType. . . . .	470
4.267	Fields of Resource_Create. . . . .	471
4.268	Fields of Resource_Update. . . . .	472
4.269	Fields of ResponseTime. . . . .	473
4.270	Fields of ResultFormat. . . . .	474
4.271	Fields of ResultPayload. . . . .	475
4.272	Fields of ResumePerformanceJob. . . . .	476
4.273	Fields of ResumePerformanceJob_Common. . . . .	477
4.274	Fields of ResumePerformanceJob_Create. . . . .	478
4.275	Fields of ResumePerformanceJob_Find. . . . .	479
4.276	Fields of ScheduleDefinition. . . . .	480
4.277	Fields of Service. . . . .	482
4.278	Fields of ServiceCandidateRef. . . . .	483
4.279	Fields of ServiceFeatureSpecification. . . . .	484
4.280	Fields of ServiceLevelObjective. . . . .	485
4.281	Fields of ServiceLevelObjectiveRef. . . . .	486
4.282	Fields of ServiceLevelObjectiveThreshold. . . . .	487
4.283	Fields of ServiceLevelObjective_Create. . . . .	488
4.284	Fields of ServiceLevelObjective_Update. . . . .	489
4.285	Fields of ServiceLevelSpecConsequence. . . . .	490
4.286	Fields of ServiceLevelSpecification. . . . .	491
4.287	Fields of ServiceLevelSpecificationRef. . . . .	492
4.288	Fields of ServiceLevelSpecification_Create. . . . .	493
4.289	Fields of ServiceLevelSpecification_Update. . . . .	494
4.290	Fields of ServicePayloadSpecificAttributes. . . . .	495
4.291	Fields of ServiceRef. . . . .	496
4.292	Fields of ServiceRefOrValue. . . . .	498
4.293	Fields of ServiceRelationship. . . . .	499
4.294	Fields of ServiceSpecRelationship. . . . .	500
4.295	Fields of ServiceSpecification. . . . .	501
4.296	Fields of ServiceSpecificationRef. . . . .	502
4.297	Fields of ServiceSpecification_Create. . . . .	503
4.298	Fields of ServiceSpecification_Update. . . . .	504
4.299	Fields of ServiceStateType. . . . .	505
4.300	Fields of Service_Create. . . . .	506
4.301	Fields of Service_Update. . . . .	507
4.302	Fields of Skill. . . . .	508
4.303	Fields of StatusChange. . . . .	509
4.304	Fields of SuspendPerformanceJob. . . . .	510
4.305	Fields of SuspendPerformanceJob_Common. . . . .	511
4.306	Fields of SuspendPerformanceJob_Create. . . . .	512
4.307	Fields of SuspendPerformanceJob_Find. . . . .	513
4.308	Fields of TargetEntitySchema. . . . .	514
4.309	Fields of TargetProductSchema. . . . .	515

4.310	Fields of TargetResourceSchema. . . . .	516
4.311	Fields of TaskStateType. . . . .	517
4.312	Fields of TaxDefinition. . . . .	518
4.313	Fields of TaxExemptionCertificate. . . . .	519
4.314	Fields of TaxItem. . . . .	520
4.315	Fields of ThresholdRef. . . . .	521
4.316	Fields of TimeInterval. . . . .	522
4.317	Fields of TimePeriod. . . . .	523
4.318	Fields of Topic. . . . .	524
4.319	Fields of TotalPrice. . . . .	525
4.320	Fields of TroubleTicket. . . . .	526
4.321	Fields of TroubleTicketRelationship. . . . .	527
4.322	Fields of TroubleTicketStatusType. . . . .	528
4.323	Fields of TroubleTicket_Create. . . . .	529
4.324	Fields of TroubleTicket_Update. . . . .	530
4.325	Fields of UsageEstimation. . . . .	531

# 1 Document Meta Information

## 1.1 Document Signature Table

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Table 1.1: Signature Table.

### 1.1.1 Document Change Record

#### 1.1.1.1 Changes

Date	Version	author	message
2022-08-24	MS1	Christian Grubert	Initial version
2022-09-30	MS2	Christian Grubert	Added party management and resource registration.
2022-12-31	MS3	Christian Grubert	Added inquiry, template, event, attachment and billing API
2023-04-19	MS4	Christian Grubert	Updated endpoints descriptions for billing and attachments, added beam areas, best-effort flag and inquiry timeouts, added security considerations
2023-07-26	MS5	Norbert Czeranka	Priority system for offerings, characteristics, trouble ticket management and time intervals

Date	Version	author	message
2023-10-06	MS6	Christian Grubert	Introduced JSON Schema approach and GeoJSON details
2024-01-25	MS7	Christian Grubert	Clarified mandatory columns, additional JSON schemas, introduced polymorphism
2024-09-11	MS8 [1.2.0]	Thomas Schulz	Public release adjustments.
2024-12-09	MS9 [1.2.1]	Christian Grubert	Mission-API and location handling updates.
2025-02-03	MS10 [1.2.2]	Norbert Czeranka	Relative times in Mission-API, implicit subtypes, Open-API 3.0 type update.

Table 1.2: DCR Table.

### 1.1.1.2 Source Control

Changes to this document are tracked electronically. No signature is required by the authors. The following information can prove the integrity of the document and reveal any change.

Repo	Date	Author	Branch	Hash
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Table 1.3: GIT Changelog Table.



Figure 1.1: DCR QR-Code.

## 1.2 Documents

### 1.2.1 Reference Documents

Acronym	Reference	Title	Version
PSI-DL	PSI-DL	PSI CGI Document List	current MS (doc version)
PSI-ICD	PSI-ICD	PSI Interface Control Document	see before
PSI-TAD	PSI-TAD	PSI Terms, Abbreviations and Definitions	see before
PSI-TOD	PSI-TOD	PSI Tasks and Operations Dictionary	see before

Table 1.4: Reference Documents.

### 1.2.2 External Annexes

Reference	Title or Filename
PSI-ICD-Annex-I	PSI-ICD-Annex-I.zip
PSI-ICD-Annex-II	PSI-ICD-Annex-II.zip

Table 1.5: External Annexes

## 2 Introduction

The Pooling & Sharing Interfaces Definitions (PSID) project is an ESA co-funded effort to define a common standard for the interfaces of Pooling & Sharing Systems (PSS) for Satellite Communication (SatCom) services. A PSS is a digital platform for matchmaking (Gov)SatCom users' demands (both commercial and institutional) with (Gov)SatCom providers' offers. Bringing together multiple (Gov)SatCom providers in one platform makes the market transparent, thus allowing users to get an overview of the market and to compare different offers efficiently. Additionally, a PSS assists users with little knowledge about the (Gov)SatCom domain defining their requirements on the (Gov)SatCom services. Those two aspects combined allow for fast access to the services and an efficient usage of the available capacities. To accomplish this, a PSS steps in between the usual processes of finding a provider/supplier, requesting an offer, and ordering the desired products or services, either as a service broker or by pooling products and services from different providers and offering them as an intermediary or distributor. Subsequently, the PSS can be used to monitor the services and manage multiple missions in a single application.

Eventually, a PSS can also be used as (or manage) a community hub, i.e., a number of end users or customers with similar interest that *share* their common resources and utilize a commonly obtained *pool* of (Gov)SatCom capacities. This strategy increases the efficient usage of scarce resources further.

There are already different approaches on PSSs, that might lead to an unnecessary fragmentation of the market. Therefore, a common standard for the interfaces of a PSS is required to allow the interaction between those different PSSs and reduce the effort of (Gov)SatCom providers to offer their product and services via multiple PSSs to maximize their reach.

Such a standard needs to take care of the different interfaces involved in the aforementioned processes, i.e.,

1. an interface between PSS and resource providers (satellite operators, service providers, or other PSSs),
2. an interface between the PSS and users, and
3. an interface between PSS and its own governance.

The goal of this project is to mainly define aspect 1 and to develop a software mock-up as needed to validate the various interfaces being developed.

The PSI standard derives from the existing industry-standard "Open Digital Framework" of **TM Forum** alliance<sup>1</sup>. The "Open Digital Framework" is a reference framework for delivering online Information, Communications and Entertainment services to the telecom world. It empowers market participants to compete and cooperate. One of PSI's goals is to make this existing standard fit for the world of satellite communication.

The consortium for this project consists of the service & technology providers SES Techcom and CGI, as well as of the (Gov)SatCom operators SES, Hellas Sat, Hispasat, Hisdesat, and LuxGovSat, and Inmarsat being both a service & technology provider and a (Gov)SatCom operator.

<sup>1</sup> See <https://www.tmforum.org/resources/reference/gb991-tm-forums-core-concepts-and-principles-v22-0-0/>

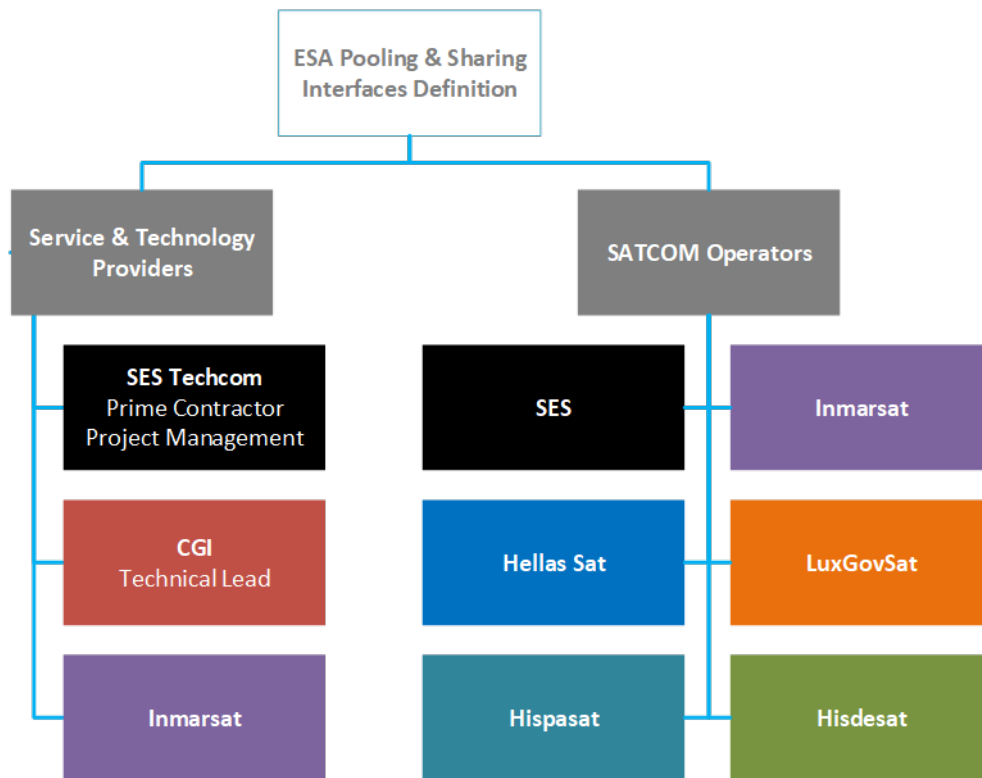


Figure 2.1: The PSI consortium.

## 2.1 Scope of Document

This document is the Interface Control Document of the Pooling & Sharing Interface (PSI). It contains the description of the interfaces between a PSS and a provider or two PSS, which are based on TM Forum OpenAPIs.

The following sections heavily refer to terms, abbreviations and definitions defined in the [PSI-TAD].

### 2.1.1 Compiled Document

**NOTE:** THIS IS A COMPILED DOCUMENT <sup>2</sup>

This document has been compiled/generated from external sources and is not being written as-is. Therefore, any changes made within this compiled version of the document will be lost upon recompilation!

To make (permanent) changes, edit the respective sources directly or contact the PSID team.

### 2.1.2 Signature

Changes to this document are tracked electronically. No signature is required by the authors. The information in the “Source Control” chapter can prove the integrity of the document and reveal any change.

<sup>2</sup>Document compiled on 2025-02-12 11:44.

## 2.1.3 Development State

Current document version is 1.2.2.

Next version is targeted for 2025-04-01.

## 2.1.4 PSI Release Notes

### 2.1.4.1 Introduction

Welcome to the third release of the Pooling and Sharing Interface API! Below, you'll find details about the features, enhancements, and other important aspects of this release.

### 2.1.4.2 Key Highlights

The focus of this release lies on **mission management**, to facilitate a common understanding of user requirement towards communication. It aims to complement the Inquiry API by providing workflows and *understanding* to service requirements. This is mainly a user-oriented API, but it also enables exchange of mission data between PSS systems and therefore cross-platform-market places. This could become a future focal point. Such data exchange would include actual user requirements (expressed as missions), as well as templates for such missions. By the use of templates, user mission creation is streamlined and allows a governance to safeguard, streamline or ease the process of user requirement gathering.

Together with the APIs, we are working on a Plug&Play component for P&S systems (Hubs, Brokers, Market-places...), based on ODA. This will be a standalone Micro-Frontend open to be integrated into existing OSS/B-SS/PSS systems. A first draft is included in this release.

It will come with different views:

- Time based (e.g. mission timeline, Gantt-Chart, to express that is needed *when*)
- Geography based (e.g. mission zones or network nodes on a map to express what is needed *where*)
- Logical View (e.g. communication interdependency graph to express *how* the requirements will look like)

Another area of improvement is the **performance management API**.

A new API has been added that allows to request performance reports to an ongoing mission from the provider. That is: the report itself is generated on provider's systems. The API handles the request and exchange of the report. The report has to be in line with the product's SLA and allows monitoring of compliance. It allows also to define alarm thresholds and receive a push of threshold violations by the provider, avoiding a constant pull.

We also added the technical considerations and resulting decisions to the document set. This allows easier future evolution and maintenance of the standard.

### 2.1.4.3 What's New

- [PSI-GID] now contains descriptions about the ODA component for mission management
- [PSI-ICD] now contains new and updated APIs - see below!
- [PSI-ADR] first release of our decision records



- [PSI-TAD] now contains descriptions of concepts for user missions, as well as performance and alarm management
- [PSI-TOD] now contains new tasks and operations for user missions, performance and alarm management

#### 2.1.4.3.1 Newly added APIs

- PSID002 Mission Management
- This customer-facing API allows them to manage missions and assign products, services and resources to them.
- It can also serve as an entry point for the Customer Inquiry API to find matching products for their requirements.
- PSID143 Performance Monitoring
- Based on MEF143 - Performance Monitoring API (Version 2.0.0-RC).
- The performance monitoring allows a PSS or customer to request performance reports from a provider.
- PSID642 Alarm
- Based on TMF642 - Alarm API (Version 4.1.0).
- Allows the provider to notify a PSS or customer about detected problems with their products.

#### 2.1.4.3.2 Updates APIs

- PSID001 Customer Inquiry
- Improved handling of places by adapting TMF Geography types.
- PSID620 Product Catalog
- Based on TMF620 - Product Catalog Management API (Version 4.1.0).
- Changed `SLARef` to `ServiceLevelSpecificationRef`
- Streamlined GeoJSON types
- PSID633 Service Catalog
- Based on TMF633 - Service Catalog Management API (Version 4.1.0).
- Changed `SLARef` to `ServiceLevelSpecificationRef`
- Streamlined GeoJSON types
- PSID634 Resource Catalog
- Based on TMF634 - Resource Catalog Management API (Version 4.1.0).
- Changed `SLARef` to `ServiceLevelSpecificationRef`
- Streamlined GeoJSON types
- PSID657 Service Quality Management
- Based on TMF657 - Service Quality Management API (Version 4.1.0).
- Add endpoints to manage KPIs that are supported by the PSS.

### 2.1.4.3.3 Added Requirements

- MISSION requirement category
- REQ-06-03 Key Indicator Management
- REQ-06-04 Performance Monitoring Job Management
- REQ-06-05 Performance Monitoring Report Management
- REQ-06-06 Alarm Management

### 2.1.4.4 Known Limitations

1. The Service Quality Management is rather basic. There is an ongoing effort to align this set of APIs with the results of a TM Forum Catalyst project. More information will follow in one of the next releases.
2. The Mission Management Service is at an early state. However, the available API implements basic mission management services, import and export. A full set of APIs to implement such a service are subject to an upcoming release. Refer also the [PSI-GID] to learn about the available API use cases.

## 2.1.5 Outlook

Currently, we are working on the next release with the following focal points:

- Finalize the mission management component
- Update the API baseline to TM Forum 5
- Converge with MEF schema for some selected APIs

## 2.1.6 Feedback and Contributions

We value your feedback! If you encounter any issues or have suggestions, please reach out. Additionally, we welcome contributions from the community.

## 2.2 High-Level Connection

This document describes the interfaces any PSS and any provider system must implement to enable communication between them. Unless specified otherwise, all interfaces are implemented RESTful, which includes the following properties:

- **Connection Type:** ad-hoc
- **Protocol:** HTTP(S)
- **Content Type:** JSON

Each of the following sections describe the available endpoints and operations, including the parameters, and request bodies. Wherever a named class is referenced see the [Data-Transfer-Objects](#) section for details. All information is also available as OpenAPI Specifications<sup>3</sup> in [PSI-ICD-Annex-I] of this document. These files can be used to generate server and client code<sup>4</sup> in a programming language of choice.

Every interface is implemented by a server and a client. There is no clear distinction between a PSS and a provider system in this document, since both can implement each side depending on the use-case. Especially the broker-type PSS will often receive data from one party (e.g. the customer) as a server and forward it to another (e.g. the provider) as a client. The PSI mock-up is a sample implementation of the endpoints described in the ICD.

It is up to the implementor to decide how the endpoints will be implemented internally on their side. For recommended guidelines and design patterns when implementing TM Forum's REST APIs, use the TMF630 REST API Design Guidelines 4.2.0<sup>5</sup> document as a reference. Filtering, for instance, is an optional function that is not required to be implemented for the GET endpoints returning lists of objects. Therefore, it is not part of the parameters listed in the respective endpoint sections of the ICD. If an implementor of the server side decides to develop it, *Part One* of the REST API Design Guidelines describes the recommendations for querying resources with attribute filtering, while *Part Six* describes advanced collection filtering using JSON Path. Client implementors are advised to clarify which filters are available on the server side.

## 2.3 Security Considerations

The PSID is designed to be as implementation-agnostic as possible, so it can be used as a building block for any PSS or client (user, provider and governance). Therefore, it must also be integrated in the overall security solution of the implementing system and can not establish strong requirements on those aspects. The following subsections will provide an overview of interface-related security aspects the implementor must consider, as well as some guidance on available solutions.

### 2.3.1 Transport Encryption

As stated in the introduction, all data is exchanged with TLS encryption using HTTPS. It is strongly recommended using the latest version (which is 1.3 at the time of writing) and to disable older versions via the server configuration to prevent downgrade attacks. The recommendation also applies to internal subsystems, even if they are not using PSI directly. Each party can decide whether to use a well-known certification authority or to arrange a custom Public-Key-Infrastructure (PKI). In the latter case, the root keys of the PKI have to be exchanged beforehand to establish the connection.

For extended security, the implementation can introduce additional encryption layers. Most notably, classified systems will most likely require a VPN connection. The soft- or hardware solution for the connection is to be agreed beforehand.

The above-mentioned measures are implemented on the transport layer and therefore transparent to the application. But this implies that the data is only encrypted on the network between one system and another. It is quite common though to use middleboxes like reverse-proxies and load-balancers, which will decrypt and re-encrypt the data for transmission to the next system. For highest security, the parties can agree to use the JSON Web Encryption (JWE, RFC 7516) technology. It enables the encryption of the message body (e.g. an inquiry), so it can only be decrypted by the target subsystem.

<sup>3</sup><https://swagger.io/resources/open-api/>

<sup>4</sup><https://swagger.io/tools/swagger-codegen/>

<sup>5</sup><https://www.tmfforum.org/resources/specification/tmf630-rest-api-design-guidelines-4-2-0/>

## 2.3.2 Authentication

Authentication is the process of validating the identity of a communication partner. This can be between two systems (PSS-to-Provider, PSS-to-PSS) or between a natural person and a system. Setting up the authentication for the first time is part of the accreditation process.

Since all data exchange is based on HTTPS, the server is always authenticated via the SSL certificate. As described above, the authenticity is checked either via a well-known certification authority or via a custom PKI. Additionally, it is possible to use certificate pinning (RFC 7469) to prevent man-in-the-middle attacks.

There are many standardized authentication methods available for clients. Selecting the right one depends on the security needs and structure of the implementation. There may also be differences made for authentication of other systems and natural persons.

For machine-to-machine communication, each implementation is expected to have a configuration of allowed hosts (e.g. `api.example.com:8081`) and their respective authentication scheme and credentials. Depending on the operational requirements, this may be offered as a self-service UI or restricted to the system operators (e.g. for security reasons or complexity concerns). When calling an endpoint, the respective authentication can be selected and applied automatically.

The recommended authentication method is the OAuth 2.0 protocol, which is also favoured by the REST API Design Guidelines of TM Forum. It separates the authentication provider from the rest of the system and allows authenticating systems and natural persons alike. The credentials to authenticate the client can be classic combinations of username and password, a second-factor, or certificate-based like the server authentication. Either way they are sent to the authentication provider before the first request, which then verifies the identity and creates an access token. The token is stored in a server-side session (using a short-lived cookie in the client browser) or returned to the client for further use as an HTTP-Header (useful for machine-to-machine communication).

## 2.3.3 Authorization and Data Visibility

Authorization is closely related to the above described authentication: It is the process of determining whether the authenticated entity has access to a source. Because of the close relation, it is not possible to define this without implying an authorization method. This chapter describes two aspects, which have to be considered by the server implementation.

First, it has to check the permissions of the client to access any given endpoint. For example, there are endpoints that are only allowed to be called by the system governance (see [PSI-TOD]). Consequently, any request by other parties must be prohibited, and a 403 status code must be returned as described in the [PSI-ICD]. The most common concept for this is role based access control (RBAC).

If the client is allowed to access the endpoint, the server must also check if the client is allowed to perform the given operation on the requested data. This could be implemented by using an access control list (ACL). As long as not stated otherwise, every party is only allowed to read and update entities they previously created themselves. The owner will extend this access as side effects to other actions:

- As part of resource accreditation, the resource is made visible to (Gov)SatCom users.
- When an order is created, the party information of the customer is made visible to the provider.

The system might also provide further internal processes to make data *writable* by other parties, e.g. for other persons in the same organization or a mission expert that supports the customer in the process of service acquisition. These permission checks are mandatory for the overall entity, but can also be performed on single attributes if required.

The Event API needs special attention in this regard. The implementation must assure that no published events are leaked to third parties. Also, it shall ensure that received events are processed under the same conditions as above.

### 2.3.4 Other Security Aspects

There are other security aspects that should be considered by all systems independently of the PSI. The following (incomplete) list is indicating some well-known ones, that could be part of the accreditation process if deemed relevant for the governance:

- Securing data-at-rest (e.g. in databases) from unauthorized access and data loss
- Denial-of-Service attacks
- Brute-Force attacks
- Replay attacks
- Physical security

## 2.4 Types and Characteristics

The PSS defines a set of supported types for resources, services and products in consultation with the providers. It provides them in a JSON Schema file that is made available through the API itself or can be exchanged offline. Each type then defines *characteristics* that describe the exact nature of it.

Product types are also the fundament of the matchmaking: The customer specifies a set of inquired characteristics and the PSS will find products that satisfy them. The result can be a single service or resource, that satisfies all requirements, or a more or less complex combination of such, depending on the capabilities of the algorithm. If partial matches are allowed, services that only partially match the inquired features are included into the results.

Both sides, PSS and Provider, may introduce additional characteristics, e.g. as part of the development of new or enhanced products. In any case, no assumptions shall be made on the support of those by the other side: If the PSS adds support for a new characteristic, it has to define a sensible, neutral default value that is applied to all specifications that do not contain the new characteristic. No provider shall be penalized in the matchmaking for not defining it, unless the user explicitly requests the new characteristic. If a provider sends a new characteristic, the PSS may decide to ignore it, or to accept and visualize it as-is for the customer without further handling.

The following subsections describe the set of resource, service and product types that were analysed in the course of the project. While these are not part of the standard per se, it is sensible for most systems to support them.

### 2.4.1 Examples

The following examples show different scenarios of how features and characteristics can be used in three phases of the service lifecycle:

1. The customer inquiry,
2. the response with matching specifications from the catalog and
3. the actual service implementation which is stored in the inventory.

They are structured according to the “Commission Implementing Decision (EU) 2023/1054”, which defines the service portfolio of the Union Space Programme, and covers the service layers L0 - L2.

### 2.4.1.1 Raw Bandwidth (L0)

Inquiry:

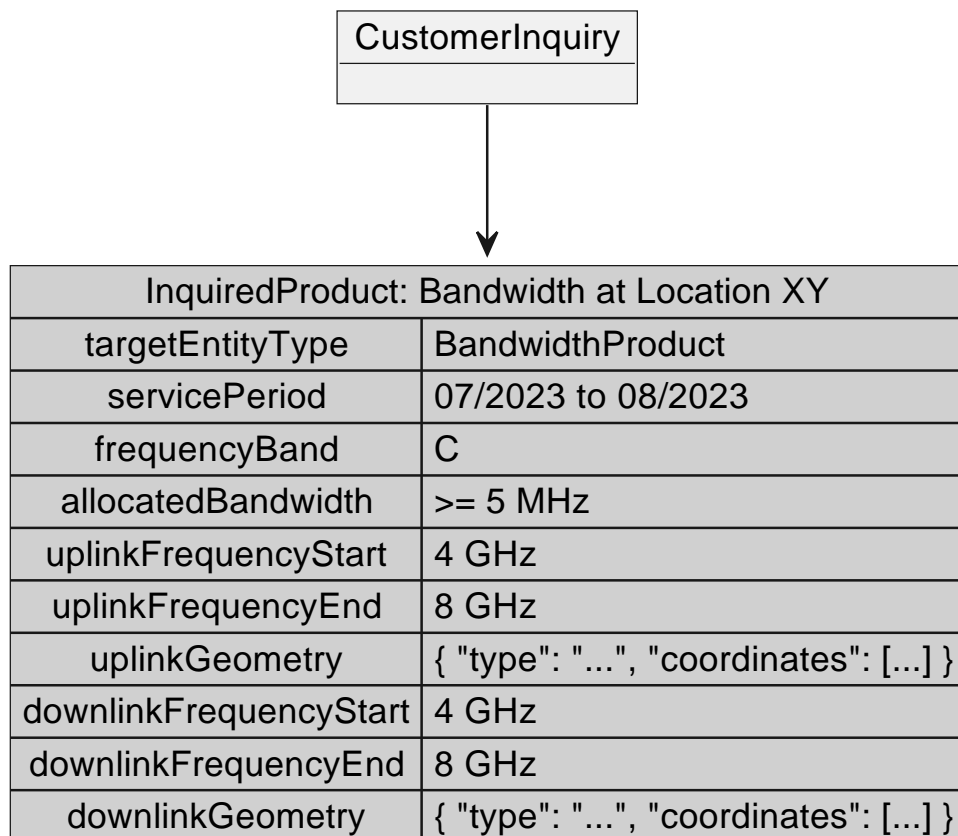


Figure 2.2: Example Inquiry for Raw Bandwidth

Results:

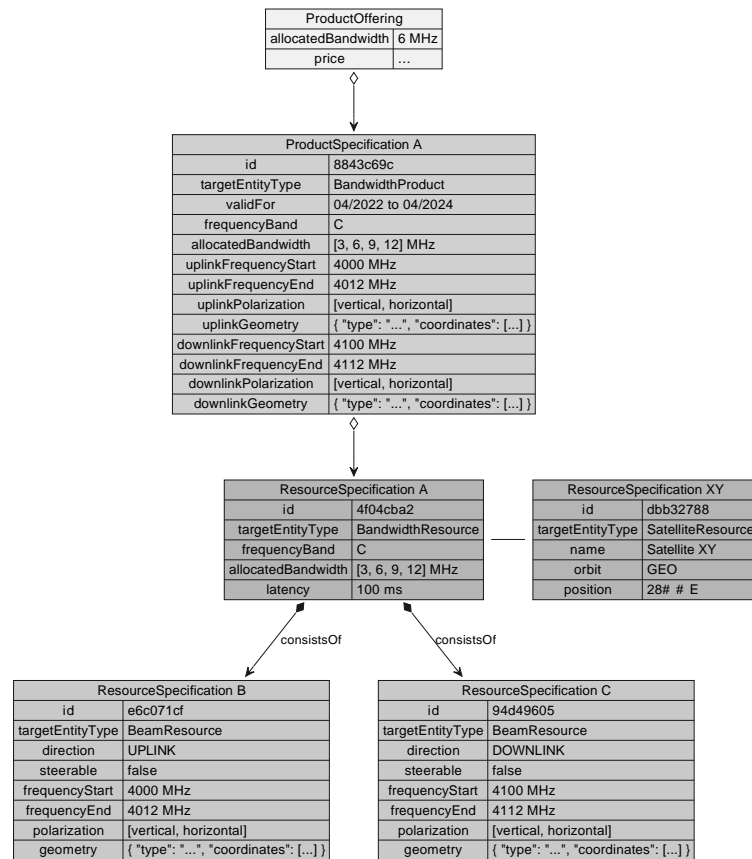


Figure 2.3: Example Results for Raw Bandwidth

Implementation:

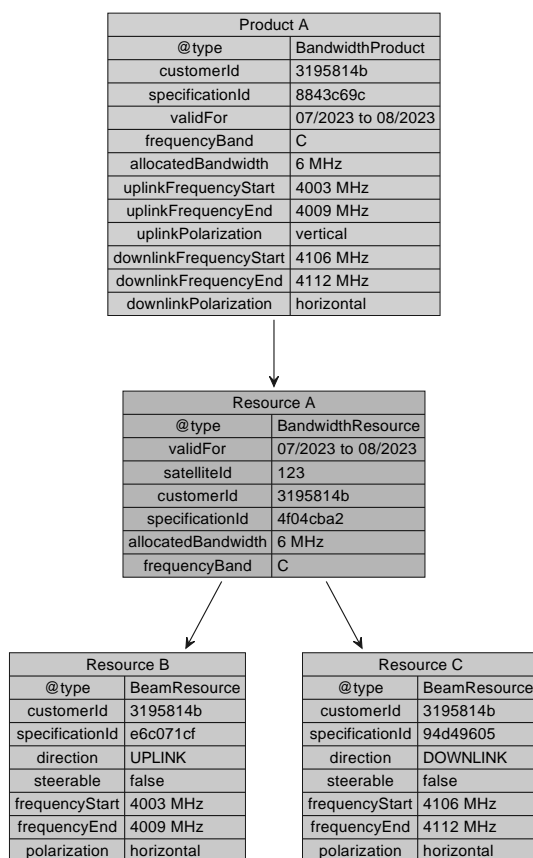


Figure 2.4: Example Inventory for Raw Bandwidth

Note that the geometry is deliberately not copied to the resource instances in this example. Since the beams are not steerable, copying this information would most probably not add any value. The implementation may choose to do so if justified, e.g. to track the actual configuration of steerable beams.

### 2.4.1.2 Anchoring Capacity (L1)

Inquiry:



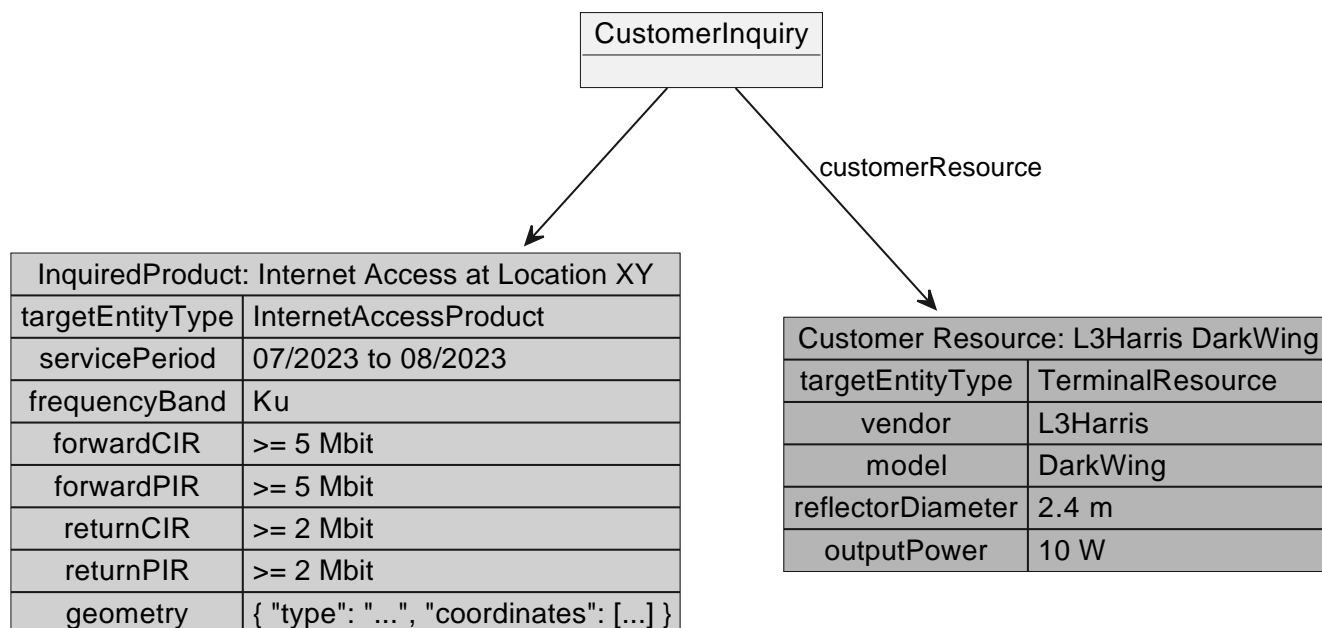


Figure 2.5: Example Inquiry for Anchoring Capacity

Results:

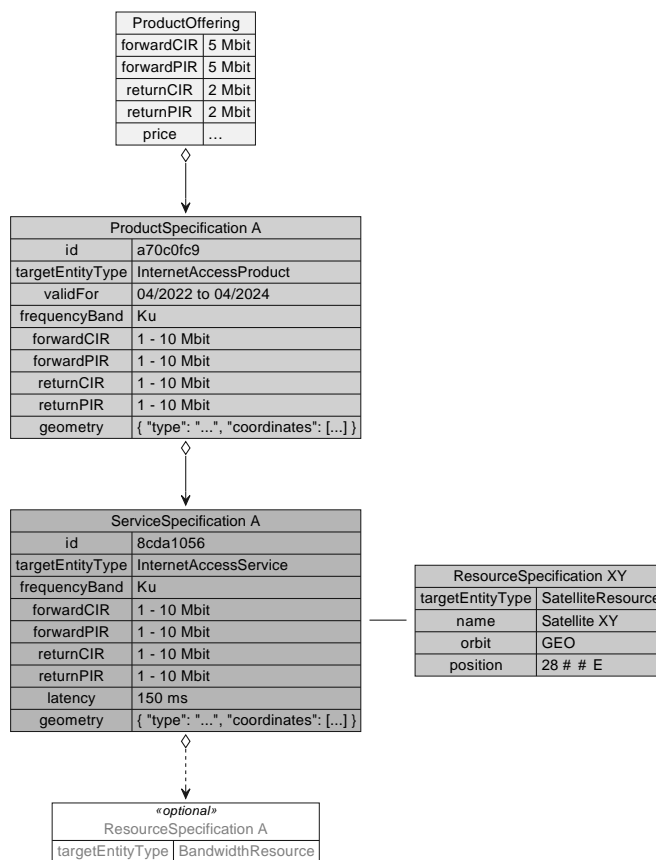


Figure 2.6: Example Results for Anchoring Capacity

Implementation:

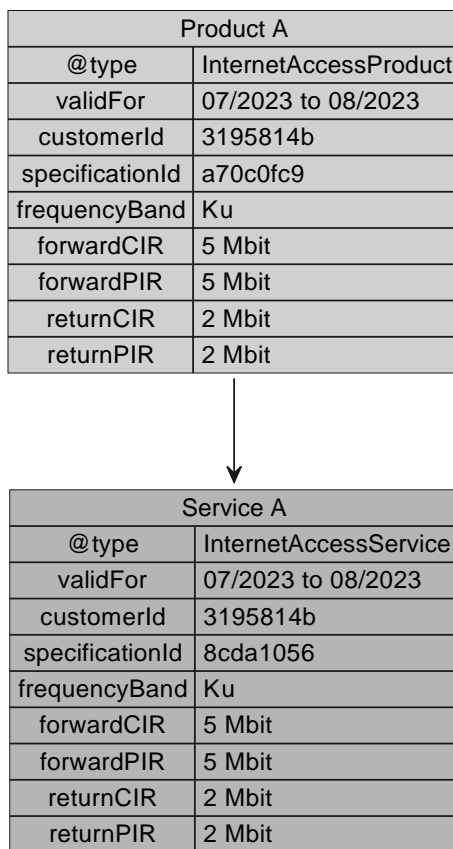


Figure 2.7: Example Inventory for Anchoring Capacity

### 2.4.1.3 End-to-End Service (L2)

Inquiry:

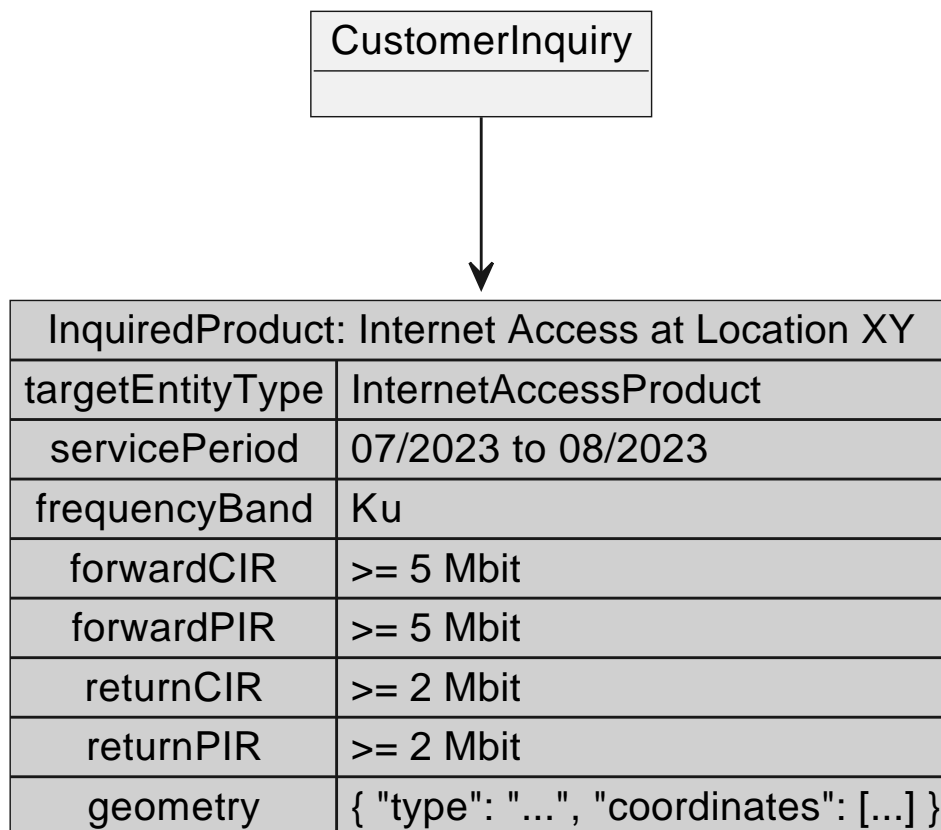


Figure 2.8: Example Inquiry for End-to-End Service

Results:

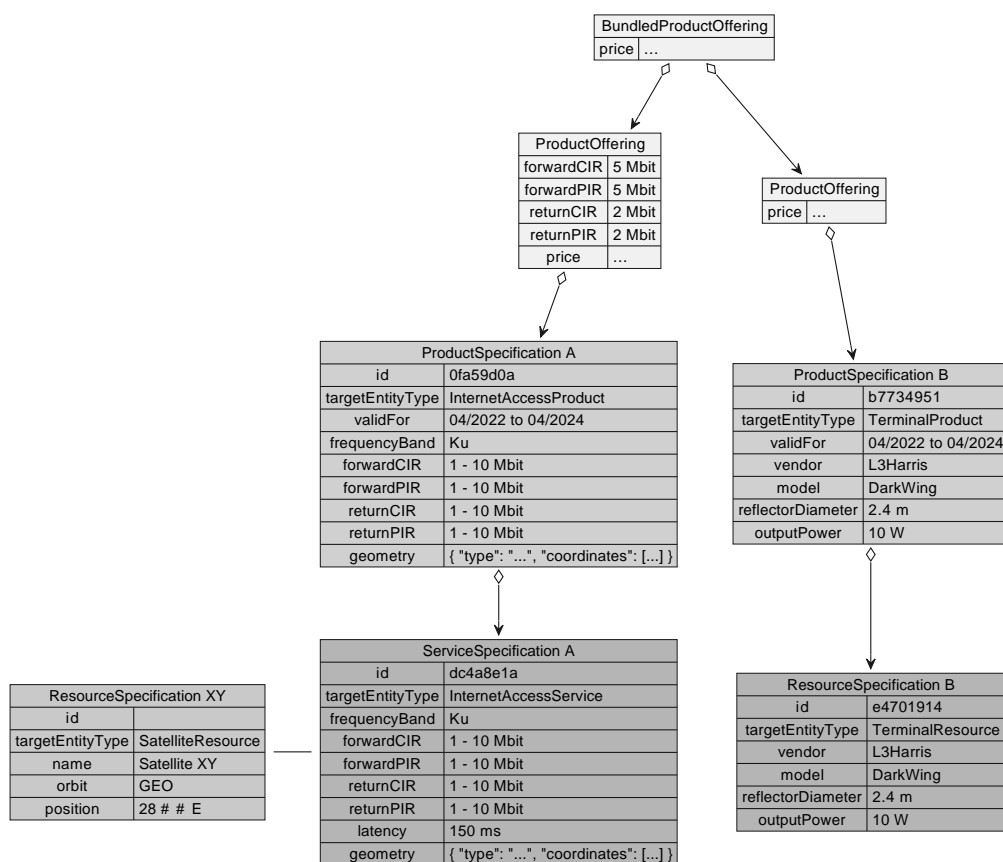


Figure 2.9: Example Results for End-to-End Service

Implementation:

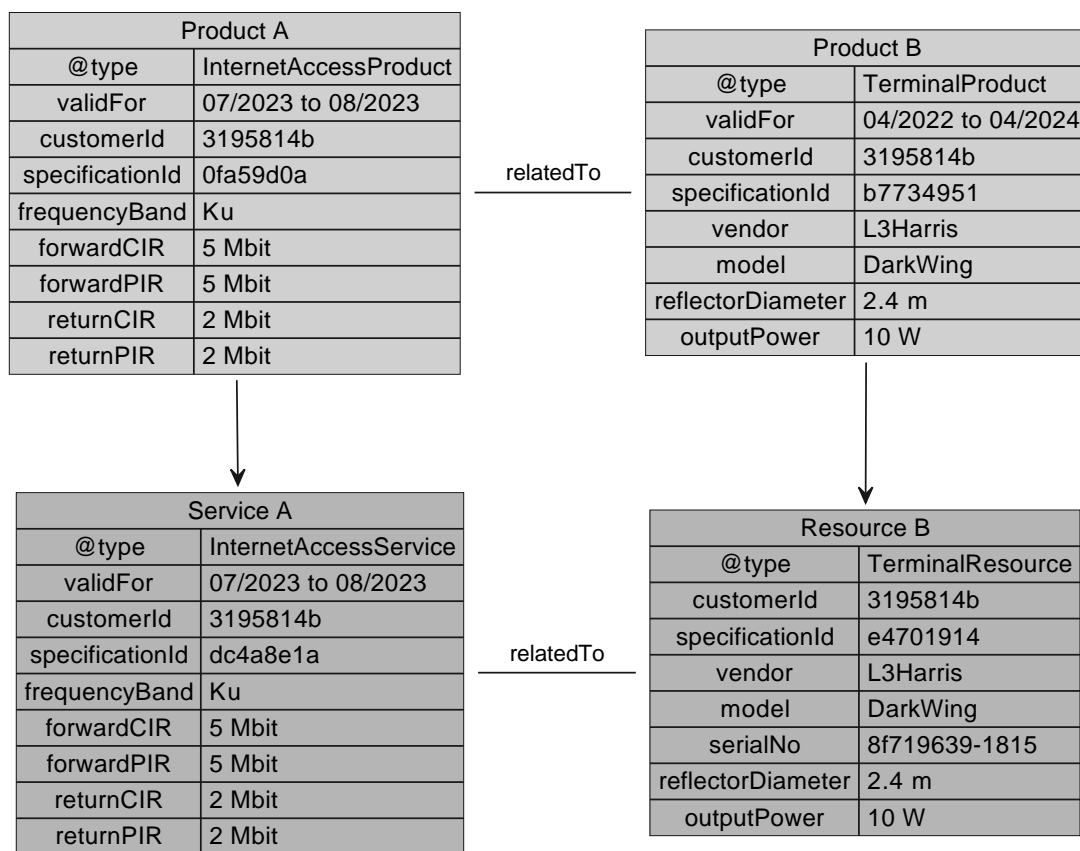


Figure 2.10: Example Inventory for End-to-End Service

#### 2.4.1.4 Multi-Product Request

An inquiry can contain multiple product requests at the same time. This can be used to either request different services that may be cheaper when bought as a package, or to describe varying communication needs in the course of a mission. The following example combines both cases: the mission starts with only one end-to-end service with low information rate, then increases it and adds additional raw bandwidth.

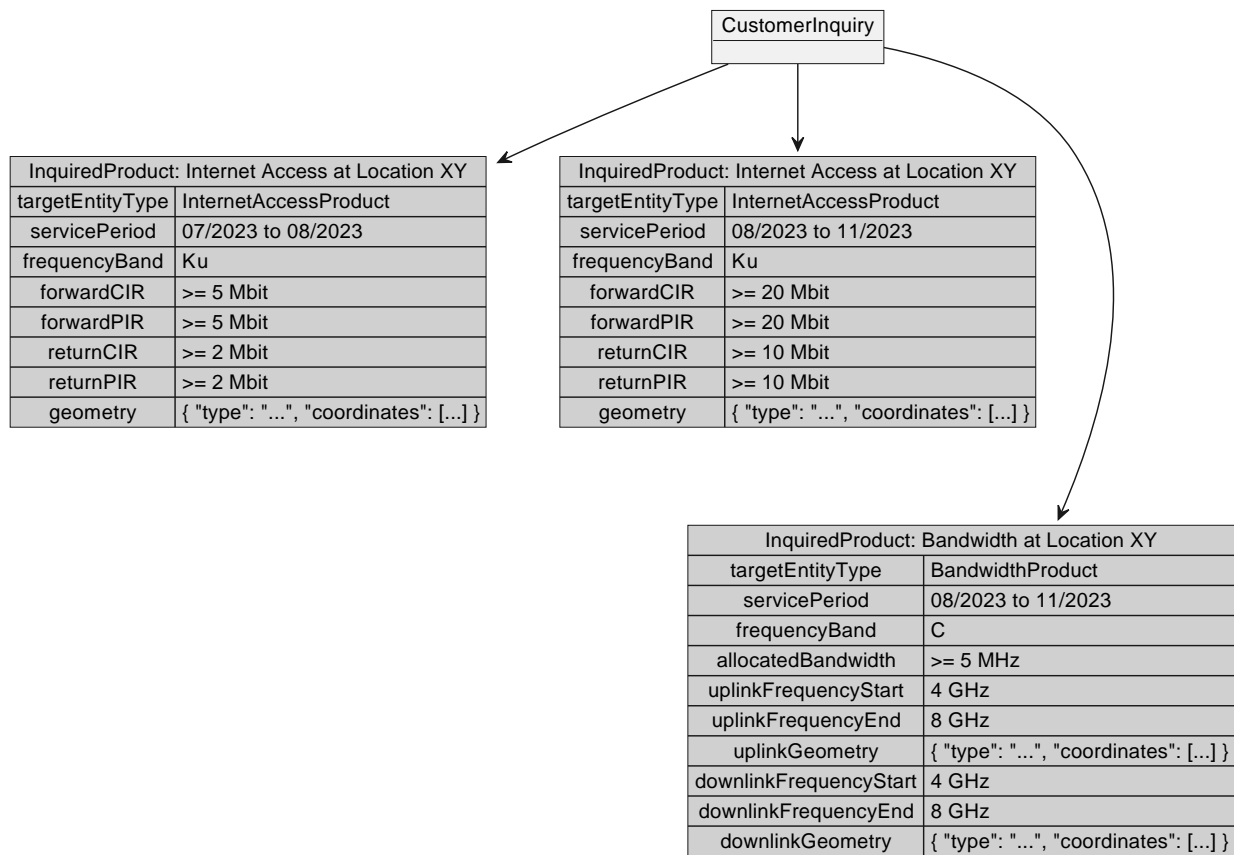


Figure 2.11: Example Of A Customer Inquiry of Internet Access / Bandwidth

The result of this inquiry is a combination of the results above and therefore not shown. Depending on the capabilities of the matchmaking, the internet access can be fulfilled by just one provider that is able to upgrade the active service, or it could offer two services possibly by different providers. The `BandwidthProduct` result is likely to be independent, but could also be bundled with the other two.

## 2.4.2 JSON Schemas

The following example demonstrates the structure of a JSON Schema. Apart from the identifier and description, the main content is the list of properties. Each one is defined by its name and type, and can be further qualified with value constraints and whether they are required. Lastly, they typically share all basic properties with the underlying entity, which is the `Service` in this case.

JSON Schema: InternetAccessService			
\$schema	http://json-schema.org/draft-07/schema#		
\$id	InternetAccessService.schema.json		
title	InternetAccessService		
description	Describes a service that provides internet access via satellites.		
allOf	\$ref Service.schema.json#Service		
properties	frequencyBand	type	string
		enum	P
			L
			S
			C
			X
			KA
			MILKA
			KU
	forwardCIR	type	integer
		default	0
		description	Measured in kbps
	forwardPIR	type	integer
		description	Measured in kbps
	returnCIR	type	integer
		default	0
		description	Measured in kbps
	returnPIR	type	integer
		description	Measured in kbps
	latency	type	integer
		description	Measured in ms
	geometry	type	object
		\$ref	https://geojson.org/schema/FeatureCollection.json
required	frequencyBand		
	forwardPIR		
	returnPIR		

Figure 2.12: JSON Schema for InternetAccessService

More example schemas (including space assets and user terminals) can be found in [PSI-ICD-Annex-II] of this document. They are extracted from the prototype, which was designed based on input of different providers.

### 2.4.3 Integration of Service Monitoring Specification into Performance Monitoring API

The performance Monitoring API delivered by the PSS API is a generic envelope that allows for the lifecycle management of relevant performance monitoring objects. The API itself does not provide explicit definitions for configuring performance monitoring or prescribing the structure of output data. However, it offers flexible extensibility to accommodate the configuration of service-specific performance objectives and results. This allows for customization and adaptation to various monitoring requirements and desired data formats. These monitoring configuration and result schemas can be defined using the JsonSchema (draft 7) format and can be integrated into the PerformanceJob and PerformanceReport using the TMF extension pattern. The extension hosting types in the API data model are:

- **ServicePayloadSpecificAttributes** - this type is extended with the Service monitoring configuration schema which typically contains information about the subject of the monitoring (i.e., service) and key indicators that need to be measured
- **ResultPayload** - this type is extended with a Service monitoring result schema which defines the structure of performance monitoring data returned by the provider

Selection of the appropriate schema for the extension points is done by providing the @type attribute which must be set to a value that uniquely identifies the service monitoring configuration. This identifier is provided as root schema \$id and must be agreed upon between the PSS and service provider.

PSS implementation might opt to integrate the selected performance monitoring specifications into the data model during development. In such a case an integrated data model is built and monitoring specifications are in an inheritance relationship according to either ServicePayloadSpecificAttributes or ResultPayload as described in the OAS specification. This pattern is called Static Binding. The snippets below present an example of a static binding of the envelope API based on an exemplary MEF monitoring specifications, for both extension points.

```
ServicePayloadSpecificAttributes:
  type: object
  description: ServicePayloadSpecificAttributes is used as an extension point
    for MEF specific service performance monitoring configuration. It includes
    definition of service/entity and applicable performance monitoring objectives.
    The '@type' attribute is used as a discriminator
  discriminator:
    mapping:
      urn:mef:lso:spec:legato:ip-performance-monitoring-configuration:v0.0.1:all: '#/components/schemas/
        IpPerformanceMonitoringConfiguration'
    propertyName: '@type'
  properties:
    '@type':
      type: string
      description:
        The name that uniquely identifies type of performance monitoring configuration
        that specifies PM objectives. In case of MEF services this is the URN
        provided in performance monitoring configuration specification.
        The named type must be a subclass of ServicePayloadSpecificAttributes.
```

```
IpPerformanceMonitoringConfiguration:
  allOf:
    - $ref: '#/components/schemas/ServicePayloadSpecificAttributes'
    - type: object
      description: IP Performance Monitoring Configuration Schema.
```

```
ResultPayload:
  type: object
  description: ResultPayload is used as an extension point for MEF specific service
    performance monitoring results. The '@type' attribute is used as a discriminator
  discriminator:
    mapping:
      urn:mef:lso:spec:legato:ip-performance-monitoring-results:v0.0.1:all: '#/components/schemas/
        IpPerformanceMonitoringResults'
    propertyName: '@type'
  properties:
    '@type':
      type: string
      description:
        The name that uniquely identifies type of performance monitoring
        results that are returned by the Performance Report. In case of MEF services this
        is the URN provided in performance monitoring results specification.
        The named type must be a subclass of ResultPayload.
```

```
IpPerformanceMonitoringResults:
  allOf:
    - $ref: '#/components/schemas/ResultPayload'
    - type: object
      description: IP Performance Monitoring Results Schema.
```

The following figure presents two MEF performance monitoring schemas that represent configuration and result classes for IP services. When these schemas are used, the @type of ServicePayloadSpecificAttributes takes



the “urn:mef:iso:spec:legato:ip-performancemonitoring-configuration:v0.0.1:all” value to indicate which performance specification should be used to interpret a set of service-specific attributes included in the payload. Similarly, for ResultPayload, the @type attribute takes “urn:mef:iso:spec:legato:ip-performancemonitoring-results:v0.0.1:all” value which indicates how the resulting performance collection should be interpreted.

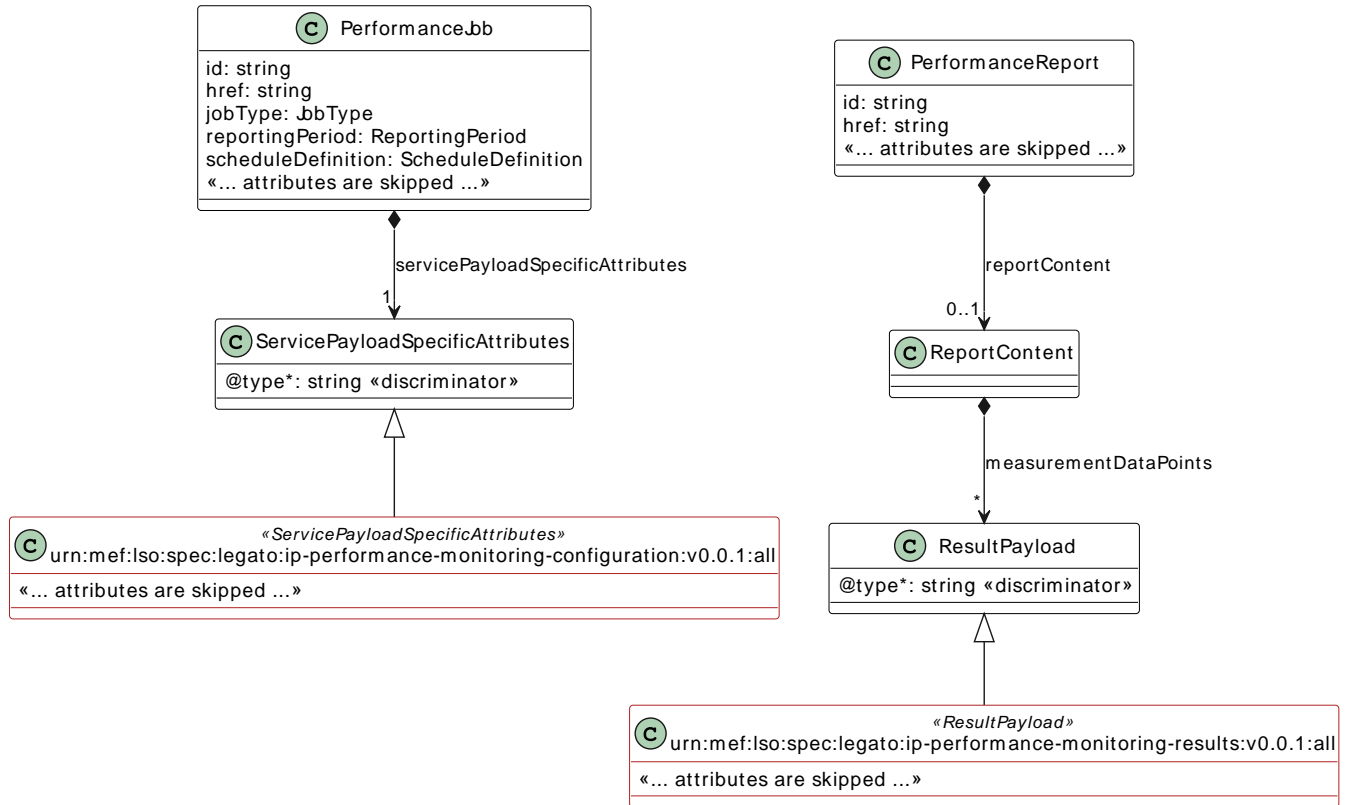


Figure 2.13: Performance Monitoring.

## 3 REST APIs

### 3.1 alarm (/alarm)

Alarm API

#### 3.1.1 GET /alarm

**Absolute Path:** /alarm/v1/alarm

**Summary:** List or find Alarm objects

##### 3.1.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.1: Parameters of GET alarm.

##### 3.1.1.2 Responses

Code	Description	Content
200	Success	Alarm
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.2: Responses of GET alarm.

### 3.1.2 GET /alarm/{id}

**Absolute Path:** /alarm/v1/alarm/{id}

**Summary:** Retrieves a Alarm by ID

#### 3.1.2.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Alarm
fields	string	No	Comma-separated properties to provide in response

Table 3.3: Parameters of GET alarm/{id}.

#### 3.1.2.2 Responses

Code	Description	Content
200	Success	Alarm
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.4: Responses of GET alarm/{id}.

## 3.2 attachment (/documentManagement)

Attachment Management API

### 3.2.1 GET /document/{documentId}/attachment

**Absolute Path:** /documentManagement/v1/document/{documentId}/attachment

**TOD Reference:** TOD-01-03-10-View\_All\_Attachments

**Summary:** List or find Attachment objects

#### 3.2.1.1 Parameters

Name	Type	Required	Description
documentId	string	Yes	The identifier of the Document.
fields	string	No	Comma-separated properties to be provided in response.

Table 3.5: Parameters of GET document/{documentId}/attachment.

#### 3.2.1.2 Responses

Code	Description	Content
200	Success	Attachment
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.6: Responses of GET document/{documentId}/attachment.

### 3.2.2 POST /document/{documentId}/attachment

**Absolute Path:** /documentManagement/v1/document/{documentId}/attachment

**TOD Reference:** TOD-01-03-06-Create\_Attachment

**Summary:** Creates an Attachment

#### 3.2.2.1 Parameters

Name	Type	Required	Description
documentId	string	Yes	The identifier of the Document.

Table 3.7: Parameters of POST document/{documentId}/attachment.

#### 3.2.2.2 Request Body

Content Type	Reference
multipart/form-data	Attachment_Create
application/json; charset=utf-8	Attachment_Create

Table 3.8: Request Body of POST document/{documentId}/attachment.

#### 3.2.2.3 Responses

Code	Description	Content
201	Created	Attachment
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.9: Responses of POST document/{documentId}/attachment.

### 3.2.3 GET /document/{documentId}/attachment/{attachmentId}

**Absolute Path:** /documentManagement/v1/document/{documentId}/attachment/{attachmentId}

**TOD Reference:** TOD-01-03-09-View\_Attachment

**Summary:** Retrieves an Attachment by ID

#### 3.2.3.1 Parameters

Name	Type	Required	Description
documentId	string	Yes	The identifier of the Document.
attachmentId	string	Yes	The identifier of the Attachment.
fields	string	No	Comma-separated properties to provide in response.

Table 3.10: Parameters of GET document/{documentId}/attachment/{attachmentId}.

#### 3.2.3.2 Responses

Code	Description	Content
200	Success	Attachment
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.11: Responses of GET document/{documentId}/attachment/{attachmentId}.

### 3.2.4 DELETE /document/{documentId}/attachment/{attachmentId}

**Absolute Path:** /documentManagement/v1/document/{documentId}/attachment/{attachmentId}

**TOD Reference:** TOD-01-03-08-Remove\_Attachment

**Summary:** Deletes an Attachment

#### 3.2.4.1 Parameters

Name	Type	Required	Description
documentId	string	Yes	Identifier of the document.
attachmentId	string	Yes	Identifier of the attachment.

Table 3.12: Parameters of DELETE document/{documentId}/attachment/{attachmentId}.

#### 3.2.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.13: Responses of DELETE document/{documentId}/attachment/{attachmentId}.

### 3.2.5 PATCH /document/{documentId}/attachment/{attachmentId}

**Absolute Path:** /documentManagement/v1/document/{documentId}/attachment/{attachmentId}

**TOD Reference:** TOD-01-03-07-Update\_Attachment

**Summary:** Updates an Attachment

#### 3.2.5.1 Parameters

Name	Type	Required	Description
documentId	string	Yes	The identifier of the document.
attachmentId	string	Yes	The identifier of the attachment.

Table 3.14: Parameters of PATCH document/{documentId}/attachment/{attachmentId}.

#### 3.2.5.2 Request Body

Content Type	Reference
multipart/form-data	Attachment_Update
application/json; charset=utf-8	Attachment_Update

Table 3.15: Request Body of PATCH document/{documentId}/attachment/{attachmentId}.

#### 3.2.5.3 Responses

Code	Description	Content
200	Updated	Attachment
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.16: Responses of PATCH document/{documentId}/attachment/{attachmentId}.



### 3.2.6 GET /document/{documentId}/attachment/{attachmentId}/content

**Absolute Path:** /documentManagement/v1/document/{documentId}/attachment/{attachmentId}/content

**TOD Reference:** TOD-01-03-11-Fetch\_Attachment\_Content

**Summary:** Retrieves an Attachment content by ID

#### 3.2.6.1 Parameters

Name	Type	Required	Description
documentId	string	Yes	The identifier of the Document.
attachmentId	string	Yes	The identifier of the Attachment.

Table 3.17: Parameters of GET document/{documentId}/attachment/{attachmentId}/content.

#### 3.2.6.2 Responses

Code	Description	Content
200	Success	binary
302	Found	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.18: Responses of GET document/{documentId}/attachment/{attachmentId}/content.

### 3.2.7 PUT /document/{documentId}/attachment/{attachmentId}/content

**Absolute Path:** /documentManagement/v1/document/{documentId}/attachment/{attachmentId}/content

**TOD Reference:** TOD-01-03-12-Update\_Attachment\_Content

**Summary:** Updates the content of an Attachment

#### 3.2.7.1 Parameters

Name	Type	Required	Description
documentId	string	Yes	Identifier of the Document
attachmentId	string	Yes	Identifier of the Attachment

Table 3.19: Parameters of PUT document/{documentId}/attachment/{attachmentId}/content.

#### 3.2.7.2 Request Body

Content Type	Reference
/	binary

Table 3.20: Request Body of PUT document/{documentId}/attachment/{attachmentId}/content.

#### 3.2.7.3 Responses

Code	Description	Content
200	Updated	Attachment
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.21: Responses of PUT document/{documentId}/attachment/{attachmentId}/content.

### 3.3 cancelPerformanceJob (/performanceMonitoring)

Performance Monitoring Job API

#### 3.3.1 GET /cancelPerformanceJob

**Absolute Path:** /performanceMonitoring/v1/cancelPerformanceJob

**Summary:** Lists or finds CancelPerformanceJob objects.

##### 3.3.1.1 Parameters

Name	Type	Required	Description
performanceJobId	string	No	Identifier of Performance Job that is a subject of CancelPerformanceJob.
state	string	No	State of CancelPerformanceJob. See PerformanceJobProcessStateType definition for details.
creationDate.gt	string	No	Date when the CancelPerformanceJob was created - greater than.
creationDate.lt	string	No	Date when the CancelPerformanceJob was created - lower than.
offset	integer	No	Requested index for start of item to be provided in response requested by client. Note that the index starts with "0".
limit	integer	No	Requested number of items to be provided in response requested by client.

Table 3.22: Parameters of GET cancelPerformanceJob.

##### 3.3.1.2 Responses

Code	Description	Content
200	Success	CancelPerformanceJob_Find
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500
501	Method not implemented.	Error501



Code	Description	Content
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Table 3.23: Responses of GET cancelPerformanceJob.

### 3.3.2 POST /cancelPerformanceJob

**Absolute Path:** /performanceMonitoring/v1/cancelPerformanceJob

**TOD Reference:** TOD-06-04-03-Cancel\_Performance\_Monitoring\_Job

#### 3.3.2.1 Request Body

Content Type	Reference
application/json; charset=utf-8	CancelPerformanceJob_Create

Table 3.24: Request Body of POST cancelPerformanceJob.

#### 3.3.2.2 Responses

Code	Description	Content
201	Created	CancelPerformanceJob
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500
501	Method not implemented.	Error501

Table 3.25: Responses of POST cancelPerformanceJob.

### 3.3.3 GET /cancelPerformanceJob/{id}

**Absolute Path:** /performanceMonitoring/v1/cancelPerformanceJob/{id}

**Summary:** Retrieves a CancelPerformanceJob by ID.

#### 3.3.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the CancelPerformanceJob

Table 3.26: Parameters of GET cancelPerformanceJob/{id}.

#### 3.3.3.2 Responses

Code	Description	Content
200	Success	CancelPerformanceJob
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
404	Not Found	Error404
500	Internal Server Error	Error500
501	Method not implemented.	Error501

Table 3.27: Responses of GET cancelPerformanceJob/{id}.

## 3.4 checkProductStock (/stock)

Stock Check API

### 3.4.1 POST /checkProductStock

**Absolute Path:** /stock/v1/checkProductStock

**TOD Reference:** TOD-05-04-01-Check\_Product\_Stock

**Summary:** Creates a CheckProductStock

#### 3.4.1.1 Request Body

Content Type	Reference
application/json;charset=utf-8	CheckProductStock_Create

Table 3.28: Request Body of POST checkProductStock.

#### 3.4.1.2 Responses

Code	Description	Content
200	Sucess	CheckProductStock
201	Created	CheckProductStock
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.29: Responses of POST checkProductStock.

### 3.4.2 GET /checkProductStock/{id}

**Absolute Path:** /stock/v1/checkProductStock/{id}

**TOD Reference:** TOD-05-04-01-Check\_Product\_Stock

**Summary:** Retrieves a CheckProductStock by ID

#### 3.4.2.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the CheckProductStock
fields	string	No	Comma-separated properties to provide in response

Table 3.30: Parameters of GET checkProductStock/{id}.

#### 3.4.2.2 Responses

Code	Description	Content
200	Success	CheckProductStock
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.31: Responses of GET checkProductStock/{id}.



## 3.5 customerBill (/customerBillManagement)

Customer Bill Management API

### 3.5.1 GET /customerBill

**Absolute Path:** /customerBillManagement/v1/customerBill

**TOD Reference:** TOD-03-03-04-View\_All\_Customer\_Bills

**Summary:** List or find CustomerBill objects

#### 3.5.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.32: Parameters of GET customerBill.

#### 3.5.1.2 Responses

Code	Description	Content
200	Success	CustomerBill
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.33: Responses of GET customerBill.

### 3.5.2 POST /customerBill

**Absolute Path:** /customerBillManagement/v1/customerBill

**TOD Reference:** TOD-03-03-01-Create\_Customer\_Bill

**Summary:** Creates a CustomerBill

#### 3.5.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	CustomerBill_Create

Table 3.34: Request Body of POST customerBill.

#### 3.5.2.2 Responses

Code	Description	Content
201	Created	CustomerBill
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.35: Responses of POST customerBill.

### 3.5.3 GET /customerBill/{id}

**Absolute Path:** /customerBillManagement/v1/customerBill/{id}

**TOD Reference:** TOD-03-03-View\_Customer\_Bill

**Summary:** Retrieves a CustomerBill by ID

#### 3.5.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the CustomerBill
fields	string	No	Comma-separated properties to provide in response

Table 3.36: Parameters of GET customerBill/{id}.

#### 3.5.3.2 Responses

Code	Description	Content
200	Success	CustomerBill
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.37: Responses of GET customerBill/{id}.

### 3.5.4 DELETE /customerBill/{id}

**Absolute Path:** /customerBillManagement/v1/customerBill/{id}

**TOD Reference:** TOD-03-03-05-Withdraw\_Customer\_Bill

**Summary:** Withdraw a CustomerBill

#### 3.5.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	The identifier of the CustomerBill.

Table 3.38: Parameters of DELETE customerBill/{id}.

#### 3.5.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.39: Responses of DELETE customerBill/{id}.

### 3.5.5 PATCH /customerBill/{id}

**Absolute Path:** /customerBillManagement/v1/customerBill/{id}

**TOD Reference:** TOD-03-03-02-Update\_Customer\_Bill

**Summary:** Updates partially a CustomerBill

#### 3.5.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the CustomerBill

Table 3.40: Parameters of PATCH customerBill/{id}.

#### 3.5.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	CustomerBill_Update

Table 3.41: Request Body of PATCH customerBill/{id}.

#### 3.5.5.3 Responses

Code	Description	Content
200	Updated	CustomerBill
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.42: Responses of PATCH customerBill/{id}.

## 3.6 customerInquiry (/customerInquiry)

Customer Inquiry API

### 3.6.1 POST /customerInquiry

**Absolute Path:** /customerInquiry/v1/customerInquiry

**TOD Reference:** TOD-03-01-01-Create\_Customer\_Inquiry

**Summary:** Creates a CustomerInquiry

#### 3.6.1.1 Request Body

Content Type	Reference
application/json	CustomerInquiry_Create

Table 3.43: Request Body of POST customerInquiry.

#### 3.6.1.2 Responses

Code	Description	Content
202	Accepted	CustomerInquiry
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.44: Responses of POST customerInquiry.

## 3.6.2 GET /customerInquiry/{id}

**Absolute Path:** /customerInquiry/v1/customerInquiry/{id}

**TOD Reference:** TOD-03-01-02-View\_Customer\_Inquiry

**Summary:** Retrieves a CustomerInquiry

### 3.6.2.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the CustomerInquiry

Table 3.45: Parameters of GET customerInquiry/{id}.

### 3.6.2.2 Responses

Code	Description	Content
200	OK	CustomerInquiry
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.46: Responses of GET customerInquiry/{id}.

### 3.6.3 DELETE /customerInquiry/{id}

**Absolute Path:** /customerInquiry/v1/customerInquiry/{id}

**TOD Reference:** TOD-03-01-05-Cancel\_Customer\_Inquiry

**Summary:** Cancels a CustomerInquiry

#### 3.6.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the CustomerInquiry

Table 3.47: Parameters of DELETE customerInquiry/{id}.

#### 3.6.3.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.48: Responses of DELETE customerInquiry/{id}.



### 3.6.4 PATCH /customerInquiry/{id}

**Absolute Path:** /customerInquiry/v1/customerInquiry/{id}

**TOD Reference:** TOD-03-01-04-Update\_Customer\_Inquiry

**Summary:** Updates partially a CustomerInquiry

#### 3.6.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the CustomerInquiry

Table 3.49: Parameters of PATCH customerInquiry/{id}.

#### 3.6.4.2 Request Body

Content Type	Reference
application/json	CustomerInquiry_Update

Table 3.50: Request Body of PATCH customerInquiry/{id}.

#### 3.6.4.3 Responses

Code	Description	Content
202	Update Accepted	CustomerInquiry
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.51: Responses of PATCH customerInquiry/{id}.

### 3.6.5 GET /customerInquiry/{id}/results

**Absolute Path:** /customerInquiry/v1/customerInquiry/{id}/results

**TOD Reference:** TOD-03-01-03-View\_Inquiry\_Results

**Summary:** Retrieves the InquiryResults matching the CustomerInquiry

#### 3.6.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the CustomerInquiry
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.52: Parameters of GET customerInquiry/{id}/results.

#### 3.6.5.2 Responses

Code	Description	Content
200	Success	InquiryResult
204	No content can be provided, because the inquiry is not yet processed.	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.53: Responses of GET customerInquiry/{id}/results.

## 3.7 document (/documentManagement)

Document Management API

### 3.7.1 GET /document

**Absolute Path:** /documentManagement/v1/document

**TOD Reference:** TOD-01-03-05-View\_All\_Documents

**Summary:** List or find Document objects

#### 3.7.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.54: Parameters of GET document.

#### 3.7.1.2 Responses

Code	Description	Content
200	Success	Document
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.55: Responses of GET document.

## 3.7.2 POST /document

**Absolute Path:** /documentManagement/v1/document

**TOD Reference:** TOD-01-03-01-Create\_Document

**Summary:** Creates a Document

### 3.7.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	Document_Create

Table 3.56: Request Body of POST document.

### 3.7.2.2 Responses

Code	Description	Content
201	Created	Document
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.57: Responses of POST document.

### 3.7.3 GET /document/{id}

**Absolute Path:** /documentManagement/v1/document/{id}

**TOD Reference:** TOD-01-03-04-View\_Document

**Summary:** Retrieves a Document by ID

#### 3.7.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Document
fields	string	No	Comma-separated properties to provide in response

Table 3.58: Parameters of GET document/{id}.

#### 3.7.3.2 Responses

Code	Description	Content
200	Success	Document
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.59: Responses of GET document/{id}.

### 3.7.4 DELETE /document/{id}

**Absolute Path:** /documentManagement/v1/document/{id}

**TOD Reference:** TOD-01-03-03-Remove\_Document

**Summary:** Deletes a Document

#### 3.7.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Document

Table 3.60: Parameters of DELETE document/{id}.

#### 3.7.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.61: Responses of DELETE document/{id}.

### 3.7.5 PATCH /document/{id}

**Absolute Path:** /documentManagement/v1/document/{id}

**TOD Reference:** TOD-01-03-02-Update\_Document

**Summary:** Updates partially a Document

#### 3.7.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Document

Table 3.62: Parameters of PATCH document/{id}.

#### 3.7.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	Document_Update

Table 3.63: Request Body of PATCH document/{id}.

#### 3.7.5.3 Responses

Code	Description	Content
200	Updated	Document
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.64: Responses of PATCH document/{id}.

## 3.8 hub (/eventManagement)

Event Hub API

### 3.8.1 GET /topic

**Absolute Path:** /eventManagement/v1/topic

**TOD Reference:** TOD-01-02-01-View\_Event\_Topics

**Summary:** List or find Topic objects

#### 3.8.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.65: Parameters of GET topic.

#### 3.8.1.2 Responses

Code	Description	Content
200	Success	Topic
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.66: Responses of GET topic.



## 3.8.2 GET /topic/{topicId}/hub

**Absolute Path:** /eventManagement/v1/topic/{topicId}/hub

**Summary:** List or find Hub subscription objects

### 3.8.2.1 Parameters

Name	Type	Required	Description
topicId	string	Yes	Identifier of the parent Topic entity
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.67: Parameters of GET topic/{topicId}/hub.

### 3.8.2.2 Responses

Code	Description	Content
200	Success	HubSubscription
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.68: Responses of GET topic/{topicId}/hub.

### 3.8.3 POST /topic/{topicId}/hub

**Absolute Path:** /eventManagement/v1/topic/{topicId}/hub

**TOD Reference:** TOD-01-02-02-Register\_Event\_Callback

**Summary:** Register listener to a Hub

#### 3.8.3.1 Parameters

Name	Type	Required	Description
topicId	string	Yes	Identifier of the parent Topic entity

Table 3.69: Parameters of POST topic/{topicId}/hub.

#### 3.8.3.2 Request Body

Content Type	Reference
application/json;charset=utf-8	HubSubscription_Create

Table 3.70: Request Body of POST topic/{topicId}/hub.

#### 3.8.3.3 Responses

Code	Description	Content
201	Created	HubSubscription
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.71: Responses of POST topic/{topicId}/hub.

### 3.8.4 DELETE /topic/{topicId}/hub/{id}

**Absolute Path:** /eventManagement/v1/topic/{topicId}/hub/{id}

**TOD Reference:** TOD-01-02-04-Deregister\_Event\_Callback

**Summary:** Unregister listener from a Hub

#### 3.8.4.1 Parameters

Name	Type	Required	Description
topicId	string	Yes	Identifier of the parent Topic entity
id	string	Yes	Identifier of the Hub

Table 3.72: Parameters of DELETE topic/{topicId}/hub/{id}.

#### 3.8.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.73: Responses of DELETE topic/{topicId}/hub/{id}.

## 3.9 individual (/partyManagement)

Individual API

### 3.9.1 GET /individual

**Absolute Path:** /partyManagement/v1/individual

**TOD Reference:** TOD-01-01-05-View\_All\_Party\_Profiles

**Summary:** List or find Individual objects

#### 3.9.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.74: Parameters of GET individual.

#### 3.9.1.2 Responses

Code	Description	Content
200	Success	Individual
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.75: Responses of GET individual.

## 3.9.2 POST /individual

**Absolute Path:** /partyManagement/v1/individual

**TOD Reference:** TOD-01-01-01-Create\_Party\_Profile

**Summary:** Creates a Individual

### 3.9.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	Individual_Create

Table 3.76: Request Body of POST individual.

### 3.9.2.2 Responses

Code	Description	Content
201	Created	Individual
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.77: Responses of POST individual.

### 3.9.3 GET /individual/{id}

**Absolute Path:** /partyManagement/v1/individual/{id}

**TOD Reference:** TOD-01-01-04-View\_Party\_Profile

**Summary:** Retrieves a Individual by ID

#### 3.9.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Individual
fields	string	No	Comma-separated properties to provide in response

Table 3.78: Parameters of GET individual/{id}.

#### 3.9.3.2 Responses

Code	Description	Content
200	Success	Individual
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.79: Responses of GET individual/{id}.

### 3.9.4 DELETE /individual/{id}

**Absolute Path:** /partyManagement/v1/individual/{id}

**TOD Reference:** TOD-01-01-03-Remove\_Party\_Profile

**Summary:** Deletes a Individual

#### 3.9.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Individual

Table 3.80: Parameters of DELETE individual/{id}.

#### 3.9.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.81: Responses of DELETE individual/{id}.

### 3.9.5 PATCH /individual/{id}

**Absolute Path:** /partyManagement/v1/individual/{id}

**TOD Reference:** TOD-01-01-02-Update\_Party\_Profile

**Summary:** Updates partially a Individual

#### 3.9.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Individual

Table 3.82: Parameters of PATCH individual/{id}.

#### 3.9.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	Individual_Update

Table 3.83: Request Body of PATCH individual/{id}.

#### 3.9.5.3 Responses

Code	Description	Content
200	Updated	Individual
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.84: Responses of PATCH individual/{id}.



## 3.10 keyIndicator (/serviceQuality)

Key Indicator API

### 3.10.1 GET /keyIndicator

**Absolute Path:** /serviceQuality/v1/keyIndicator

**TOD Reference:** TOD-06-03-05-View\_All\_Key\_Indicator

**Summary:** List or find KeyIndicator objects

#### 3.10.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.85: Parameters of GET keyIndicator.

#### 3.10.1.2 Responses

Code	Description	Content
200	Success	KeyIndicator
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
500	Internal Server Error	Error
501	Not Implemented	Error
503	Service Unavailable	Error

Table 3.86: Responses of GET keyIndicator.

### 3.10.2 POST /keyIndicator

**Absolute Path:** /serviceQuality/v1/keyIndicator

**TOD Reference:** TOD-06-03-01-Create\_Key\_Indicator

**Summary:** Creates a KeyIndicator

#### 3.10.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	KeyIndicator_Create

Table 3.87: Request Body of POST keyIndicator.

#### 3.10.2.2 Responses

Code	Description	Content
201	Created	KeyIndicator
202	Accepted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error
501	Not Implemented	Error
503	Service Unavailable	Error

Table 3.88: Responses of POST keyIndicator.

### 3.10.3 GET /keyIndicator/{id}

**Absolute Path:** /serviceQuality/v1/keyIndicator/{id}

**TOD Reference:** TOD-06-03-04-View\_Key\_Indicator

**Summary:** Retrieves a KeyIndicator by ID

#### 3.10.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Resource
fields	string	No	Comma-separated properties to be provided in response

Table 3.89: Parameters of GET keyIndicator/{id}.

#### 3.10.3.2 Responses

Code	Description	Content
200	Success	KeyIndicator
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
500	Internal Server Error	Error
501	Not Implemented	Error
503	Service Unavailable	Error

Table 3.90: Responses of GET keyIndicator/{id}.

### 3.10.4 DELETE /keyIndicator/{id}

**Absolute Path:** /serviceQuality/v1/keyIndicator/{id}

**TOD Reference:** TOD-06-03-03-Remove\_Key\_Indicator

**Summary:** Deletes a KeyIndicator

#### 3.10.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Resource

Table 3.91: Parameters of DELETE keyIndicator/{id}.

#### 3.10.4.2 Responses

Code	Description	Content
202	Accepted	N/A
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error
501	Not Implemented	Error
503	Service Unavailable	Error

Table 3.92: Responses of DELETE keyIndicator/{id}.

### 3.10.5 PATCH /keyIndicator/{id}

**Absolute Path:** /serviceQuality/v1/keyIndicator/{id}

**TOD Reference:** TOD-06-03-02-Update\_Key\_Indicator

**Summary:** Updates partially a KeyIndicator

#### 3.10.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Resource

Table 3.93: Parameters of PATCH keyIndicator/{id}.

#### 3.10.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	KeyIndicator_Update

Table 3.94: Request Body of PATCH keyIndicator/{id}.

#### 3.10.5.3 Responses

Code	Description	Content
200	Updated	KeyIndicator
202	Accepted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error
501	Not Implemented	Error
503	Service Unavailable	Error

Table 3.95: Responses of PATCH keyIndicator/{id}.

## 3.11 listener (/eventManagement)

Event Listener API

### 3.11.1 GET /topic/{topicId}/event

**Absolute Path:** /eventManagement/v1/topic/{topicId}/event

**Summary:** List or find Event objects

#### 3.11.1.1 Parameters

Name	Type	Required	Description
topicId	string	Yes	Identifier of the parent Topic entity
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.96: Parameters of GET topic/{topicId}/event.

#### 3.11.1.2 Responses

Code	Description	Content
200	Success	Event
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.97: Responses of GET topic/{topicId}/event.

### 3.11.2 POST /topic/{topicId}/event

**Absolute Path:** /eventManagement/v1/topic/{topicId}/event

**TOD Reference:** TOD-01-02-03-Dispatch\_Event

**Summary:** Creates a Event

#### 3.11.2.1 Parameters

Name	Type	Required	Description
topicId	string	Yes	Identifier of the parent Topic entity

Table 3.98: Parameters of POST topic/{topicId}/event.

#### 3.11.2.2 Request Body

Content Type	Reference
application/json;charset=utf-8	Event_Create

Table 3.99: Request Body of POST topic/{topicId}/event.

#### 3.11.2.3 Responses

Code	Description	Content
201	Created	Event
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.100: Responses of POST topic/{topicId}/event.

## 3.12 mission (/missionManagement)

Mission API

### 3.12.1 GET /mission

**Absolute Path:** /missionManagement/v1/mission

**TOD Reference:** TOD-03-04-05-View\_All\_Missions

**Summary:** List or find Mission objects

#### 3.12.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.101: Parameters of GET mission.

#### 3.12.1.2 Responses

Code	Description	Content
200	Success	Mission
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.102: Responses of GET mission.



### 3.12.2 POST /mission

**Absolute Path:** /missionManagement/v1/mission

**TOD Reference:** TOD-03-04-01-Create\_Mission

**Summary:** Creates a Mission

#### 3.12.2.1 Request Body

Content Type	Reference
application/json	Mission_Create

Table 3.103: Request Body of POST mission.

#### 3.12.2.2 Responses

Code	Description	Content
202	Accepted	Mission
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.104: Responses of POST mission.

### 3.12.3 GET /mission/{id}

**Absolute Path:** /missionManagement/v1/mission/{id}

**TOD Reference:** TOD-03-04-04-View\_Mission

**Summary:** Retrieves a Mission

#### 3.12.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Mission
fields	string	No	Comma-separated properties to provide in response

Table 3.105: Parameters of GET mission/{id}.

#### 3.12.3.2 Responses

Code	Description	Content
200	OK	Mission
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.106: Responses of GET mission/{id}.

### 3.12.4 DELETE /mission/{id}

**Absolute Path:** /missionManagement/v1/mission/{id}

**TOD Reference:** TOD-03-04-03-Remove\_Mission

**Summary:** Deletes a Mission

#### 3.12.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Mission

Table 3.107: Parameters of DELETE mission/{id}.

#### 3.12.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.108: Responses of DELETE mission/{id}.

### 3.12.5 PATCH /mission/{id}

**Absolute Path:** /missionManagement/v1/mission/{id}

**TOD Reference:** TOD-03-04-02-Update\_Mission

**Summary:** Updates partially a Mission

#### 3.12.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Mission

Table 3.109: Parameters of PATCH mission/{id}.

#### 3.12.5.2 Request Body

Content Type	Reference
application/json	Mission_Update

Table 3.110: Request Body of PATCH mission/{id}.

#### 3.12.5.3 Responses

Code	Description	Content
202	Update Accepted	Mission
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.111: Responses of PATCH mission/{id}.

## 3.13 modifyPerformanceJob (/performanceMonitoring)

Performance Monitoring Job API

### 3.13.1 GET /modifyPerformanceJob

**Absolute Path:** /performanceMonitoring/v1/modifyPerformanceJob

**Summary:** Lists or finds ModifyPerformanceJob objects.

#### 3.13.1.1 Parameters

Name	Type	Required	Description
performanceJobId	string	No	Identifier of Performance Job that is a subject of ModifyPerformanceJob.
state	string	No	State of ModifyPerformanceJob See PerformanceJobProcessStateType definition for details.
creationDate.gt	string	No	Date when the ModifyPerformanceJob was created - greater than.
creationDate.lt	string	No	Date when the ModifyPerformanceJob was created - lower than.
offset	integer	No	Requested index for start of item to be provided in response requested by client. Note that the index starts with "0".
limit	integer	No	Requested number of items to be provided in response requested by client.

Table 3.112: Parameters of GET modifyPerformanceJob.

#### 3.13.1.2 Responses

Code	Description	Content
200	Success	ModifyPerformanceJob_Find
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500
501	Method not implemented.	Error501



Code	Description	Content
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Table 3.113: Responses of GET modifyPerformanceJob.

### 3.13.2 POST /modifyPerformanceJob

**Absolute Path:** /performanceMonitoring/v1/modifyPerformanceJob

**TOD Reference:** TOD-06-04-02-Update\_Performance\_Monitoring\_Job

#### 3.13.2.1 Request Body

Content Type	Reference
application/json; charset=utf-8	ModifyPerformanceJob_Create

Table 3.114: Request Body of POST modifyPerformanceJob.

#### 3.13.2.2 Responses

Code	Description	Content
201	Created	ModifyPerformanceJob
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500
501	Method not implemented.	Error501

Table 3.115: Responses of POST modifyPerformanceJob.

### 3.13.3 GET /modifyPerformanceJob/{id}

**Absolute Path:** /performanceMonitoring/v1/modifyPerformanceJob/{id}

**Summary:** Retrieves a ModifyPerformanceJob by ID.

#### 3.13.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ModifyPerformanceJob

Table 3.116: Parameters of GET modifyPerformanceJob/{id}.

#### 3.13.3.2 Responses

Code	Description	Content
200	Success	ModifyPerformanceJob
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
404	Not Found	Error404
500	Internal Server Error	Error500
501	Method not implemented.	Error501

Table 3.117: Responses of GET modifyPerformanceJob/{id}.



## 3.14 organization (/partyManagement)

Organization API

### 3.14.1 GET /organization

**Absolute Path:** /partyManagement/v1/organization

**TOD Reference:** TOD-01-01-05-View\_All\_Party\_Profiles

**Summary:** List or find Organization objects

#### 3.14.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.118: Parameters of GET organization.

#### 3.14.1.2 Responses

Code	Description	Content
200	Success	Organization
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.119: Responses of GET organization.

### 3.14.2 POST /organization

**Absolute Path:** /partyManagement/v1/organization

**TOD Reference:** TOD-01-01-01-Create\_Party\_Profile

**Summary:** Creates a Organization

#### 3.14.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	Organization_Create

Table 3.120: Request Body of POST organization.

#### 3.14.2.2 Responses

Code	Description	Content
201	Created	Organization
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.121: Responses of POST organization.

### 3.14.3 GET /organization/{id}

**Absolute Path:** /partyManagement/v1/organization/{id}

**TOD Reference:** TOD-01-01-04-View\_Party\_Profile

**Summary:** Retrieves a Organization by ID

#### 3.14.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Organization
fields	string	No	Comma-separated properties to provide in response

Table 3.122: Parameters of GET organization/{id}.

#### 3.14.3.2 Responses

Code	Description	Content
200	Success	Organization
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.123: Responses of GET organization/{id}.

### 3.14.4 DELETE /organization/{id}

**Absolute Path:** /partyManagement/v1/organization/{id}

**TOD Reference:** TOD-01-01-03-Remove\_Party\_Profile

**Summary:** Deletes a Organization

#### 3.14.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Organization

Table 3.124: Parameters of DELETE organization/{id}.

#### 3.14.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.125: Responses of DELETE organization/{id}.

### 3.14.5 PATCH /organization/{id}

**Absolute Path:** /partyManagement/v1/organization/{id}

**TOD Reference:** TOD-01-01-02-Update\_Party\_Profile

**Summary:** Updates partially a Organization

#### 3.14.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Organization

Table 3.126: Parameters of PATCH organization/{id}.

#### 3.14.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	Organization_Update

Table 3.127: Request Body of PATCH organization/{id}.

#### 3.14.5.3 Responses

Code	Description	Content
200	Updated	Organization
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.128: Responses of PATCH organization/{id}.

## 3.15 performanceJob (/performanceMonitoring)

Performance Monitoring Job API

### 3.15.1 GET /performanceJob

**Absolute Path:** /performanceMonitoring/v1/performanceJob

**TOD Reference:** TOD-06-04-05-View\_All\_Performance\_Monitoring\_Job

**Summary:** List or find Performance Job objects.

#### 3.15.1.1 Parameters

Name	Type	Required	Description
buyerJobId	string	No	Identifier assigned and understandable by Buyer/Client to facilitate search requests.
state	string	No	State of the Performance Job. See <code>PerformanceJobStateType</code> definition for details.
creationDate.gt	string	No	Date when the job was created - greater than.
creationDate.lt	string	No	Date when the job was created - lower than.
jobType	null	No	Type of the Performance Job
granularity	null	No	Sampling rate of the collection of measurements.
reportingPeriod	null	No	Definition of time period during which report will be active and collect measurements.
consumingApplicationId	string	No	Identifier of consuming application.
producingApplicationId	string	No	Identifier of producing application.
jobPriority	string	No	The priority of the Performance Job.
offset	integer	No	Requested index for start of item to be provided in response requested by the client. Note that the index starts with "0".
limit	integer	No	Requested number of resources to be provided in response.

Table 3.129: Parameters of GET performanceJob.

#### 3.15.1.2 Responses

Code	Description	Content
200	'OK. ( <a href="https://tools.ietf.org/html/rfc7231#section-6.3.1">https://tools.ietf.org/html/rfc7231#section-6.3.1</a> )'	PerformanceJob_Find
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500

Table 3.130: Responses of GET performanceJob.

### 3.15.2 POST /performanceJob

**Absolute Path:** /performanceMonitoring/v1/performanceJob

**TOD Reference:** TOD-06-04-01-Create\_Performance\_Monitoring\_Job

**Summary:** Creates a Performance Job.

#### 3.15.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	PerformanceJob_Create

Table 3.131: Request Body of POST performanceJob.

#### 3.15.2.2 Responses

Code	Description	Content
201	'Created ( <a href="https://tools.ietf.org/html/rfc7231#section-6.3.2">https://tools.ietf.org/html/rfc7231#section-6.3.2</a> )'	PerformanceJob
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500

Table 3.132: Responses of POST performanceJob.



### 3.15.3 GET /performanceJob/{id}

**Absolute Path:** /performanceMonitoring/v1/performanceJob/{id}

**TOD Reference:** TOD-06-04-04-View\_Performance\_Monitoring\_Job

**Summary:** Retrieves a Performance Job by ID.

#### 3.15.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Performance Job

Table 3.133: Parameters of GET performanceJob/{id}.

#### 3.15.3.2 Responses

Code	Description	Content
200	'OK. ( <a href="https://tools.ietf.org/html/rfc7231#section-6.3.1">https://tools.ietf.org/html/rfc7231#section-6.3.1</a> )'	PerformanceJob
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
404	Not Found	Error404
500	Internal Server Error	Error500

Table 3.134: Responses of GET performanceJob/{id}.

## 3.16 performanceJobComplexQuery (/performanceMonitoring)

Performance Monitoring Job API

### 3.16.1 POST /performanceJobComplexQuery

**Absolute Path:** /performanceMonitoring/v1/performanceJobComplexQuery

**TOD Reference:** TOD-06-04-05-View\_All\_Performance\_Monitoring\_Job

**Summary:** Creates a PerformanceJobComplexQuery.

#### 3.16.1.1 Request Body

Content Type	Reference
application/json;charset=utf-8	PerformanceJobComplexQuery_Create

Table 3.135: Request Body of POST performanceJobComplexQuery.

#### 3.16.1.2 Responses

Code	Description	Content
200	'OK. ( <a href="https://tools.ietf.org/html/rfc7231#section-6.3.1">https://tools.ietf.org/html/rfc7231#section-6.3.1</a> )'	PerformanceJobComplexQuery
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500

Table 3.136: Responses of POST performanceJobComplexQuery.

## 3.17 performanceReport (/performanceMonitoring)

Performance Monitoring Report API

### 3.17.1 GET /performanceReport

**Absolute Path:** /performanceMonitoring/v1/performanceReport

**TOD Reference:** TOD-06-05-03-View\_All\_Performance\_Monitoring\_Report

**Summary:** List or find Performance Report objects.

#### 3.17.1.1 Parameters

Name	Type	Required	Description
performanceJobId	string	No	Identifier of Performance Job that generated Performance Report.
state	string	No	State of the Performance Report. See <code>PerformanceReportStateType</code> definition for details.
creationDate.gt	string	No	Date when the report was created - greater than.
creationDate.lt	string	No	Date when the report was created - lower than.
reportingTime-frame.startDate.gt	string	No	Start date of reporting timeframe - greater than.
reportingTime-frame.startDate.lt	string	No	Start date of reporting timeframe - lower than.
reportingTime-frame.endDate.gt	string	No	End date of reporting timeframe - greater than.
reportingTime-frame.endDate.lt	string	No	End date of reporting timeframe - lower than.
granularity	null	No	Sampling rate of the collection of measurements
outputFormat	null	No	Format of report output
resultFormat	null	No	Type of providing report results
consumingApplicationId	string	No	Identifier of consuming application
producingApplicationId	string	No	Identifier of producing application

Name	Type	Required	Description
offset	integer	No	Requested index for start of item to be provided in response requested by the client. Note that the index starts with "0".
limit	integer	No	Requested number of resources to be provided in response.

Table 3.137: Parameters of GET performanceReport.

### 3.17.1.2 Responses

Code	Description	Content
200	'OK. ( <a href="https://tools.ietf.org/html/rfc7231#section-6.3.1">https://tools.ietf.org/html/rfc7231#section-6.3.1</a> )'	PerformanceReport_Find
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500

Table 3.138: Responses of GET performanceReport.

### 3.17.2 POST /performanceReport

**Absolute Path:** /performanceMonitoring/v1/performanceReport

**TOD Reference:** TOD-06-05-01-Create\_Performance\_Monitoring\_Report

**Summary:** Creates a Performance Report.

#### 3.17.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	PerformanceReport_Create

Table 3.139: Request Body of POST performanceReport.

#### 3.17.2.2 Responses

Code	Description	Content
201	'Created ( <a href="https://tools.ietf.org/html/rfc7231#section-6.3.2">https://tools.ietf.org/html/rfc7231#section-6.3.2</a> )'	PerformanceReport
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500

Table 3.140: Responses of POST performanceReport.

### 3.17.3 GET /performanceReport/{id}

**Absolute Path:** /performanceMonitoring/v1/performanceReport/{id}

**TOD Reference:** TOD-06-05-02-View\_Performance\_Monitoring\_Report

**Summary:** Retrieves a Performance Report by ID.

#### 3.17.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Performance Report to be retrieved.

Table 3.141: Parameters of GET performanceReport/{id}.

#### 3.17.3.2 Responses

Code	Description	Content
200	'OK. ( <a href="https://tools.ietf.org/html/rfc7231#section-6.3.1">https://tools.ietf.org/html/rfc7231#section-6.3.1</a> )'	PerformanceReport
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
404	Not Found	Error404
500	Internal Server Error	Error500

Table 3.142: Responses of GET performanceReport/{id}.

## 3.18 performanceReportComplexQuery (/performanceMonitoring)

Performance Monitoring Report API

### 3.18.1 POST /performanceReportComplexQuery

**Absolute Path:** /performanceMonitoring/v1/performanceReportComplexQuery

**TOD Reference:** TOD-06-05-03-View\_All\_Performance\_Monitoring\_Report

**Summary:** Creates a PerformanceReportComplexQuery.

#### 3.18.1.1 Request Body

Content Type	Reference
application/json;charset=utf-8	PerformanceReportComplexQuery_Create

Table 3.143: Request Body of POST performanceReportComplexQuery.

#### 3.18.1.2 Responses

Code	Description	Content
200	'OK. ( <a href="https://tools.ietf.org/html/rfc7231#section-6.3.1">https://tools.ietf.org/html/rfc7231#section-6.3.1</a> )'	PerformanceReportComplex-Query
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500

Table 3.144: Responses of POST performanceReportComplexQuery.

## 3.19 product (/productInventory)

Product Inventory API

### 3.19.1 GET /product

**Absolute Path:** /productInventory/v1/product

**TOD Reference:** TOD-05-03-05-View\_All\_Products

**Summary:** List or find Product objects

#### 3.19.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.145: Parameters of GET product.

#### 3.19.1.2 Responses

Code	Description	Content
200	Success	Product
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.146: Responses of GET product.



### 3.19.2 POST /product

**Absolute Path:** /productInventory/v1/product

**TOD Reference:** TOD-05-03-01-Create\_Product

**Summary:** Creates a Product

#### 3.19.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	Product_Create

Table 3.147: Request Body of POST product.

#### 3.19.2.2 Responses

Code	Description	Content
201	Created	Product
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.148: Responses of POST product.

### 3.19.3 GET /product/{id}

**Absolute Path:** /productInventory/v1/product/{id}

**TOD Reference:** TOD-05-03-04-View\_Product

**Summary:** Retrieves a Product by ID

#### 3.19.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Product
fields	string	No	Comma-separated properties to provide in response

Table 3.149: Parameters of GET product/{id}.

#### 3.19.3.2 Responses

Code	Description	Content
200	Success	Product
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.150: Responses of GET product/{id}.

### 3.19.4 DELETE /product/{id}

**Absolute Path:** /productInventory/v1/product/{id}

**TOD Reference:** TOD-05-03-03-Remove\_Product

**Summary:** Deletes a Product

#### 3.19.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Product

Table 3.151: Parameters of DELETE product/{id}.

#### 3.19.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.152: Responses of DELETE product/{id}.

### 3.19.5 PATCH /product/{id}

**Absolute Path:** /productInventory/v1/product/{id}

**TOD Reference:** TOD-05-03-02-Update\_Product

**Summary:** Updates partially a Product

#### 3.19.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Product

Table 3.153: Parameters of PATCH product/{id}.

#### 3.19.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	Product_Update

Table 3.154: Request Body of PATCH product/{id}.

#### 3.19.5.3 Responses

Code	Description	Content
200	Updated	Product
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.155: Responses of PATCH product/{id}.

## 3.20 productOffering (/productCatalog)

Product Offering API

### 3.20.1 GET /productOffering

**Absolute Path:** /productCatalog/v1/productOffering

**TOD Reference:** TOD-02-04-05-View\_All\_Product\_Offerings

**Summary:** List or find ProductOffering objects

#### 3.20.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.156: Parameters of GET productOffering.

#### 3.20.1.2 Responses

Code	Description	Content
200	Success	ProductOffering
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.157: Responses of GET productOffering.

## 3.20.2 POST /productOffering

**Absolute Path:** /productCatalog/v1/productOffering

**TOD Reference:** TOD-02-04-01-Create\_Product\_Offering

**Summary:** Creates a ProductOffering

### 3.20.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	ProductOffering_Create

Table 3.158: Request Body of POST productOffering.

### 3.20.2.2 Responses

Code	Description	Content
201	Created	ProductOffering
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.159: Responses of POST productOffering.

### 3.20.3 GET /productOffering/{id}

**Absolute Path:** /productCatalog/v1/productOffering/{id}

**TOD Reference:** TOD-02-04-04-View\_Product\_Offering

**Summary:** Retrieves a ProductOffering by ID

#### 3.20.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ProductOffering
fields	string	No	Comma-separated properties to provide in response

Table 3.160: Parameters of GET productOffering/{id}.

#### 3.20.3.2 Responses

Code	Description	Content
200	Success	ProductOffering
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.161: Responses of GET productOffering/{id}.

### 3.20.4 DELETE /productOffering/{id}

**Absolute Path:** /productCatalog/v1/productOffering/{id}

**TOD Reference:** TOD-02-04-03-Remove\_Product\_Offering

**Summary:** Deletes a ProductOffering

#### 3.20.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ProductOffering

Table 3.162: Parameters of DELETE productOffering/{id}.

#### 3.20.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.163: Responses of DELETE productOffering/{id}.



### 3.20.5 PATCH /productOffering/{id}

**Absolute Path:** /productCatalog/v1/productOffering/{id}

**TOD Reference:** TOD-02-04-02-Update\_Product\_Offering

**Summary:** Updates partially a ProductOffering

#### 3.20.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ProductOffering

Table 3.164: Parameters of PATCH productOffering/{id}.

#### 3.20.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	ProductOffering_Update

Table 3.165: Request Body of PATCH productOffering/{id}.

#### 3.20.5.3 Responses

Code	Description	Content
200	Updated	ProductOffering
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.166: Responses of PATCH productOffering/{id}.

## 3.21 productOrder (/productOrdering)

Product Order API

### 3.21.1 GET /productOrder

**Absolute Path:** /productOrdering/v1/productOrder

**TOD Reference:** TOD-03-02-04-View\_All\_Product\_Orders

**Summary:** List or find ProductOrder objects

#### 3.21.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.167: Parameters of GET productOrder.

#### 3.21.1.2 Responses

Code	Description	Content
200	Success	ProductOrder
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.168: Responses of GET productOrder.

### 3.21.2 POST /productOrder

**Absolute Path:** /productOrdering/v1/productOrder

**TOD Reference:** TOD-03-02-01-Create\_Product\_Order

**Summary:** Creates a ProductOrder

#### 3.21.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	ProductOrder_Create

Table 3.169: Request Body of POST productOrder.

#### 3.21.2.2 Responses

Code	Description	Content
201	Created	ProductOrder
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.170: Responses of POST productOrder.

### 3.21.3 GET /productOrder/{id}

**Absolute Path:** /productOrdering/v1/productOrder/{id}

**TOD Reference:** TOD-03-02-03-View\_Product\_Order

**Summary:** Retrieves a ProductOrder by ID

#### 3.21.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ProductOrder
fields	string	No	Comma-separated properties to provide in response

Table 3.171: Parameters of GET productOrder/{id}.

#### 3.21.3.2 Responses

Code	Description	Content
200	Success	ProductOrder
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.172: Responses of GET productOrder/{id}.

### 3.21.4 DELETE /productOrder/{id}

**Absolute Path:** /productOrdering/v1/productOrder/{id}

**Summary:** Deletes a ProductOrder

#### 3.21.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ProductOrder

Table 3.173: Parameters of DELETE productOrder/{id}.

#### 3.21.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.174: Responses of DELETE productOrder/{id}.

### 3.21.5 PATCH /productOrder/{id}

**Absolute Path:** /productOrdering/v1/productOrder/{id}

**TOD Reference:** TOD-03-02-02-Update\_Product\_Order

**Summary:** Updates partially a ProductOrder

#### 3.21.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ProductOrder

Table 3.175: Parameters of PATCH productOrder/{id}.

#### 3.21.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	ProductOrder_Update

Table 3.176: Request Body of PATCH productOrder/{id}.

#### 3.21.5.3 Responses

Code	Description	Content
200	Updated	ProductOrder
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.177: Responses of PATCH productOrder/{id}.

## 3.22 productSpecification (/productCatalog)

Product Specification API

### 3.22.1 GET /productSpecification

**Absolute Path:** /productCatalog/v1/productSpecification

**TOD Reference:** TOD-02-03-05-View\_All\_Product\_Specifications

**Summary:** List or find ProductSpecification objects

#### 3.22.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.178: Parameters of GET productSpecification.

#### 3.22.1.2 Responses

Code	Description	Content
200	Success	ProductSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.179: Responses of GET productSpecification.

### 3.22.2 POST /productSpecification

**Absolute Path:** /productCatalog/v1/productSpecification

**TOD Reference:** TOD-02-03-01-Create\_Product\_Specification

**Summary:** Creates a ProductSpecification

#### 3.22.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	ProductSpecification_Create

Table 3.180: Request Body of POST productSpecification.

#### 3.22.2.2 Responses

Code	Description	Content
201	Created	ProductSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.181: Responses of POST productSpecification.



### 3.22.3 GET /productSpecification/{id}

**Absolute Path:** /productCatalog/v1/productSpecification/{id}

**TOD Reference:** TOD-02-03-04-View\_Product\_Specification

**Summary:** Retrieves a ProductSpecification by ID

#### 3.22.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ProductSpecification
fields	string	No	Comma-separated properties to provide in response

Table 3.182: Parameters of GET productSpecification/{id}.

#### 3.22.3.2 Responses

Code	Description	Content
200	Success	ProductSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.183: Responses of GET productSpecification/{id}.

### 3.22.4 DELETE /productSpecification/{id}

**Absolute Path:** /productCatalog/v1/productSpecification/{id}

**TOD Reference:** TOD-02-03-03-Remove\_Product\_Specification

**Summary:** Deletes a ProductSpecification

#### 3.22.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ProductSpecification

Table 3.184: Parameters of DELETE productSpecification/{id}.

#### 3.22.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.185: Responses of DELETE productSpecification/{id}.

### 3.22.5 PATCH /productSpecification/{id}

**Absolute Path:** /productCatalog/v1/productSpecification/{id}

**TOD Reference:** TOD-02-03-02-Update\_Product\_Specification

**Summary:** Updates partially a ProductSpecification

#### 3.22.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ProductSpecification

Table 3.186: Parameters of PATCH productSpecification/{id}.

#### 3.22.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	ProductSpecification_Update

Table 3.187: Request Body of PATCH productSpecification/{id}.

#### 3.22.5.3 Responses

Code	Description	Content
200	Updated	ProductSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.188: Responses of PATCH productSpecification/{id}.

## 3.23 productTemplate (/productCatalog)

Product Template API

### 3.23.1 GET /productTemplate

**Absolute Path:** /productCatalog/v1/productTemplate

**TOD Reference:** TOD-04-03-05-View\_All\_Product\_Templates

**Summary:** List or find ProductTemplate objects

#### 3.23.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response.
offset	integer	No	Requested index for start of resources to be provided in response.
limit	integer	No	Requested number of resources to be provided in response.

Table 3.189: Parameters of GET productTemplate.

#### 3.23.1.2 Responses

Code	Description	Content
200	Success	ProductSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.190: Responses of GET productTemplate.

### 3.23.2 POST /productTemplate

**Absolute Path:** /productCatalog/v1/productTemplate

**TOD Reference:** TOD-04-03-01-Create\_Product\_Template

**Summary:** Creates a ProductTemplate

#### 3.23.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	ProductSpecification_Create

Table 3.191: Request Body of POST productTemplate.

#### 3.23.2.2 Responses

Code	Description	Content
201	Created	ProductSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.192: Responses of POST productTemplate.

### 3.23.3 GET /productTemplate/{id}

**Absolute Path:** /productCatalog/v1/productTemplate/{id}

**TOD Reference:** TOD-04-03-04-View\_Product\_Template

**Summary:** Retrieves a ProductTemplate by ID.

#### 3.23.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	The identifier of the ProductTemplate.
fields	string	No	Comma-separated properties to provide in response.

Table 3.193: Parameters of GET productTemplate/{id}.

#### 3.23.3.2 Responses

Code	Description	Content
200	Success	ProductSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.194: Responses of GET productTemplate/{id}.

### 3.23.4 DELETE /productTemplate/{id}

**Absolute Path:** /productCatalog/v1/productTemplate/{id}

**TOD Reference:** TOD-04-03-03-Remove\_Product\_Template

**Summary:** Deletes a ProductTemplate

#### 3.23.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	The identifier of the ProductTemplate

Table 3.195: Parameters of DELETE productTemplate/{id}.

#### 3.23.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.196: Responses of DELETE productTemplate/{id}.

### 3.23.5 PATCH /productTemplate/{id}

**Absolute Path:** /productCatalog/v1/productTemplate/{id}

**TOD Reference:** TOD-04-03-02-Update\_Product\_Template

**Summary:** Updates partially a ProductTemplate

#### 3.23.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	The identifier of the ProductTemplate

Table 3.197: Parameters of PATCH productTemplate/{id}.

#### 3.23.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	ProductSpecification_Update

Table 3.198: Request Body of PATCH productTemplate/{id}.

#### 3.23.5.3 Responses

Code	Description	Content
200	Updated	ProductSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.199: Responses of PATCH productTemplate/{id}.



## 3.24 resource (/resourceInventory)

Resource Inventory API

### 3.24.1 GET /resource

**Absolute Path:** /resourceInventory/v1/resource

**TOD Reference:** TOD-05-01-05-View\_All\_Resources

**Summary:** List or find Resource objects

#### 3.24.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.200: Parameters of GET resource.

#### 3.24.1.2 Responses

Code	Description	Content
200	Success	Resource
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.201: Responses of GET resource.

### 3.24.2 POST /resource

**Absolute Path:** /resourceInventory/v1/resource

**TOD Reference:** TOD-05-01-01-Create\_Resource

**Summary:** Creates a Resource

#### 3.24.2.1 Request Body

Content Type	Reference
application/json; charset=utf-8	Resource_Create

Table 3.202: Request Body of POST resource.

#### 3.24.2.2 Responses

Code	Description	Content
201	Created	Resource
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.203: Responses of POST resource.

### 3.24.3 GET /resource/{id}

**Absolute Path:** /resourceInventory/v1/resource/{id}

**TOD Reference:** TOD-05-01-04-View\_Resource

**Summary:** Retrieves a Resource by ID

#### 3.24.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Resource
fields	string	No	Comma-separated properties to provide in response

Table 3.204: Parameters of GET resource/{id}.

#### 3.24.3.2 Responses

Code	Description	Content
200	Success	Resource
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.205: Responses of GET resource/{id}.

### 3.24.4 DELETE /resource/{id}

**Absolute Path:** /resourceInventory/v1/resource/{id}

**TOD Reference:** TOD-05-01-03-Remove\_Resource

**Summary:** Deletes a Resource

#### 3.24.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Resource

Table 3.206: Parameters of DELETE resource/{id}.

#### 3.24.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.207: Responses of DELETE resource/{id}.

### 3.24.5 PATCH /resource/{id}

**Absolute Path:** /resourceInventory/v1/resource/{id}

**TOD Reference:** TOD-05-01-02-Update\_Resource

**Summary:** Updates partially a Resource

#### 3.24.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Resource

Table 3.208: Parameters of PATCH resource/{id}.

#### 3.24.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	Resource_Update

Table 3.209: Request Body of PATCH resource/{id}.

#### 3.24.5.3 Responses

Code	Description	Content
200	Updated	Resource
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.210: Responses of PATCH resource/{id}.

## 3.25 resourceSpecification (/resourceCatalog)

Resource Specification API

### 3.25.1 GET /resourceSpecification

**Absolute Path:** /resourceCatalog/v1/resourceSpecification

**TOD Reference:** TOD-02-01-05-View\_All\_Resource\_Specifications

**Summary:** List or find ResourceSpecification objects

#### 3.25.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.211: Parameters of GET resourceSpecification.

#### 3.25.1.2 Responses

Code	Description	Content
200	Success	ResourceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.212: Responses of GET resourceSpecification.

### 3.25.2 POST /resourceSpecification

**Absolute Path:** /resourceCatalog/v1/resourceSpecification

**TOD Reference:** TOD-02-01-01-Create\_Resource\_Specification

**Summary:** Creates a ResourceSpecification

#### 3.25.2.1 Request Body

Content Type	Reference
application/json; charset=utf-8	ResourceSpecification_Create

Table 3.213: Request Body of POST resourceSpecification.

#### 3.25.2.2 Responses

Code	Description	Content
201	Created	ResourceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.214: Responses of POST resourceSpecification.

### 3.25.3 GET /resourceSpecification/{id}

**Absolute Path:** /resourceCatalog/v1/resourceSpecification/{id}

**TOD Reference:** TOD-02-01-04-View\_Resource\_Specification

**Summary:** Retrieves a ResourceSpecification by ID

#### 3.25.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ResourceSpecification
fields	string	No	Comma-separated properties to provide in response

Table 3.215: Parameters of GET resourceSpecification/{id}.

#### 3.25.3.2 Responses

Code	Description	Content
200	Success	ResourceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.216: Responses of GET resourceSpecification/{id}.



### 3.25.4 DELETE /resourceSpecification/{id}

**Absolute Path:** /resourceCatalog/v1/resourceSpecification/{id}

**TOD Reference:** TOD-02-01-03-Remove\_Resource\_Specification

**Summary:** Deletes a ResourceSpecification

#### 3.25.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ResourceSpecification

Table 3.217: Parameters of DELETE resourceSpecification/{id}.

#### 3.25.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.218: Responses of DELETE resourceSpecification/{id}.

### 3.25.5 PATCH /resourceSpecification/{id}

**Absolute Path:** /resourceCatalog/v1/resourceSpecification/{id}

**TOD Reference:** TOD-02-01-02-Update\_Resource\_Specification

**Summary:** Updates partially a ResourceSpecification

#### 3.25.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ResourceSpecification

Table 3.219: Parameters of PATCH resourceSpecification/{id}.

#### 3.25.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	ResourceSpecification_Update

Table 3.220: Request Body of PATCH resourceSpecification/{id}.

#### 3.25.5.3 Responses

Code	Description	Content
200	Updated	ResourceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.221: Responses of PATCH resourceSpecification/{id}.

## 3.26 resourceTemplate (/resourceCatalog)

Resource Template API

### 3.26.1 GET /resourceTemplate

**Absolute Path:** /resourceCatalog/v1/resourceTemplate

**TOD Reference:** TOD-04-01-05-View\_All\_Resource\_Templates

**Summary:** List or find ResourceTemplate objects

#### 3.26.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response.
offset	integer	No	The requested index for start of resources to be provided in response.
limit	integer	No	The requested number of resources to be provided in response.

Table 3.222: Parameters of GET resourceTemplate.

#### 3.26.1.2 Responses

Code	Description	Content
200	Success	ResourceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.223: Responses of GET resourceTemplate.

## 3.26.2 POST /resourceTemplate

**Absolute Path:** /resourceCatalog/v1/resourceTemplate

**TOD Reference:** TOD-04-01-01-Create\_Resource\_Template

**Summary:** Creates a ResourceTemplate

### 3.26.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	ResourceSpecification_Create

Table 3.224: Request Body of POST resourceTemplate.

### 3.26.2.2 Responses

Code	Description	Content
201	Created	ResourceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.225: Responses of POST resourceTemplate.

### 3.26.3 GET /resourceTemplate/{id}

**Absolute Path:** /resourceCatalog/v1/resourceTemplate/{id}

**TOD Reference:** TOD-04-01-04-View\_Resource\_Template

**Summary:** Retrieves a ResourceTemplate by ID

#### 3.26.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	The identifier of the ResourceTemplate.
fields	string	No	Comma-separated properties to provide in response.

Table 3.226: Parameters of GET resourceTemplate/{id}.

#### 3.26.3.2 Responses

Code	Description	Content
200	Success	ResourceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.227: Responses of GET resourceTemplate/{id}.

### 3.26.4 DELETE /resourceTemplate/{id}

**Absolute Path:** /resourceCatalog/v1/resourceTemplate/{id}

**TOD Reference:** TOD-04-01-03-Remove\_Resource\_Template

**Summary:** Deletes a ResourceTemplate

#### 3.26.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	The identifier of the ResourceTemplate.

Table 3.228: Parameters of DELETE resourceTemplate/{id}.

#### 3.26.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.229: Responses of DELETE resourceTemplate/{id}.

### 3.26.5 PATCH /resourceTemplate/{id}

**Absolute Path:** /resourceCatalog/v1/resourceTemplate/{id}

**TOD Reference:** TOD-04-01-02-Update\_Resource\_Template

**Summary:** Updates partially a ResourceTemplate

#### 3.26.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	The identifier of the ResourceTemplate.

Table 3.230: Parameters of PATCH resourceTemplate/{id}.

#### 3.26.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	ResourceSpecification_Update

Table 3.231: Request Body of PATCH resourceTemplate/{id}.

#### 3.26.5.3 Responses

Code	Description	Content
200	Updated	ResourceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.232: Responses of PATCH resourceTemplate/{id}.

## 3.27 resumePerformanceJob (/performanceMonitoring)

Performance Monitoring Job API

### 3.27.1 GET /resumePerformanceJob

**Absolute Path:** /performanceMonitoring/v1/resumePerformanceJob

**Summary:** Lists or finds ResumePerformanceJob objects

#### 3.27.1.1 Parameters

Name	Type	Required	Description
performanceJobId	string	No	Identifier of Performance Job that is a subject of ResumePerformanceJob.
state	string	No	State of ResumePerformanceJob. See PerformanceJobProcessStateType definition for details.
creationDate.gt	string	No	Date when the ResumePerformanceJob was created - greater than.
creationDate.lt	string	No	Date when the ResumePerformanceJob was created - lower than.
offset	integer	No	Requested index for start of item to be provided in response requested by client. Note that the index starts with "0".
limit	integer	No	Requested number of items to be provided in response requested by client.

Table 3.233: Parameters of GET resumePerformanceJob.

#### 3.27.1.2 Responses

Code	Description	Content
200	Success	ResumePerformanceJob_Find
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500
501	Method not implemented.	Error501





Code	Description	Content
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Table 3.234: Responses of GET resumePerformanceJob.

### 3.27.2 POST /resumePerformanceJob

**Absolute Path:** /performanceMonitoring/v1/resumePerformanceJob

#### 3.27.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	ResumePerformanceJob_Create

Table 3.235: Request Body of POST resumePerformanceJob.

#### 3.27.2.2 Responses

Code	Description	Content
201	Created	ResumePerformanceJob
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500
501	Method not implemented.	Error501

Table 3.236: Responses of POST resumePerformanceJob.

### 3.27.3 GET /resumePerformanceJob/{id}

**Absolute Path:** /performanceMonitoring/v1/resumePerformanceJob/{id}

**Summary:** Retrieves a ResumePerformanceJob by ID.

#### 3.27.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ResumePerformanceJob

Table 3.237: Parameters of GET resumePerformanceJob/{id}.

#### 3.27.3.2 Responses

Code	Description	Content
200	Success	ResumePerformanceJob
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
404	Not Found	Error404
500	Internal Server Error	Error500
501	Method not implemented.	Error501

Table 3.238: Responses of GET resumePerformanceJob/{id}.

## 3.28 service (/serviceInventory)

Service Inventory API

### 3.28.1 GET /service

**Absolute Path:** /serviceInventory/v1/service

**TOD Reference:** TOD-05-02-05-View\_All\_Services

**Summary:** List or find Service objects

#### 3.28.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.239: Parameters of GET service.

#### 3.28.1.2 Responses

Code	Description	Content
200	Success	Service
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.240: Responses of GET service.

### 3.28.2 POST /service

**Absolute Path:** /serviceInventory/v1/service

**TOD Reference:** TOD-05-02-01-Create\_Service

**Summary:** Creates a Service

#### 3.28.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	Service_Create

Table 3.241: Request Body of POST service.

#### 3.28.2.2 Responses

Code	Description	Content
201	Created	Service
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.242: Responses of POST service.

### 3.28.3 GET /service/{id}

**Absolute Path:** /serviceInventory/v1/service/{id}

**TOD Reference:** TOD-05-02-04-View\_Service

**Summary:** Retrieves a Service by ID

#### 3.28.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Service
fields	string	No	Comma-separated properties to provide in response

Table 3.243: Parameters of GET service/{id}.

#### 3.28.3.2 Responses

Code	Description	Content
200	Success	Service
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.244: Responses of GET service/{id}.

### 3.28.4 DELETE /service/{id}

**Absolute Path:** /serviceInventory/v1/service/{id}

**TOD Reference:** TOD-05-02-03-Remove\_Service

**Summary:** Deletes a Service

#### 3.28.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Service

Table 3.245: Parameters of DELETE service/{id}.

#### 3.28.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.246: Responses of DELETE service/{id}.

### 3.28.5 PATCH /service/{id}

**Absolute Path:** /serviceInventory/v1/service/{id}

**TOD Reference:** TOD-05-02-02-Update\_Service

**Summary:** Updates partially a Service

#### 3.28.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the Service

Table 3.247: Parameters of PATCH service/{id}.

#### 3.28.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	Service_Update

Table 3.248: Request Body of PATCH service/{id}.

#### 3.28.5.3 Responses

Code	Description	Content
200	Updated	Service
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.249: Responses of PATCH service/{id}.



## 3.29 serviceLevelObjective (/serviceQuality)

Service Level Objective API

### 3.29.1 GET /serviceLevelObjective

**Absolute Path:** /serviceQuality/v1/serviceLevelObjective

**TOD Reference:** TOD-06-01-05-View\_All\_Service\_Level\_Objective

**Summary:** List or find ServiceLevelObjective objects

#### 3.29.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.250: Parameters of GET serviceLevelObjective.

#### 3.29.1.2 Responses

Code	Description	Content
200	Success	ServiceLevelObjective
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.251: Responses of GET serviceLevelObjective.

## 3.29.2 POST /serviceLevelObjective

**Absolute Path:** /serviceQuality/v1/serviceLevelObjective

**TOD Reference:** TOD-06-01-01-Create\_Service\_Level\_Objective

**Summary:** Creates a ServiceLevelObjective

### 3.29.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	ServiceLevelObjective_Create

Table 3.252: Request Body of POST serviceLevelObjective.

### 3.29.2.2 Responses

Code	Description	Content
201	Created	ServiceLevelObjective
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.253: Responses of POST serviceLevelObjective.

### 3.29.3 GET /serviceLevelObjective/{id}

**Absolute Path:** /serviceQuality/v1/serviceLevelObjective/{id}

**TOD Reference:** TOD-06-01-04-View\_Service\_Level\_Objective

**Summary:** Retrieves a ServiceLevelObjective by ID

#### 3.29.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ServiceLevelObjective
fields	string	No	Comma-separated properties to provide in response

Table 3.254: Parameters of GET serviceLevelObjective/{id}.

#### 3.29.3.2 Responses

Code	Description	Content
200	Success	ServiceLevelObjective
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.255: Responses of GET serviceLevelObjective/{id}.

### 3.29.4 DELETE /serviceLevelObjective/{id}

**Absolute Path:** /serviceQuality/v1/serviceLevelObjective/{id}

**TOD Reference:** TOD-06-01-03-Remove\_Service\_Level\_Objective

**Summary:** Deletes a ServiceLevelObjective

#### 3.29.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ServiceLevelObjective

Table 3.256: Parameters of DELETE serviceLevelObjective/{id}.

#### 3.29.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.257: Responses of DELETE serviceLevelObjective/{id}.

### 3.29.5 PATCH /serviceLevelObjective/{id}

**Absolute Path:** /serviceQuality/v1/serviceLevelObjective/{id}

**TOD Reference:** TOD-06-01-02-Update\_Service\_Level\_Objective

**Summary:** Updates partially a ServiceLevelObjective

#### 3.29.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ServiceLevelObjective

Table 3.258: Parameters of PATCH serviceLevelObjective/{id}.

#### 3.29.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	ServiceLevelObjective_Update

Table 3.259: Request Body of PATCH serviceLevelObjective/{id}.

#### 3.29.5.3 Responses

Code	Description	Content
200	Updated	ServiceLevelObjective
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.260: Responses of PATCH serviceLevelObjective/{id}.

### 3.30 serviceLevelSpecification (/serviceQuality)

Service Level Specification API

#### 3.30.1 GET /serviceLevelSpecification

**Absolute Path:** /serviceQuality/v1/serviceLevelSpecification

**TOD Reference:** TOD-06-02-05-View\_All\_Service\_Level\_Specification

**Summary:** List or find ServiceLevelSpecification objects

##### 3.30.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.261: Parameters of GET serviceLevelSpecification.

##### 3.30.1.2 Responses

Code	Description	Content
200	Success	ServiceLevelSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.262: Responses of GET serviceLevelSpecification.

### 3.30.2 POST /serviceLevelSpecification

**Absolute Path:** /serviceQuality/v1/serviceLevelSpecification

**TOD Reference:** TOD-06-02-01-Create\_Service\_Level\_Specification

**Summary:** Creates a ServiceLevelSpecification

#### 3.30.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	ServiceLevelSpecification_Create

Table 3.263: Request Body of POST serviceLevelSpecification.

#### 3.30.2.2 Responses

Code	Description	Content
201	Created	ServiceLevelSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.264: Responses of POST serviceLevelSpecification.

### 3.30.3 GET /serviceLevelSpecification/{id}

**Absolute Path:** /serviceQuality/v1/serviceLevelSpecification/{id}

**TOD Reference:** TOD-06-02-04-View\_Service\_Level\_Specification

**Summary:** Retrieves a ServiceLevelSpecification by ID

#### 3.30.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ServiceLevelSpecification
fields	string	No	Comma-separated properties to provide in response

Table 3.265: Parameters of GET serviceLevelSpecification/{id}.

#### 3.30.3.2 Responses

Code	Description	Content
200	Success	ServiceLevelSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.266: Responses of GET serviceLevelSpecification/{id}.



### 3.30.4 DELETE /serviceLevelSpecification/{id}

**Absolute Path:** /serviceQuality/v1/serviceLevelSpecification/{id}

**TOD Reference:** TOD-06-02-03-Remove\_Service\_Level\_Specification

**Summary:** Deletes a ServiceLevelSpecification

#### 3.30.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ServiceLevelSpecification

Table 3.267: Parameters of DELETE serviceLevelSpecification/{id}.

#### 3.30.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.268: Responses of DELETE serviceLevelSpecification/{id}.

### 3.30.5 PATCH /serviceLevelSpecification/{id}

**Absolute Path:** /serviceQuality/v1/serviceLevelSpecification/{id}

**TOD Reference:** TOD-06-02-02-Update\_Service\_Level\_Specification

**Summary:** Updates partially a ServiceLevelSpecification

#### 3.30.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ServiceLevelSpecification

Table 3.269: Parameters of PATCH serviceLevelSpecification/{id}.

#### 3.30.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	ServiceLevelSpecification_Update

Table 3.270: Request Body of PATCH serviceLevelSpecification/{id}.

#### 3.30.5.3 Responses

Code	Description	Content
200	Updated	ServiceLevelSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.271: Responses of PATCH serviceLevelSpecification/{id}.

## 3.31 serviceSpecification (/serviceCatalog)

Service Specification API

### 3.31.1 GET /serviceSpecification

**Absolute Path:** /serviceCatalog/v1/serviceSpecification

**TOD Reference:** TOD-02-02-05-View\_All\_Service\_Specifications

**Summary:** List or find ServiceSpecification objects

#### 3.31.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.272: Parameters of GET serviceSpecification.

#### 3.31.1.2 Responses

Code	Description	Content
200	Success	ServiceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.273: Responses of GET serviceSpecification.

### 3.31.2 POST /serviceSpecification

**Absolute Path:** /serviceCatalog/v1/serviceSpecification

**TOD Reference:** TOD-02-02-01-Create\_Service\_Specification

**Summary:** Creates a ServiceSpecification

#### 3.31.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	ServiceSpecification_Create

Table 3.274: Request Body of POST serviceSpecification.

#### 3.31.2.2 Responses

Code	Description	Content
201	Created	ServiceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.275: Responses of POST serviceSpecification.

### 3.31.3 GET /serviceSpecification/{id}

**Absolute Path:** /serviceCatalog/v1/serviceSpecification/{id}

**TOD Reference:** TOD-02-02-04-View\_Service\_Specification

**Summary:** Retrieves a ServiceSpecification by ID

#### 3.31.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ServiceSpecification
fields	string	No	Comma-separated properties to provide in response

Table 3.276: Parameters of GET serviceSpecification/{id}.

#### 3.31.3.2 Responses

Code	Description	Content
200	Success	ServiceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.277: Responses of GET serviceSpecification/{id}.

### 3.31.4 DELETE /serviceSpecification/{id}

**Absolute Path:** /serviceCatalog/v1/serviceSpecification/{id}

**TOD Reference:** TOD-02-02-03-Remove\_Service\_Specification

**Summary:** Deletes a ServiceSpecification

#### 3.31.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ServiceSpecification

Table 3.278: Parameters of DELETE serviceSpecification/{id}.

#### 3.31.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.279: Responses of DELETE serviceSpecification/{id}.

### 3.31.5 PATCH /serviceSpecification/{id}

**Absolute Path:** /serviceCatalog/v1/serviceSpecification/{id}

**TOD Reference:** TOD-02-02-Update\_Service\_Specification

**Summary:** Updates partially a ServiceSpecification

#### 3.31.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the ServiceSpecification

Table 3.280: Parameters of PATCH serviceSpecification/{id}.

#### 3.31.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	ServiceSpecification_Update

Table 3.281: Request Body of PATCH serviceSpecification/{id}.

#### 3.31.5.3 Responses

Code	Description	Content
200	Updated	ServiceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.282: Responses of PATCH serviceSpecification/{id}.

## 3.32 serviceTemplate (/serviceCatalog)

Service Template API

### 3.32.1 GET /serviceTemplate

**Absolute Path:** /serviceCatalog/v1/serviceTemplate

**TOD Reference:** TOD-04-02-05-View\_All\_Service\_Templates

**Summary:** List or find ServiceTemplate objects

#### 3.32.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response.
offset	integer	No	The requested index for start of resources to be provided in response.
limit	integer	No	The requested number of resources to be provided in response.

Table 3.283: Parameters of GET serviceTemplate.

#### 3.32.1.2 Responses

Code	Description	Content
200	Success	ServiceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.284: Responses of GET serviceTemplate.



### 3.32.2 POST /serviceTemplate

**Absolute Path:** /serviceCatalog/v1/serviceTemplate

**TOD Reference:** TOD-04-02-01-Create\_Service\_Template

**Summary:** Creates a ServiceTemplate

#### 3.32.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	ServiceSpecification_Create

Table 3.285: Request Body of POST serviceTemplate.

#### 3.32.2.2 Responses

Code	Description	Content
201	Created	ServiceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.286: Responses of POST serviceTemplate.

### 3.32.3 GET /serviceTemplate/{id}

**Absolute Path:** /serviceCatalog/v1/serviceTemplate/{id}

**TOD Reference:** TOD-04-02-04-View\_Service\_Template

**Summary:** Retrieves a ServiceTemplate by ID

#### 3.32.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	The identifier of the ServiceTemplate.
fields	string	No	Comma-separated properties to provide in response.

Table 3.287: Parameters of GET serviceTemplate/{id}.

#### 3.32.3.2 Responses

Code	Description	Content
200	Success	ServiceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.288: Responses of GET serviceTemplate/{id}.

### 3.32.4 DELETE /serviceTemplate/{id}

**Absolute Path:** /serviceCatalog/v1/serviceTemplate/{id}

**TOD Reference:** TOD-04-02-03-Remove\_Service\_Template

**Summary:** Deletes a ServiceTemplate

#### 3.32.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	The identifier of the ServiceTemplate.

Table 3.289: Parameters of DELETE serviceTemplate/{id}.

#### 3.32.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.290: Responses of DELETE serviceTemplate/{id}.

### 3.32.5 PATCH /serviceTemplate/{id}

**Absolute Path:** /serviceCatalog/v1/serviceTemplate/{id}

**TOD Reference:** TOD-04-02-02-Update\_Service\_Template

**Summary:** Updates partially a ServiceTemplate

#### 3.32.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	The identifier of the ServiceTemplate.

Table 3.291: Parameters of PATCH serviceTemplate/{id}.

#### 3.32.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	ServiceSpecification_Update

Table 3.292: Request Body of PATCH serviceTemplate/{id}.

#### 3.32.5.3 Responses

Code	Description	Content
200	Updated	ServiceSpecification
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.293: Responses of PATCH serviceTemplate/{id}.

### 3.33 suspendPerformanceJob (/performanceMonitoring)

Performance Monitoring Job API

#### 3.33.1 GET /suspendPerformanceJob

**Absolute Path:** /performanceMonitoring/v1/suspendPerformanceJob

**Summary:** Lists or finds SuspendPerformanceJob objects.

##### 3.33.1.1 Parameters

Name	Type	Required	Description
performanceJobId	string	No	Identifier of Performance Job that is a subject of SuspendPerformanceJob.
state	string	No	State of SuspendPerformanceJob. See PerformanceJobProcessStateType definition for details.
creationDate.gt	string	No	Date when the SuspendPerformanceJob was created - greater than.
creationDate.lt	string	No	Date when the SuspendPerformanceJob was created - lower than.
offset	integer	No	Requested index for start of item to be provided in response requested by client. Note that the index starts with "0".
limit	integer	No	Requested number of items to be provided in response requested by client.

Table 3.294: Parameters of GET suspendPerformanceJob.

##### 3.33.1.2 Responses

Code	Description	Content
200	Success	SuspendPerformanceJob_Find
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500
501	Method not implemented.	Error501



Code	Description	Content
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Table 3.295: Responses of GET suspendPerformanceJob.

### 3.33.2 POST /suspendPerformanceJob

**Absolute Path:** /performanceMonitoring/v1/suspendPerformanceJob

#### 3.33.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	SuspendPerformanceJob_Create

Table 3.296: Request Body of POST suspendPerformanceJob.

#### 3.33.2.2 Responses

Code	Description	Content
201	Created	SuspendPerformanceJob
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
422	Unprocessable entity due to the business validation problems	Error422
500	Internal Server Error	Error500
501	Method not implemented.	Error501

Table 3.297: Responses of POST suspendPerformanceJob.

### 3.33.3 GET /suspendPerformanceJob/{id}

**Absolute Path:** /performanceMonitoring/v1/suspendPerformanceJob/{id}

**Summary:** Retrieves a SuspendPerformanceJob by ID

#### 3.33.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the SuspendPerformanceJob

Table 3.298: Parameters of GET suspendPerformanceJob/{id}.

#### 3.33.3.2 Responses

Code	Description	Content
200	Success	SuspendPerformanceJob
400	Bad Request	Error400
401	Unauthorized	Error401
403	Forbidden	Error403
404	Not Found	Error404
500	Internal Server Error	Error500
501	Method not implemented.	Error501

Table 3.299: Responses of GET suspendPerformanceJob/{id}.



## 3.34 troubleTicket (/troubleTicket)

Trouble Ticket API

### 3.34.1 GET /troubleTicket

**Absolute Path:** /troubleTicket/v1/troubleTicket

**TOD Reference:** TOD-01-04-05-View\_All\_Trouble\_Tickets

**Summary:** List or find TroubleTicket objects

#### 3.34.1.1 Parameters

Name	Type	Required	Description
fields	string	No	Comma-separated properties to be provided in response
offset	integer	No	Requested index for start of resources to be provided in response
limit	integer	No	Requested number of resources to be provided in response

Table 3.300: Parameters of GET troubleTicket.

#### 3.34.1.2 Responses

Code	Description	Content
200	Success	TroubleTicket
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.301: Responses of GET troubleTicket.

### 3.34.2 POST /troubleTicket

**Absolute Path:** /troubleTicket/v1/troubleTicket

**TOD Reference:** TOD-01-04-01-Create\_Trouble\_Ticket

**Summary:** Creates a TroubleTicket

#### 3.34.2.1 Request Body

Content Type	Reference
application/json;charset=utf-8	TroubleTicket_Create

Table 3.302: Request Body of POST troubleTicket.

#### 3.34.2.2 Responses

Code	Description	Content
201	Created	TroubleTicket
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.303: Responses of POST troubleTicket.

### 3.34.3 GET /troubleTicket/{id}

**Absolute Path:** /troubleTicket/v1/troubleTicket/{id}

**TOD Reference:** TOD-01-04-04-View\_Trouble\_Ticket

**Summary:** Retrieves a TroubleTicket by ID

#### 3.34.3.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the TroubleTicket
fields	string	No	Comma-separated properties to provide in response

Table 3.304: Parameters of GET troubleTicket/{id}.

#### 3.34.3.2 Responses

Code	Description	Content
200	Success	TroubleTicket
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.305: Responses of GET troubleTicket/{id}.

### 3.34.4 DELETE /troubleTicket/{id}

**Absolute Path:** /troubleTicket/v1/troubleTicket/{id}

**TOD Reference:** TOD-01-04-03-Remove\_Trouble\_Ticket

**Summary:** Deletes a TroubleTicket

#### 3.34.4.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the TroubleTicket

Table 3.306: Parameters of DELETE troubleTicket/{id}.

#### 3.34.4.2 Responses

Code	Description	Content
204	Deleted	N/A
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.307: Responses of DELETE troubleTicket/{id}.

### 3.34.5 PATCH /troubleTicket/{id}

**Absolute Path:** /troubleTicket/v1/troubleTicket/{id}

**TOD Reference:** TOD-01-04-02-Update\_Trouble\_Ticket

**Summary:** Updates partially a TroubleTicket

#### 3.34.5.1 Parameters

Name	Type	Required	Description
id	string	Yes	Identifier of the TroubleTicket

Table 3.308: Parameters of PATCH troubleTicket/{id}.

#### 3.34.5.2 Request Body

Content Type	Reference
application/json;charset=utf-8	TroubleTicket_Update

Table 3.309: Request Body of PATCH troubleTicket/{id}.

#### 3.34.5.3 Responses

Code	Description	Content
200	Updated	TroubleTicket
400	Bad Request	Error
401	Unauthorized	Error
403	Forbidden	Error
404	Not Found	Error
405	Method Not allowed	Error
409	Conflict	Error
500	Internal Server Error	Error

Table 3.310: Responses of PATCH troubleTicket/{id}.

## 4 Data-Transfer-Objects

The following sections describe all DTOs used in the APIs described above. Most entities can make use of polymorphism using the `@type` and `@baseType` attributes. An implementation may omit these fields if only the base type is used, i.e. no subtypes exist. This is the case for essentially all inner types, e.g. characteristics and references. In references, the attribute `@referredType` can be used to hint the type of the target entity.

### 4.1 Addressable

Base schema for addressable entities

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No

Table 4.1: Fields of Addressable.

## 4.2 AffectedService

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.2: Fields of AffectedService.

## 4.3 AgreementItemRef

Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
agreementItemId	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.3: Fields of AgreementItemRef.



## 4.4 AgreementRef

Agreement reference. An agreement represents a contract or arrangement, either written or verbal and sometimes enforceable by law, such as a service level agreement or a customer price agreement. An agreement involves a number of other business entities, such as products, services, and resources and/or their specifications.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.4: Fields of AgreementRef.

## 4.5 Alarm

This resource represents an alarm supporting the information model defined in ITU-T X.733.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
ackState	string	N/A	No
ackSystemId	string	N/A	No
ackUserId	string	N/A	No
alarmChangedTime	string	date-time	No
alarmClearedTime	string	date-time	No
alarmDetails	string	N/A	No
alarmEscalation	boolean	N/A	No
alarmRaisedTime	string	date-time	No
alarmReportingTime	string	date-time	No
alarmedObjectType	string	N/A	No
clearSystemId	string	N/A	No
clearUserId	string	N/A	No
externalAlarmId	string	N/A	No
isRootCause	boolean	N/A	No
plannedOutageIndicator	string	N/A	No
probableCause	string	N/A	No
proposedRepairedActions	string	N/A	No
reportingSystemId	string	N/A	No
serviceAffecting	boolean	N/A	No
sourceSystemId	string	N/A	No
specificProblem	string	N/A	No
state	string	oneOf[raised, updated, cleared]	No
affectedService	array	AffectedService	No
alarmType	AlarmType	N/A	No
alarmedObject	AlarmedObject	N/A	No
comment	array	Comment	No
correlatedAlarm	array	AlarmRef	No
crossedThresholdInformation	CrossedThresholdInformation	N/A	No

Field	Type	Format	Required
parentAlarm	array	AlarmRef	No
perceivedSeverity	PerceivedSeverity	N/A	No
place	array	RelatedPlaceRefOrValue	No
@baseType	string	N/A	No
@schemaLocation	string	N/A	No
@type	string	N/A	No

Table 4.5: Fields of Alarm.

## 4.6 AlarmRef

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.6: Fields of AlarmRef.

## 4.7 AlarmType

Categorizes the alarm (X.733 8.1.1, 3GPP TS 32.111-2 Annex A)

Field	Type	Format	Required
AlarmType	string	oneOf[communicationsAlarm, processingErrorAlarm, environmentalAlarm, qualityOfServiceAlarm, equipmentAlarm, integrityViolation, operationalViolation, physicalViolation, securityService, mechanismViolation, timeDomainViolation]	No

Table 4.7: Fields of AlarmType.

## 4.8 AlarmedObject

Identifies the managed object instance associated with the alarm.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.8: Fields of AlarmedObject.

## 4.9 AlternateProductStock

AlternateProductStock is used to log and execute Alternate about product stock availability

Field	Type	Format	Required
id	string	N/A	No
alternateAvailabilityDate	string	date-time	No
alternatePlace	PlaceRef	N/A	No
alternateProduct	ProductRefOrValue	N/A	No
alternateQuantity	Quantity	N/A	No
alternateStock	ProductStockRef	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.9: Fields of AlternateProductStock.

## 4.10 ApplicableTimePeriod

The period of time for which Capacity or CapacityDemand applies.

Field	Type	Format	Required
dayOfWeek	string	N/A	No
fromToDateTime	TimePeriod	N/A	No
rangeInterval	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	N/A	No
@type	string	N/A	No

Table 4.10: Fields of ApplicableTimePeriod.



## 4.11 AppliedPayment

The applied payment is the result of lettering process. It enables to assign automatically or manually part of incoming payment amount to a bill.

Field	Type	Format	Required
appliedAmount	Money	N/A	No
payment	PaymentRef	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.11: Fields of AppliedPayment.

## 4.12 AppointmentRef

Refers an appointment, such as a Customer presentation or internal meeting or site visit

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
description	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.12: Fields of AppointmentRef.

## 4.13 AssociationSpecificationRef

reference to an AssociationSpecification object

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.13: Fields of AssociationSpecificationRef.

## 4.14 Attachment

Complements the description of an element (for instance a product) through video, pictures...

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
attachmentType	string	N/A	No
contentType	string	N/A	No
url	string	uri	No
size	Quantity	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.14: Fields of Attachment.

## 4.15 AttachmentOrDocumentRef

Reference to an attachment or a document. A document comprises of multiple attachments, while a single attachment has uri, mimeType, size, etc.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
attachmentType	string	N/A	No
mimeType	string	N/A	No
url	string	uri	No
size	Quantity	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.15: Fields of AttachmentOrDocumentRef.

## 4.16 AttachmentRef

Attachment reference. An attachment complements the description of an element (for instance a product) through video, pictures

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
url	string	uri	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.16: Fields of AttachmentRef.

## 4.17 AttachmentURL

The AttachmentURL is used to get the PM report.

Field	Type	Format	Required
url	string	N/A	Yes

Table 4.17: Fields of AttachmentURL.

## 4.18 Attachment\_Create

Complements the description of an element (for instance a product) through video, pictures...

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
attachmentType	string	N/A	No
content	string	binary	No
contentType	string	N/A	No
url	string	uri	No
size	Quantity	N/A	No
validFor	TimePeriod	N/A	No

Table 4.18: Fields of Attachment\_Create.



## 4.19 Attachment\_Update

Complements the description of an element (for instance a product) through video, pictures...

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
attachmentType	string	N/A	No
content	string	binary	No
contentType	string	N/A	No
url	string	uri	No
size	Quantity	N/A	No
validFor	TimePeriod	N/A	No

Table 4.19: Fields of Attachment\_Update.

## 4.20 AvailabilityResultType

Possible values of the availability result check for CheckProductStockItem.

Field	Type	Format	Required
AvailabilityResultType	string	oneOf[available, notAvailable, alternate]	No

Table 4.20: Fields of AvailabilityResultType.

## 4.21 BillCycleRef

....

Field	Type	Format	Required
id	string	N/A	Yes
href	string	N/A	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.21: Fields of BillCycleRef.

## 4.22 BillingAccountRef

BillingAccount reference. A BillingAccount is a detailed description of a bill structure.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
ratingType	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.22: Fields of BillingAccountRef.

## 4.23 BundledGroupProductOffering

Defines a group between a parent product offering and multiple child offerings, allowing (for example) choosing a minimum of 2 and a maximum of 6 offerings from within the list of child offerings. And optionally specifying offerings that would be selected by default. For example facilitate the choice of between 2 and 7 channel packs from a list, and cause certain items to be selected by default.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
lifecycleStatus	string	N/A	No
bundledGroupProductOfferingOption	BundledGroupProductOfferingOption	N/A	No
bundledGroupProductOffering	array	BundledGroupProductOffering	No
bundledProductOffering	array	BundledProductOffering	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.23: Fields of BundledGroupProductOffering.

## 4.24 BundledGroupProductOfferingOption

A set of numbers that specifies the lower and upper limits for a ProductOfferingGroup that can be procured as part of the related BundledGroupProductOffering. Values can range from 0 to unbounded

Field	Type	Format	Required
numberRelOfferLowerLimit	integer	N/A	No
numberRelOfferUpperLimit	integer	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.24: Fields of BundledGroupProductOfferingOption.

## 4.25 BundledProductOffering

A type of ProductOffering that belongs to a grouping of ProductOfferings made available to the market. It inherits of all attributes of ProductOffering.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
lifecycleStatus	string	N/A	No
bundledProductOfferingOption	BundledProductOfferingOption	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.25: Fields of BundledProductOffering.

## 4.26 BundledProductOfferingOption

A set of numbers that specifies the lower and upper limits for a ProductOffering that can be procured as part of the related BundledProductOffering. Values can range from 0 to unbounded

Field	Type	Format	Required
numberRelOfferDefault	integer	N/A	No
numberRelOfferLowerLimit	integer	N/A	No
numberRelOfferUpperLimit	integer	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.26: Fields of BundledProductOfferingOption.



## 4.27 BundledProductSpecification

A type of ProductSpecification that belongs to a grouping of ProductSpecifications made available to the market. It inherits of all attributes of ProductSpecification.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
lifecycleStatus	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.27: Fields of BundledProductSpecification.

## 4.28 CancelPerformanceJob

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
cancellationReason	string	N/A	No
performanceJob	PerformanceJobRef	N/A	Yes
cancellationDeniedReason	string	N/A	No
creationDate	string	date-time	Yes
state	PerformanceJobPro- cessStateType	N/A	Yes

Table 4.28: Fields of CancelPerformanceJob.

## 4.29 CancelPerformanceJob\_Common

Request for cancellation of an existing Performance Job

Field	Type	Format	Required
cancellationReason	string	N/A	No
performanceJob	PerformanceJobRef	N/A	Yes

Table 4.29: Fields of CancelPerformanceJob\_Common.

## 4.30 CancelPerformanceJob\_Create

Field	Type	Format	Required
cancellationReason	string	N/A	No
performanceJob	PerformanceJobRef	N/A	Yes

Table 4.30: Fields of CancelPerformanceJob\_Create.

## 4.31 CancelPerformanceJob\_Find

This class represents a single list item for the response of `listCancelPerformanceJob`

Field	Type	Format	Required
id	string	N/A	Yes
creationDate	string	date-time	Yes
performanceJob	PerformanceJobRef	N/A	Yes
state	PerformanceJobPro- cessStateType	N/A	Yes

Table 4.31: Fields of CancelPerformanceJob\_Find.

## 4.32 CategoryRef

The category for grouping recommendations

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
version	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.32: Fields of CategoryRef.

## 4.33 ChannelRef

The channel to which the resource reference to. e.g. channel for selling product offerings, channel for opening a trouble ticket etc..

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.33: Fields of ChannelRef.

## 4.34 Characteristic

Describes a given characteristic of an object or entity through a name/value pair.

Field	Type	Format	Required
id	string	N/A	No
name	string	N/A	Yes
valueType	string	N/A	No
characteristicRelationship	array	CharacteristicRelationship	No
value	any	N/A	Yes
unitOfMeasure	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.34: Fields of Characteristic.



## 4.35 CharacteristicRelationship

Another Characteristic that is related to the current Characteristic;

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
relationshipType	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.35: Fields of CharacteristicRelationship.

## 4.36 CharacteristicSpecification

This class defines a characteristic specification.

Field	Type	Format	Required
id	string	N/A	No
name	string	N/A	No
description	string	N/A	No
configurable	boolean	N/A	No
extensible	boolean	N/A	No
isUnique	boolean	N/A	No
maxCardinality	integer	N/A	No
minCardinality	integer	N/A	No
regex	string	N/A	No
valueType	string	N/A	No
charSpecRelationship	array	CharacteristicSpecification-Relationship	No
characteristicValueSpecification	array	CharacteristicValueSpecification	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@valueSchemaLocation	string	N/A	No

Table 4.36: Fields of CharacteristicSpecification.

## 4.37 CharacteristicSpecificationRelationship

An aggregation, migration, substitution, dependency or exclusivity relationship between/among Characteristic specifications. The specification characteristic is embedded within the specification whose ID and href are in this entity, and identified by its ID.

Field	Type	Format	Required
name	string	N/A	No
characteristicSpecificationId	string	N/A	No
parentSpecificationHref	string	uri	No
parentSpecificationId	string	N/A	No
relationshipType	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.37: Fields of CharacteristicSpecificationRelationship.

### 4.38 CharacteristicValuePrecedence

Possible values for the precedence of a characteristic value.

Field	Type	Format	Required
CharacteristicValuePrece- dence	string	oneOf[preferred, minimum, maximum, alternative]	No

Table 4.38: Fields of CharacteristicValuePrecedence.

## 4.39 CharacteristicValueSpecification

specification of a value (number or text or an object) that can be assigned to a Characteristic.

Field	Type	Format	Required
isDefault	boolean	N/A	No
rangeInterval	string	N/A	No
regex	string	N/A	No
unitOfMeasure	string	N/A	No
valueFrom	integer	N/A	No
valueTo	integer	N/A	No
valueType	string	N/A	No
validFor	TimePeriod	N/A	No
value	any	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.39: Fields of CharacteristicValueSpecification.

## 4.40 CheckProductStock

CheckProductStock is used to log and execute check about product stock availability

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
completedCheckProduct-StockDate	string	date-time	No
creationDate	string	date-time	No
instantSyncCheck	boolean	N/A	No
provideAlternative	boolean	N/A	No
requestedCheckProduct-StockDate	string	date-time	No
checkProductStockItem	array	CheckProductStockItem	No
place	PlaceRef	N/A	No
relatedParty	array	RelatedParty	No
state	TaskStateType	N/A	No
requestedAvailability	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.40: Fields of CheckProductStock.

## 4.41 CheckProductStockItem

CheckProductStockItem is used to log and execute query about one product (or configured product) stock availability

Field	Type	Format	Required
id	string	N/A	Yes
availabilityResult	AvailabilityResultType	N/A	No
provideAlternative	boolean	N/A	No
alternate	array	AlternateProductStock	No
checkedProductStock	ProductStock	N/A	Yes
requestedQuantity	Quantity	N/A	Yes
state	TaskStateType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.41: Fields of CheckProductStockItem.

## 4.42 CheckProductStock\_Create

CheckProductStock is used to log and execute check about product stock availability Skipped properties: id,href

Field	Type	Format	Required
instantSyncCheck	boolean	N/A	No
provideAlternative	boolean	N/A	No
requestedCheckProduct-StockDate	string	date-time	No
checkProductStockItem	array	CheckProductStockItem	Yes
place	PlaceRef	N/A	No
relatedParty	array	RelatedParty	No
requestedAvailability	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.42: Fields of CheckProductStock\_Create.



## 4.43 Comment

Indicates the comments entered on the alarm.

Field	Type	Format	Required
comment	string	N/A	No
systemId	string	N/A	No
time	string	date-time	No
userId	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.43: Fields of Comment.

## 4.44 ConstraintRef

Constraint reference. The Constraint resource represents a policy/rule applied to an entity or entity spec.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
version	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.44: Fields of ConstraintRef.

## 4.45 ContactMedium

Indicates the contact medium that could be used to contact the party.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
mediumType	string	N/A	No
preferred	boolean	N/A	No
characteristic	MediumCharacteristic	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.45: Fields of ContactMedium.

## 4.46 CrossedThresholdInformation

Identifies the details of the threshold that has been crossed.

Field	Type	Format	Required
direction	string	N/A	No
granularity	string	N/A	No
indicatorName	string	N/A	No
indicatorUnit	string	N/A	No
observedValue	string	N/A	No
thresholdCrossingDescription	string	N/A	No
threshold	ThresholdRef	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.46: Fields of CrossedThresholdInformation.

## 4.47 CustomerBill

The customer bill. Can be a regular recurring bill or an extra bill on demand by the customer or the csp.

Field	Type	Format	Required
id	string	N/A	No
href	string	N/A	No
billDate	string	date-time	No
billNo	string	N/A	No
category	string	N/A	No
lastUpdate	string	date-time	No
nextBillDate	string	date-time	No
paymentDueDate	string	date-time	No
amountDue	Money	N/A	No
appliedPayment	array	AppliedPayment	No
billCycle	BillCycleRef	N/A	No
billDocument	array	AttachmentOrDocumentRef	No
billingAccount	BillingAccountRef	N/A	No
billingPeriod	TimePeriod	N/A	No
financialAccount	FinancialAccountRef	N/A	No
paymentMethod	PaymentMethodRef	N/A	No
relatedParty	array	RelatedParty	No
remainingAmount	Money	N/A	No
runType	CustomerBillRunType	N/A	No
state	CustomerBillStateType	N/A	No
taxExcludedAmount	Money	N/A	No
taxIncludedAmount	Money	N/A	No
taxItem	array	TaxItem	No
productOrder	ProductOrderRef	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.47: Fields of CustomerBill.

## 4.48 CustomerBillRef

Bill reference.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	N/A	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.48: Fields of CustomerBillRef.

## 4.49 CustomerBillRunType

Recommended Enumeration Type (not formal forced in standard): Valid values for the runType of a bill. The bill could be produced in a regular bill cycle 'onCycle'. Otherwise the bill is produced on a request (e.g. customer request). This could be indicated by 'offCycle'

Field	Type	Format	Required
CustomerBillRunType	string	oneOf[onCycle, offCycle]	No

Table 4.49: Fields of CustomerBillRunType.

## 4.50 CustomerBillStateType

Recommended Enumeration Type (not formal forced in standard): Valid values for the lifecycle state of the bill: new = 'bill is ready to validate or to sent', validated = 'bill is checked (manual / automatic)', sent = 'bill is sent with the channel defined in the billingaccount', settled = 'bill is payed', partiallySettled = 'bill is partially payed', onHold = 'bill will not be in further processing until open issues connected to the bill are solved'

Field	Type	Format	Required
CustomerBillStateType	string	oneOf[new, onHold, validated, sent, settled, partiallyPaid, withdrawn]	No

Table 4.50: Fields of CustomerBillStateType.



## 4.51 CustomerBill\_Create

The customer bill to be created. Can be a regular recurring bill or an extra bill on demand by the customer or the csp.

Field	Type	Format	Required
billDate	string	date-time	No
billNo	string	N/A	No
category	string	N/A	No
lastUpdate	string	date-time	No
nextBillDate	string	date-time	No
paymentDueDate	string	date-time	No
amountDue	Money	N/A	No
appliedPayment	array	AppliedPayment	No
billCycle	BillCycleRef	N/A	No
billDocument	array	AttachmentOrDocumentRef	No
billingAccount	BillingAccountRef	N/A	No
billingPeriod	TimePeriod	N/A	No
financialAccount	FinancialAccountRef	N/A	No
paymentMethod	PaymentMethodRef	N/A	No
relatedParty	array	RelatedParty	No
remainingAmount	Money	N/A	No
runType	CustomerBillRunType	N/A	No
state	CustomerBillStateType	N/A	No
taxExcludedAmount	Money	N/A	No
taxIncludedAmount	Money	N/A	No
taxItem	array	TaxItem	No
productOrder	ProductOrderRef	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.51: Fields of CustomerBill\_Create.

## 4.52 CustomerBill\_Update

The customer bill. Can be a regular recurring bill or an extra bill on demand by the customer or the csp. Skipped properties: id,href,amountDue,appliedPayment,billDate,billDocument,billNo,billingAccount,billingPeriod,category,financialAccount

Field	Type	Format	Required
billCycle	BillCycleRef	N/A	No
state	CustomerBillStateType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.52: Fields of CustomerBill\_Update.

## 4.53 CustomerCharacteristic

A characteristic describing the customer. Used to scope results of a CustomerInquiry.

Field	Type	Format	Required
name	string	N/A	Yes
description	string	N/A	No
valueType	string	N/A	No
value	string	N/A	No

Table 4.53: Fields of CustomerCharacteristic.

## 4.54 CustomerInquiry

A request for information (resources, services, products and offerings) from a Customer.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
state	InquiryStateType	N/A	Yes
responseTime	ResponseTime	N/A	Yes
customerProfile	array	CustomerCharacteristic	No
bundlesOnly	boolean	N/A	No
customerResource	array	ResourceSpecification	No
place	array	PlaceRefOrValue	No
inquiredProduct	array	InquiredProduct	No
inquiredProvider	array	InquiredProvider	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.54: Fields of CustomerInquiry.

## 4.55 CustomerInquiry\_Create

A request for information (resources, services, products and offerings) from a Customer. Skipped properties: id,href,state,responseTime

Field	Type	Format	Required
customerProfile	array	CustomerCharacteristic	No
bundlesOnly	boolean	N/A	No
customerResource	array	ResourceSpecification	No
place	array	PlaceRefOrValue	No
inquiredProduct	array	InquiredProduct	No
inquiredProvider	array	InquiredProvider	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.55: Fields of CustomerInquiry\_Create.

## 4.56 CustomerInquiry\_Update

An update request of a customer inquiry that allows to change the inquired providers.

Field	Type	Format	Required
inquiredProvider	array	InquiredProvider	No

Table 4.56: Fields of CustomerInquiry\_Update.

## 4.57 Disability

Lack or inadequate strength or ability.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
disabilityCode	string	N/A	No
disabilityName	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.57: Fields of Disability.

## 4.58 Document

Document is a tangible output from an activity

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
creationDate	string	date-time	No
documentType	string	N/A	No
lastUpdate	string	date-time	No
lifecycleState	string	N/A	No
version	string	N/A	No
attachment	array	Attachment	No
characteristic	array	Characteristic	No
documentRelationship	array	DocumentRef	No
relatedEntity	RelatedEntity	N/A	No
relatedParty	array	RelatedParty	No

Table 4.58: Fields of Document.



## 4.59 DocumentRef

Reference to a document. A document contains metadata for the associated attachments.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	N/A	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.59: Fields of DocumentRef.

## 4.60 Document\_Create

Document is a tangible output from an activity Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
creationDate	string	date-time	No
documentType	string	N/A	No
lastUpdate	string	date-time	No
lifecycleState	string	N/A	No
version	string	N/A	No
characteristic	array	Characteristic	No
documentRelationship	array	DocumentRef	No
relatedEntity	RelatedEntity	N/A	No
relatedParty	array	RelatedParty	No

Table 4.60: Fields of Document\_Create.

## 4.61 Document\_Update

Document is a tangible output from an activity Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
creationDate	string	date-time	No
documentType	string	N/A	No
lastUpdate	string	date-time	No
lifecycleState	string	N/A	No
version	string	N/A	No
characteristic	array	Characteristic	No
documentRelationship	array	DocumentRef	No
relatedEntity	RelatedEntity	N/A	No
relatedParty	array	RelatedParty	No

Table 4.61: Fields of Document\_Update.

## 4.62 Duration

A time interval in a given unit of time

Field	Type	Format	Required
amount	integer	N/A	No
units	string	N/A	No

Table 4.62: Fields of Duration.

## 4.63 Entity

Base entity schema for use in TMForum Open-APIs

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	Yes

Table 4.63: Fields of Entity.

## 4.64 EntityRef

Entity reference schema to be use for all entityRef class.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.64: Fields of EntityRef.

## 4.65 EntitySpecificationRelationship

A migration, substitution, dependency or exclusivity relationship between/among entity specifications.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
relationshipType	string	N/A	Yes
role	string	N/A	No
associationSpec	AssociationSpecificationRef	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.65: Fields of EntitySpecificationRelationship.

## 4.66 EntityValue

Base entity value schema for use in TMForum Open-APIs

Field	Type	Format	Required
id	string	N/A	No
href	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.66: Fields of EntityValue.



## 4.67 Error

Used when an API throws an Error, typically with a HTTP error response-code (3xx, 4xx, 5xx)

Field	Type	Format	Required
code	string	N/A	Yes
reason	string	N/A	Yes
message	string	N/A	No
status	string	N/A	No
referenceError	string	uri	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.67: Fields of Error.

## 4.68 Error400

'Bad Request. (<https://tools.ietf.org/html/rfc7231#section-6.5.1>)'

Field	Type	Format	Required
code	Error400Code	N/A	Yes
reason	string	N/A	Yes
message	string	N/A	No
status	string	N/A	No
referenceError	string	uri	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.68: Fields of Error400.

## 4.69 Error400Code

One of the following error codes: - missingQueryParameter: The URI is missing a required query-string parameter - missingQueryValue: The URI is missing a required query-string parameter value - invalidQuery: The query section of the URI is invalid - invalidBody: The request has an invalid body.

Field	Type	Format	Required
Error400Code	string	oneOf[missingQueryParameter, missingQueryValue, invalidQuery, invalidBody]	No

Table 4.69: Fields of Error400Code.

## 4.70 Error401

'Unauthorized. (<https://tools.ietf.org/html/rfc7235#section-3.1>)'

Field	Type	Format	Required
code	Error401Code	N/A	Yes
reason	string	N/A	Yes
message	string	N/A	No
status	string	N/A	No
referenceError	string	uri	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.70: Fields of Error401.

## 4.71 Error401Code

One of the following error codes: - missingCredentials: No credentials provided - invalidCredentials: Provided credentials are invalid or expired.

Field	Type	Format	Required
Error401Code	string	oneOf[missingCredentials, invalidCredentials]	No

Table 4.71: Fields of Error401Code.

## 4.72 Error403

Forbidden. This code indicates that the server understood the request but refused to authorize it. (<https://tools.ietf.org/html/rfc6553>)

Field	Type	Format	Required
code	Error403Code	N/A	Yes
reason	string	N/A	Yes
message	string	N/A	No
status	string	N/A	No
referenceError	string	uri	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.72: Fields of Error403.

## 4.73 Error403Code

This code indicates that the server understood the request but refuses to authorize it because of one of the following error codes: - accessDenied: Access denied - forbiddenRequester: Forbidden requester - tooManyUsers: Too many users.

Field	Type	Format	Required
Error403Code	string	oneOf[accessDenied, forbiddenRequester, tooManyUsers]	No

Table 4.73: Fields of Error403Code.

## 4.74 Error404

Resource for the requested path not found. (<https://tools.ietf.org/html/rfc7231#section-6.5.4>)

Field	Type	Format	Required
code	string	oneOf[notFound]	Yes
reason	string	N/A	Yes
message	string	N/A	No
status	string	N/A	No
referenceError	string	uri	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.74: Fields of Error404.



## 4.75 Error422

Unprocessable entity due to a business validation problem. (<https://tools.ietf.org/html/rfc4918#section-11.2>)

Field	Type	Format	Required
code	Error422Code	N/A	Yes
reason	string	N/A	Yes
message	string	N/A	No
status	string	N/A	No
referenceError	string	uri	No
propertyPath	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.75: Fields of Error422.

## 4.76 Error422Code

One of the following error codes: - missingProperty: The property that was expected is not present in the payload - invalidValue: The property has an incorrect value - invalidFormat: The property value does not comply with the expected value format - referenceNotFound: The object referenced by the property cannot be identified in the target system - unexpectedProperty: Additional, not expected property has been provided - tooLargeDataset: The requested entity will produce too much data - tooManyRecords: The number of records to be provided in the response exceeds the threshold - tooManyRequests: The number of simultaneous requests from one API client exceeds the threshold - otherIssue: Other problem was identified (detailed information provided in a reason).

Field	Type	Format	Required
Error422Code	string	oneOf[missingProperty, invalidValue, invalidFormat, referenceNotFound, unexpectedProperty, tooLargeDataset, tooManyRecords, tooManyRequests, otherIssue]	No

Table 4.76: Fields of Error422Code.

## 4.77 Error500

Internal Server Error. (<https://tools.ietf.org/html/rfc7231#section-6.6.1>)

Field	Type	Format	Required
code	string	oneOf[internalError]	Yes
reason	string	N/A	Yes
message	string	N/A	No
status	string	N/A	No
referenceError	string	uri	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.77: Fields of Error500.

## 4.78 Error501

Not Implemented. Used in case Seller is not supporting an optional operation (<https://tools.ietf.org/html/rfc7231#section-6.6.2>)

Field	Type	Format	Required
code	string	oneOf[notImplemented]	Yes
reason	string	N/A	Yes
message	string	N/A	No
status	string	N/A	No
referenceError	string	uri	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.78: Fields of Error501.

## 4.79 Event

event with common attributes.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
description	string	N/A	No
correlationId	string	N/A	No
domain	string	N/A	No
eventId	string	N/A	No
eventTime	string	date-time	No
eventType	string	N/A	No
priority	string	N/A	No
timeOccurred	string	date-time	No
title	string	N/A	No
analyticCharacteristic	array	Characteristic	No
event	object	N/A	No
relatedParty	array	RelatedParty	No
reportingSystem	EntityRef	N/A	No
source	EntityRef	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.79: Fields of Event.

## 4.80 Event\_Create

event with common attributes. Skipped properties: id,href

Field	Type	Format	Required
description	string	N/A	No
correlationId	string	N/A	No
domain	string	N/A	No
eventId	string	N/A	No
eventTime	string	date-time	No
eventType	string	N/A	No
priority	string	N/A	No
timeOccurred	string	date-time	No
title	string	N/A	No
analyticCharacteristic	array	Characteristic	No
event	object	N/A	No
relatedParty	array	RelatedParty	No
reportingSystem	EntityRef	N/A	No
source	EntityRef	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.80: Fields of Event\_Create.

## 4.81 Extensible

Base Extensible schema for use in TMForum Open-APIs

Field	Type	Format	Required
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	Yes

Table 4.81: Fields of Extensible.

## 4.82 ExternalReference

External reference of the individual or reference in other system

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
externalReferenceType	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.82: Fields of ExternalReference.



## 4.83 Feature

Configuration feature.

Field	Type	Format	Required
id	string	N/A	No
name	string	N/A	Yes
isBundle	boolean	N/A	No
isEnabled	boolean	N/A	No
constraint	array	ConstraintRef	No
featureCharacteristic	array	Characteristic	Yes
featureRelationship	array	FeatureRelationship	No

Table 4.83: Fields of Feature.

## 4.84 FeatureRelationship

Configuration feature

Field	Type	Format	Required
id	string	N/A	No
name	string	N/A	Yes
relationshipType	string	N/A	Yes
validFor	TimePeriod	N/A	No

Table 4.84: Fields of FeatureRelationship.

## 4.85 FeatureSpecification

Specification for resource, service or product features

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
isBundle	boolean	N/A	No
isEnabled	boolean	N/A	No
version	string	N/A	No
constraint	array	ConstraintRef	No
featureSpecCharacteristic	array	FeatureSpecificationCharacteristic	No
featureSpecRelationship	array	FeatureSpecificationRelationship	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.85: Fields of FeatureSpecification.

## 4.86 FeatureSpecificationCharacteristic

Configuration feature characteristic specification.

Field	Type	Format	Required
id	string	N/A	No
name	string	N/A	Yes
description	string	N/A	No
configurable	boolean	N/A	No
extensible	boolean	N/A	No
isUnique	boolean	N/A	No
maxCardinality	integer	N/A	No
minCardinality	integer	N/A	No
regex	string	N/A	No
valueType	string	N/A	No
featureSpecCharRelationship	array	FeatureSpecificationCharac- teristicRelationship	No
featureSpecCharacteristic- Value	array	CharacteristicValueSpecifica- tion	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@valueSchemaLocation	string	N/A	No

Table 4.86: Fields of FeatureSpecificationCharacteristic.

## 4.87 FeatureSpecificationCharacteristicRelationship

An aggregation, migration, substitution, dependency or exclusivity relationship between/among FeatureSpecificationCharacteristics.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
characteristicId	string	N/A	No
featureId	string	N/A	No
relationshipType	string	N/A	No
resourceSpecificationHref	string	uri	No
resourceSpecificationId	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.87: Fields of FeatureSpecificationCharacteristicRelationship.

## 4.88 FeatureSpecificationRelationship

Relationship between feature specifications

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	Yes
parentSpecificationHref	string	uri	No
parentSpecificationId	string	N/A	No
relationshipType	string	N/A	Yes
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.88: Fields of FeatureSpecificationRelationship.

## 4.89 FileTransferData

Defines the place where the report content should be stored.

Field	Type	Format	Required
fileFormat	string	N/A	No
fileLocation	string	uri	No
transportProtocol	string	N/A	No
compressionType	string	oneOf[NO_PACKING, GZIP, TAR, VENDOR_EXT, MINOR_EXT]	No
packingType	string	N/A	No
retentionPeriod	string	N/A	No

Table 4.89: Fields of FileTransferData.

## 4.90 FinancialAccountRef

AccountReceivable reference. An account of money owed by a party to another entity in exchange for goods or services that have been delivered or used. An account receivable aggregates the amounts of one or more party accounts (billing or settlement) owned by a given party.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	N/A	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.90: Fields of FinancialAccountRef.



# 4.91 GeoJson

GeoJson

Field	Type	Format	Required
type	string	oneOf["Feature", "FeatureCollection"]	Yes

Table 4.91: Fields of GeoJson.

## 4.92 GeoJsonFeature

### GeoJson Feature

Field	Type	Format	Required
geometry	Geometry	N/A	No
properties	any	N/A	No
type	string	"Feature"	Yes

Table 4.92: Fields of GeoJsonFeature.

## 4.93 GeoJsonFeatureCollection

The GeoJson FeatureCollection.

Field	Type	Format	Required
features	array	GeoJsonFeature	No
type	string	"FeatureCollection"	Yes

Table 4.93: Fields of GeoJsonFeatureCollection.

## 4.94 GeographicAddress

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
city	string	N/A	No
country	string	N/A	No
locality	string	N/A	No
postcode	string	N/A	No
stateOrProvince	string	N/A	No
streetName	string	N/A	No
streetNr	string	N/A	No
streetNrLast	string	N/A	No
streetNrLastSuffix	string	N/A	No
streetNrSuffix	string	N/A	No
streetSuffix	string	N/A	No
streetType	string	N/A	No
geographicLocation	GeographicLocationRefOr-Value	N/A	No
geographicAddressType	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	"GeographicAddress"	Yes

Table 4.94: Fields of GeographicAddress.

## 4.95 GeographicLocation

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
geoJson	Geometry	N/A	No
bbox	array	number	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	"GeographicLocation"	Yes

Table 4.95: Fields of GeographicLocation.

## 4.96 GeographicLocationRef

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@referredType	string	N/A	No
@type	string	"GeographicLocationRef"	Yes

Table 4.96: Fields of GeographicLocationRef.

## 4.97 GeographicLocationRefOrValue

The polymorphic attributes @type, @schemaLocation & @referredType are related to the GeographicLocation entity and not the GeographicLocationRefOrValue class itself

Field	Type	Format	Required
@type	string	oneOf["GeographicLocation", "GeographicLocationRef"]	Yes

Table 4.97: Fields of GeographicLocationRefOrValue.

## 4.98 Geometry

A GeoJson geometry.

Field	Type	Format	Required
type	string	oneOf["LineString", "MultiLineString", "MultiPoint", "MultiPolygon", "Point", "Polygon"]	Yes

Table 4.98: Fields of Geometry.



## 4.99 HourRange

Defines start and end date

Field	Type	Format	Required
start	string	date-time	No
end	string	date-time	No

Table 4.99: Fields of HourRange.

## 4.100 HubSubscription

A Hub is used to subscribe to an event notification

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
callback	string	uri	Yes
query	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.100: Fields of HubSubscription.

## 4.101 HubSubscription\_Create

A Hub is used to subscribe to an event notification Skipped properties: id,href

Field	Type	Format	Required
callback	string	uri	Yes
query	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.101: Fields of HubSubscription\_Create.

## 4.102 Individual

Individual represents a single human being (a man, woman or child). The individual can be a customer, an employee or any other person that the organization needs to store information about.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
aristocraticTitle	string	N/A	No
birthDate	string	date-time	No
countryOfBirth	string	N/A	No
deathDate	string	date-time	No
familyName	string	N/A	No
familyNamePrefix	string	N/A	No
formattedName	string	N/A	No
fullName	string	N/A	No
gender	string	N/A	No
generation	string	N/A	No
givenName	string	N/A	No
legalName	string	N/A	No
location	string	N/A	No
maritalStatus	string	N/A	No
middleName	string	N/A	No
nationality	string	N/A	No
placeOfBirth	string	N/A	No
preferredGivenName	string	N/A	No
title	string	N/A	No
contactMedium	array	ContactMedium	No
creditRating	array	PartyCreditProfile	No
disability	array	Disability	No
externalReference	array	ExternalReference	No
individualIdentification	array	IndividualIdentification	No
languageAbility	array	LanguageAbility	No
otherName	array	OtherNameIndividual	No
partyCharacteristic	array	Characteristic	No
relatedParty	array	RelatedParty	No

Field	Type	Format	Required
skill	array	Skill	No
status	IndividualStateType	N/A	No
taxExemptionCertificate	array	TaxExemptionCertificate	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.102: Fields of Individual.

## 4.103 IndividualIdentification

Represents our registration of information used as proof of identity by an individual (passport, national identity card, drivers license, social security number, birth certificate)

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
identificationId	string	N/A	No
identificationType	string	N/A	No
issuingAuthority	string	N/A	No
issuingDate	string	date-time	No
attachment	AttachmentOrDocumentRef	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.103: Fields of IndividualIdentification.

## 4.104 IndividualStateType

Valid values for the lifecycle state of the individual

Field	Type	Format	Required
IndividualStateType	string	oneOf[initialized, validated, deceased]	No

Table 4.104: Fields of IndividualStateType.

## 4.105 Individual\_Create

Individual represents a single human being (a man, woman or child). The individual can be a customer, an employee or any other person that the organization needs to store information about. Skipped properties: id,href

Field	Type	Format	Required
aristocraticTitle	string	N/A	No
birthDate	string	date-time	No
countryOfBirth	string	N/A	No
deathDate	string	date-time	No
familyName	string	N/A	Yes
familyNamePrefix	string	N/A	No
formattedName	string	N/A	No
fullName	string	N/A	No
gender	string	N/A	No
generation	string	N/A	No
givenName	string	N/A	Yes
legalName	string	N/A	No
location	string	N/A	No
maritalStatus	string	N/A	No
middleName	string	N/A	No
nationality	string	N/A	No
placeOfBirth	string	N/A	No
preferredGivenName	string	N/A	No
title	string	N/A	No
contactMedium	array	ContactMedium	No
creditRating	array	PartyCreditProfile	No
disability	array	Disability	No
externalReference	array	ExternalReference	No
individualIdentification	array	IndividualIdentification	No
languageAbility	array	LanguageAbility	No
otherName	array	OtherNameIndividual	No
partyCharacteristic	array	Characteristic	No
relatedParty	array	RelatedParty	No
skill	array	Skill	No
status	IndividualStateType	N/A	No



Field	Type	Format	Required
taxExemptionCertificate	array	TaxExemptionCertificate	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.105: Fields of Individual\_Create.

## 4.106 Individual\_Update

Individual represents a single human being (a man, woman or child). The individual can be a customer, an employee or any other person that the organization needs to store information about. Skipped properties: id,href

Field	Type	Format	Required
aristocraticTitle	string	N/A	No
birthDate	string	date-time	No
countryOfBirth	string	N/A	No
deathDate	string	date-time	No
familyName	string	N/A	No
familyNamePrefix	string	N/A	No
formattedName	string	N/A	No
fullName	string	N/A	No
gender	string	N/A	No
generation	string	N/A	No
givenName	string	N/A	No
legalName	string	N/A	No
location	string	N/A	No
maritalStatus	string	N/A	No
middleName	string	N/A	No
nationality	string	N/A	No
placeOfBirth	string	N/A	No
preferredGivenName	string	N/A	No
title	string	N/A	No
contactMedium	array	ContactMedium	No
creditRating	array	PartyCreditProfile	No
disability	array	Disability	No
externalReference	array	ExternalReference	No
individualIdentification	array	IndividualIdentification	No
languageAbility	array	LanguageAbility	No
otherName	array	OtherNameIndividual	No
partyCharacteristic	array	Characteristic	No
relatedParty	array	RelatedParty	No
skill	array	Skill	No
status	IndividualStateType	N/A	No

Field	Type	Format	Required
taxExemptionCertificate	array	TaxExemptionCertificate	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.106: Fields of Individual\_Update.

## 4.107 InquiredCharacteristicValueSpecification

specification of a value (number or text or an object) that can be assigned to a Characteristic.

Field	Type	Format	Required
precedence	CharacteristicValuePrecedence	N/A	No
unitOfMeasure	string	N/A	No
valueType	string	N/A	No
value	object	N/A	No

Table 4.107: Fields of InquiredCharacteristicValueSpecification.

## 4.108 InquiredProduct

A product inquired by the customer.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
targetProductSchema	TargetProductSchema	N/A	No
servicePeriod	TimePeriod	N/A	No
place	array	RelatedPlaceRefOrValue	No
inquiredProductCharacteristic	array	InquiredProductCharacteristic	No
estimatedUsage	array	UsageEstimation	No

Table 4.108: Fields of InquiredProduct.

## 4.109 InquiredProductCharacteristic

A characteristic quality or distinctive feature of an InquiredProduct. The characteristic can take a discrete value, such as color, can take a range of values, (for example, sensitivity of 100-240 mV), or can be derived from a formula (for example, usage time (hrs) = 30 - talk time \*3).

Field	Type	Format	Required
id	string	N/A	Yes
name	string	N/A	No
priority	number	N/A	No
valueType	string	N/A	No
inquiredProductCharacteristicValue	array	InquiredCharacteristicValue-Specification	Yes

Table 4.109: Fields of InquiredProductCharacteristic.

## 4.110 InquiredProductRef

A reference to an InquiredProduct.

Field	Type	Format	Required
id	string	N/A	Yes
name	string	N/A	No

Table 4.110: Fields of InquiredProductRef.

## 4.111 InquiredProductRelationship

Field	Type	Format	Required
inquiredProductRef	InquiredProductRef	N/A	Yes
coverage	string	oneOf[complete, partial]	No
quantity	integer	N/A	No
totalPrice	array	TotalPrice	No
servicePeriod	TimePeriod	N/A	No
relationshipCharacteristic	array	RelationshipCharacteristic	No
productOfferingRef	ProductOfferingRef	N/A	No
productSpecificationRef	ProductSpecificationRef	N/A	No
productRef	ProductRef	N/A	No

Table 4.111: Fields of InquiredProductRelationship.



## 4.112 InquiredProvider

A provider to which the customer inquiry will be sent.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
state	InquiryStateType	N/A	No
actualResponseTime	string	date-time	No

Table 4.112: Fields of InquiredProvider.

## 4.113 InquiryResult

A ranked result of an inquiry. Must contain at least one ProductSpecification, optionally complemented by an offering.

Field	Type	Format	Required
id	string	N/A	Yes
priority	number	N/A	No
note	array	Note	No
totalPrice	array	TotalPrice	No
inquiredProductRelationship	array	InquiredProductRelationship	No
productSpecification	array	ProductSpecification	Yes
product	array	Product	No
productOffering	array	ProductOffering	No

Table 4.113: Fields of InquiryResult.



4.114 InquiryStateType

Possible values for the state of the customer inquiry

Field	Type	Format	Required
InquiryStateType	string	oneOf[pending, inProgress, cancelled, completed]	No

Table 4.114: Fields of InquiryStateType.

## 4.115 Interval

Enumeration of applicable time intervals

Field	Type	Format	Required
Interval	string	oneOf[10 milliseconds, 100 milliseconds, 1 second, 10 second, 1 minute, 5 minutes, 15 minutes, 30 minutes, 1 hour, 24 hours, 1 month, 1 year, not applicable]	No

Table 4.115: Fields of Interval.

## 4.116 JobType

The type of PM Job

Field	Type	Format	Required
JobType	string	oneOf[on-demand]	No

Table 4.116: Fields of JobType.

## 4.117 KeyIndicator

KeyIndicators are defined in terms of parameters and metrics, thresholds, and tolerances associated with the parameters.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
category	string	N/A	No
isBundled	boolean	N/A	No
transformationAlgorithmOfKQI	string	N/A	No
indicatorType	string	oneOf[KQI, KPI]	No
validFor	TimePeriod	N/A	No
keyIndicatorRelationship	array	KeyIndicatorRelationship	No
relatedEntity	array	RelatedEntity	No
@baseType	string	N/A	No
@schemaLocation	string	N/A	No
@type	string	N/A	No

Table 4.117: Fields of KeyIndicator.

## 4.118 KeyIndicatorRelationship

A uni-directional relationship from this entity to a target entity instance.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
relationshipType	string	N/A	Yes
role	string	N/A	No
validFor	TimePeriod	N/A	No
associationSpec	EntityRef	N/A	Yes
@baseType	string	N/A	No
@schemaLocation	string	N/A	No
@type	string	N/A	No
@referredType	string	N/A	Yes

Table 4.118: Fields of KeyIndicatorRelationship.

## 4.119 KeyIndicator\_Create

KeyIndicator are defined in terms of parameters and metrics, thresholds, and tolerances associated with the parameters.

Field	Type	Format	Required
name	string	N/A	No
category	string	N/A	No
isBundled	boolean	N/A	No
transformationAlgorithmOfKQI	string	N/A	No
indicatorType	string	oneOf[KQI, KPI]	No
validFor	TimePeriod	N/A	No
keyIndicatorRelationship	array	KeyIndicatorRelationship	No
relatedEntity	array	RelatedEntity	No
@baseType	string	N/A	No
@schemaLocation	string	N/A	No
@type	string	N/A	No

Table 4.119: Fields of KeyIndicator\_Create.



## 4.120 KeyIndicator\_Update

KeyIndicator are defined in terms of parameters and metrics, thresholds, and tolerances associated with the parameters.

Field	Type	Format	Required
name	string	N/A	No
category	string	N/A	No
isBundled	boolean	N/A	No
transformationAlgorithmOfKQI	string	N/A	No
indicatorType	string	oneOf[KQI, KPI]	No
keyIndicatorRelationship	array	KeyIndicatorRelationship	No
relatedEntity	array	RelatedEntity	No
@baseType	string	N/A	No
@schemaLocation	string	N/A	No
@type	string	N/A	No

Table 4.120: Fields of KeyIndicator\_Update.

## 4.121 LanguageAbility

Ability of an individual to understand or converse in a language.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
isFavouriteLanguage	boolean	N/A	No
languageCode	string	N/A	No
languageName	string	N/A	No
listeningProficiency	string	N/A	No
readingProficiency	string	N/A	No
speakingProficiency	string	N/A	No
writingProficiency	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.121: Fields of LanguageAbility.



# 4.122 LineString

A GeoJSON LineString.

Field	Type	Format	Required
coordinates	array	Point2D	No
type	string	"LineString"	Yes

Table 4.122: Fields of LineString.

## 4.123 LogicalResource

Logic resource is a type of resource that describes the common set of attributes shared by all concrete logical resources (e.g. TPE, MSISDN, IP Addresses) in the inventory.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	Yes
name	string	N/A	No
description	string	N/A	No
value	string	N/A	No
category	string	N/A	No
endOperatingDate	string	date-time	No
resourceVersion	string	N/A	No
startOperatingDate	string	date-time	No
activationFeature	array	Feature	No
administrativeState	ResourceAdministrativeState-Type	N/A	No
attachment	array	AttachmentOrDocumentRef	No
note	array	Note	No
operationalState	ResourceOperationalState-Type	N/A	No
place	RelatedPlaceRefOrValue	N/A	No
relatedParty	array	RelatedParty	No
resourceCharacteristic	array	Characteristic	No
resourceRelationship	array	ResourceRelationship	No
resourceSpecification	ResourceSpecificationRef	N/A	No
resourceStatus	ResourceStatusType	N/A	No
usageState	ResourceUsageStateType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	"LogicalResource"	Yes

Table 4.123: Fields of LogicalResource.

## 4.124 LogicalResourceSpecification

This is an example of a derived class of ResourceSpecification, and is used to define the invariant characteristics and behavior (attributes, methods, constraints, and relationships) of a LogicalResource.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
category	string	N/A	No
isBundle	boolean	N/A	No
lastUpdate	string	date-time	No
lifecycleStatus	string	N/A	No
version	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
featureSpecification	array	FeatureSpecification	No
relatedParty	array	RelatedParty	No
resourceSpecCharacteristic	array	ResourceSpecificationCharacteristic	No
resourceSpecRelationship	array	ResourceSpecificationRelationship	No
targetResourceSchema	TargetResourceSchema	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	"LogicalResourceSpecification"	Yes

Table 4.124: Fields of LogicalResourceSpecification.

## 4.125 MarketSegmentRef

provides references to the corresponding market segment as target of product offerings. A market segment is grouping of Parties, GeographicAreas, SalesChannels, and so forth.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.125: Fields of MarketSegmentRef.



4.126 MeasurementTime

Timeframe boundary for collected data

Field	Type	Format	Required
measurementStartDate	string	date-time	No
measurementEndDate	string	date-time	No
measurementInterval	Interval	N/A	No

Table 4.126: Fields of MeasurementTime.

## 4.127 MediumCharacteristic

Describes the contact medium characteristics that could be used to contact a party (an individual or an organization)

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
city	string	N/A	No
contactType	string	N/A	No
country	string	N/A	No
emailAddress	string	N/A	No
faxNumber	string	N/A	No
phoneNumber	string	N/A	No
postCode	string	N/A	No
socialNetworkId	string	N/A	No
stateOrProvince	string	N/A	No
street1	string	N/A	No
street2	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.127: Fields of MediumCharacteristic.



## 4.128 Mission

A mission of a customer.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	Yes
description	string	N/A	No
category	string	N/A	No
timeframe	TimePeriod	N/A	No
lastUpdate	string	date-time	No
status	MissionStatusType	N/A	No
characteristic	array	Characteristic	No
place	array	PlaceRefOrValue	No
asset	array	MissionAsset	No
missionRelationship	array	MissionRelationship	No
relatedParty	array	RelatedParty	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.128: Fields of Mission.

## 4.129 MissionAsset

Planning of a required asset in a mission. May contain any combination of user-defined characteristics for an inquiry, an ordered product or a service/resource that is already in the customer inventory.

Field	Type	Format	Required
id	string	N/A	No
name	string	N/A	No
targetProductSchema	TargetProductSchema	N/A	No
servicePeriod	RelativeTimePeriod	N/A	No
place	array	RelatedPlaceRefOrValue	No
inquiredProductCharacteristic	array	InquiredProductCharacteristic	No
realizingProduct	array	ProductRef	No
realizingService	array	ServiceRef	No
realizingResource	array	ResourceRef	No
assetRelationship	array	MissionAssetRelationship	No

Table 4.129: Fields of MissionAsset.

## 4.130 MissionAssetRelationship

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
relationshipType	string	N/A	No

Table 4.130: Fields of MissionAssetRelationship.

## 4.131 MissionRelationship

Field	Type	Format	Required
id	string	N/A	No
href	string	N/A	No
name	string	N/A	No
relationshipType	string	N/A	No

Table 4.131: Fields of MissionRelationship.

## 4.132 MissionStatusType

Possible values for the status of a mission

Field	Type	Format	Required
MissionStatusType	string	oneOf[draft, active, cancelled, completed]	No

Table 4.132: Fields of MissionStatusType.

## 4.133 Mission\_Create

A mission of a customer. Skipped properties: id,href,lastUpdated

Field	Type	Format	Required
name	string	N/A	Yes
description	string	N/A	No
category	string	N/A	No
timeframe	TimePeriod	N/A	No
status	MissionStatusType	N/A	No
characteristic	array	Characteristic	No
place	array	PlaceRefOrValue	No
asset	array	MissionAsset	No
missionRelationship	array	MissionRelationship	No
relatedParty	array	RelatedParty	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.133: Fields of Mission\_Create.

## 4.134 Mission\_Update

A mission of a customer. Skipped properties: id,href,lastUpdated

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
category	string	N/A	No
timeframe	TimePeriod	N/A	No
status	MissionStatusType	N/A	No
characteristic	array	Characteristic	No
place	array	PlaceRefOrValue	No
asset	array	MissionAsset	No
missionRelationship	array	MissionRelationship	No
relatedParty	array	RelatedParty	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.134: Fields of Mission\_Update.

## 4.135 ModifyPerformanceJob

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
description	string	N/A	No
buyerJobId	string	N/A	No
consumingApplicationId	string	N/A	No
fileTransferData	FileTransferData	N/A	No
modificationReason	string	N/A	No
performanceJob	PerformanceJobRef	N/A	Yes
performanceProfile	ModifyPerformance-Job_ProfileValue	N/A	No
producingApplicationId	string	N/A	No
scheduleDefinition	ScheduleDefinition	N/A	No
servicePayloadSpecificAttributes	ServicePayloadSpecificAttributes	N/A	No
creationDate	string	date-time	Yes
modificationDeniedReason	string	N/A	No
state	PerformanceJobProcessStateType	N/A	Yes

Table 4.135: Fields of ModifyPerformanceJob.



## 4.136 ModifyPerformanceJob\_Common

Request for modification of an existing Performance Job

Field	Type	Format	Required
description	string	N/A	No
buyerJobId	string	N/A	No
consumingApplicationId	string	N/A	No
fileTransferData	FileTransferData	N/A	No
modificationReason	string	N/A	No
performanceJob	PerformanceJobRef	N/A	Yes
performanceProfile	ModifyPerformance-Job_ProfileValue	N/A	No
producingApplicationId	string	N/A	No
scheduleDefinition	ScheduleDefinition	N/A	No
servicePayloadSpecificAttributes	ServicePayloadSpecificAttributes	N/A	No

Table 4.136: Fields of ModifyPerformanceJob\_Common.

## 4.137 ModifyPerformanceJob\_Create

Field	Type	Format	Required
description	string	N/A	No
buyerJobId	string	N/A	No
consumingApplicationId	string	N/A	No
fileTransferData	FileTransferData	N/A	No
modificationReason	string	N/A	No
performanceJob	PerformanceJobRef	N/A	Yes
performanceProfile	ModifyPerformance-Job_ProfileValue	N/A	No
producingApplicationId	string	N/A	No
scheduleDefinition	ScheduleDefinition	N/A	No
servicePayloadSpecificAttributes	ServicePayloadSpecificAttributes	N/A	No

Table 4.137: Fields of ModifyPerformanceJob\_Create.

## 4.138 ModifyPerformanceJob\_Find

This class represents a single list item for the response of `listModifyPerformanceJob`

Field	Type	Format	Required
id	string	N/A	Yes
creationDate	string	date-time	Yes
performanceJob	PerformanceJobRef	N/A	Yes
state	PerformanceJobPro- cessStateType	N/A	Yes

Table 4.138: Fields of ModifyPerformanceJob\_Find.

## 4.139 ModifyPerformanceJob\_ProfileValue

Direct assignment of values defined by PerformanceProfile type to PerformanceJob object. Necessary when PerformanceJob is created without reference to PerformanceProfile.

Field	Type	Format	Required
granularity	Interval	N/A	No
jobPriority	integer	N/A	No
outputFormat	OutputFormat	N/A	No
reportingPeriod	Interval	N/A	No
resultFormat	ResultFormat	N/A	No

Table 4.139: Fields of ModifyPerformanceJob\_ProfileValue.

## 4.140 Money

A base / value business entity used to represent money

Field	Type	Format	Required
unit	string	N/A	No
value	number	float	No

Table 4.140: Fields of Money.

## 4.141 MonthlyScheduleDayOfWeekDefinition

Monthly scheduled day of the week.

Field	Type	Format	Required
recurringDaySequence	array	DayOfWeek	No
dayOfMonthRecurrence	array	DayOfMonth	No

Table 4.141: Fields of MonthlyScheduleDayOfWeekDefinition.

## 4.142 MultiLineString

A GeoJSON MultiLineString.

Field	Type	Format	Required
coordinates	array	Point2D	No
type	string	"MultiLineString"	Yes

Table 4.142: Fields of MultiLineString.

## 4.143 MultiPoint

A GeoJSON MultiPoint.

Field	Type	Format	Required
coordinates	array	Point2D	No
type	string	"MultiPoint"	Yes

Table 4.143: Fields of MultiPoint.





### 4.144 MultiPolygon

A GeoJSON MultiPolygon.

Field	Type	Format	Required
coordinates	array	Point2D	No
type	string	"MultiPolygon"	Yes

Table 4.144: Fields of MultiPolygon.

## 4.145 Note

Extra information about a given entity

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
author	string	N/A	No
date	string	date-time	No
text	string	N/A	Yes
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.145: Fields of Note.

## 4.146 OrderItemType

action to be performed on the product

Field	Type	Format	Required
OrderItemType	string	oneOf[add, modify, delete, noChange]	No

Table 4.146: Fields of OrderItemType.

## 4.147 OrderItemRelationship

Field	Type	Format	Required
id	string	N/A	No
relationshipType	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.147: Fields of OrderItemRelationship.

## 4.148 OrderPrice

An amount, usually of money, that represents the actual price paid by the Customer for this item or this order

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
priceType	string	N/A	No
recurringChargePeriod	string	N/A	No
unitOfMeasure	string	N/A	No
billingAccount	BillingAccountRef	N/A	No
price	Price	N/A	No
priceAlteration	array	PriceAlteration	No
productOfferingPrice	ProductOfferingPriceRef	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.148: Fields of OrderPrice.

## 4.149 OrderTerm

Description of a productTerm linked to this orderItem. This represent a commitment with a duration

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
duration	Quantity	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.149: Fields of OrderTerm.

## 4.150 Organization

Organization represents a group of people identified by shared interests or purpose. Examples include business, department and enterprise. Because of the complex nature of many businesses, both organizations and organization units are represented by the same data.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
isHeadOffice	boolean	N/A	No
isLegalEntity	boolean	N/A	No
nameType	string	N/A	No
organizationType	string	N/A	No
tradingName	string	N/A	No
contactMedium	array	ContactMedium	No
creditRating	array	PartyCreditProfile	No
existsDuring	TimePeriod	N/A	No
externalReference	array	ExternalReference	No
organizationChildRelationship	array	OrganizationChildRelationship	No
organizationIdentification	array	OrganizationIdentification	No
organizationParentRelationship	OrganizationParentRelationship	N/A	No
otherName	array	OtherNameOrganization	No
partyCharacteristic	array	Characteristic	No
relatedParty	array	RelatedParty	No
status	OrganizationStateType	N/A	No
taxExemptionCertificate	array	TaxExemptionCertificate	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.150: Fields of Organization.

## 4.151 OrganizationChildRelationship

Child references of an organization in a structure of organizations.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
relationshipType	string	N/A	No
organization	OrganizationRef	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.151: Fields of OrganizationChildRelationship.



## 4.152 OrganizationIdentification

Represents our registration of information used as proof of identity by an organization

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
identificationId	string	N/A	No
identificationType	string	N/A	No
issuingAuthority	string	N/A	No
issuingDate	string	date-time	No
attachment	AttachmentOrDocumentRef	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.152: Fields of OrganizationIdentification.

## 4.153 OrganizationParentRelationship

Parent references of an organization in a structure of organizations.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
relationshipType	string	N/A	No
organization	OrganizationRef	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.153: Fields of OrganizationParentRelationship.

## 4.154 OrganizationRef

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.154: Fields of OrganizationRef.

## 4.155 OrganizationStateType

Valid values for the lifecycle state of the organization

Field	Type	Format	Required
OrganizationStateType	string	oneOf[initialized, validated, closed]	No

Table 4.155: Fields of OrganizationStateType.

## 4.156 Organization\_Create

Organization represents a group of people identified by shared interests or purpose. Examples include business, department and enterprise. Because of the complex nature of many businesses, both organizations and organization units are represented by the same data. Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	No
isHeadOffice	boolean	N/A	No
isLegalEntity	boolean	N/A	No
nameType	string	N/A	No
organizationType	string	N/A	No
tradingName	string	N/A	Yes
contactMedium	array	ContactMedium	No
creditRating	array	PartyCreditProfile	No
existsDuring	TimePeriod	N/A	No
externalReference	array	ExternalReference	No
organizationChildRelationship	array	OrganizationChildRelationship	No
organizationIdentification	array	OrganizationIdentification	No
organizationParentRelationship	OrganizationParentRelationship	N/A	No
otherName	array	OtherNameOrganization	No
partyCharacteristic	array	Characteristic	No
relatedParty	array	RelatedParty	No
status	OrganizationStateType	N/A	No
taxExemptionCertificate	array	TaxExemptionCertificate	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.156: Fields of Organization\_Create.

## 4.157 Organization\_Update

Organization represents a group of people identified by shared interests or purpose. Examples include business, department and enterprise. Because of the complex nature of many businesses, both organizations and organization units are represented by the same data. Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	No
isHeadOffice	boolean	N/A	No
isLegalEntity	boolean	N/A	No
nameType	string	N/A	No
organizationType	string	N/A	No
tradingName	string	N/A	No
contactMedium	array	ContactMedium	No
creditRating	array	PartyCreditProfile	No
existsDuring	TimePeriod	N/A	No
externalReference	array	ExternalReference	No
organizationChildRelationship	array	OrganizationChildRelationship	No
organizationIdentification	array	OrganizationIdentification	No
organizationParentRelationship	OrganizationParentRelationship	N/A	No
otherName	array	OtherNameOrganization	No
partyCharacteristic	array	Characteristic	No
relatedParty	array	RelatedParty	No
status	OrganizationStateType	N/A	No
taxExemptionCertificate	array	TaxExemptionCertificate	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.157: Fields of Organization\_Update.

## 4.158 OtherNameIndividual

Keeps track of other names, for example the old name of a woman before marriage or an artist name.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
aristocraticTitle	string	N/A	No
familyName	string	N/A	No
familyNamePrefix	string	N/A	No
formattedName	string	N/A	No
fullName	string	N/A	No
generation	string	N/A	No
givenName	string	N/A	No
legalName	string	N/A	No
middleName	string	N/A	No
preferredGivenName	string	N/A	No
title	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.158: Fields of OtherNameIndividual.

## 4.159 OtherNameOrganization

Keeps track of other names, for example the old name of an organization.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
nameType	string	N/A	No
tradingName	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.159: Fields of OtherNameOrganization.



## 4.160 OutputFormat

List of possible output formats for the Performance Report

Field	Type	Format	Required
OutputFormat	string	oneOf[json, xml, avro, csv]	No

Table 4.160: Fields of OutputFormat.

## 4.161 POPAlteration

Is an amount, usually of money, that modifies the price charged for an order item.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
priceType	string	N/A	Yes
priority	integer	N/A	No
recurringChargePeriod	string	N/A	No
applicationDuration	Duration	N/A	No
price	ProductPriceValue	N/A	Yes
unitOfMeasure	Quantity	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.161: Fields of POPAlteration.

## 4.162 PartyCreditProfile

An individual might be evaluated for its worthiness and this evaluation might be based on a credit rating given by a credit agency.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
creditAgencyName	string	N/A	No
creditAgencyType	string	N/A	No
ratingReference	string	N/A	No
ratingScore	integer	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.162: Fields of PartyCreditProfile.

## 4.163 PaymentMethodRef

PaymentMethod reference. A payment method defines a specific mean of payment (e.g direct debit).

Field	Type	Format	Required
id	string	N/A	Yes
href	string	N/A	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.163: Fields of PaymentMethodRef.

## 4.164 PaymentRef

If an immediate payment has been done at the product order submission, the payment information are captured and stored (as a reference) in the order.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.164: Fields of PaymentRef.

## 4.165 PerceivedSeverity

Lists the possible severities that can be allocated to an Alarm. The values are consistent with ITU-T Recommendation X.733. Once an alarm has been cleared, its perceived severity is set to 'cleared' and can no longer be set.

Field	Type	Format	Required
PerceivedSeverity	string	oneOf[critical, major, minor, warning, indeterminate, cleared]	No

Table 4.165: Fields of PerceivedSeverity.

## 4.166 PerformanceJob

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
description	string	N/A	No
buyerJobId	string	N/A	No
consumingApplicationId	string	N/A	No
fileTransferData	FileTransferData	N/A	No
performanceProfile	PerformanceProfileValue	N/A	Yes
producingApplicationId	string	N/A	No
scheduleDefinition	ScheduleDefinition	N/A	No
servicePayloadSpecificAttributes	ServicePayloadSpecificAttributes	N/A	Yes
creationDate	string	date-time	Yes
lastModifiedDate	string	date-time	No
rejectionReason	string	N/A	No
state	PerformanceJobStateType	N/A	Yes

Table 4.166: Fields of PerformanceJob.

## 4.167 PerformanceJobComplexQuery

Performance Job Complex Query entity is used to perform searches on Performance Job entities, including clauses based on ScheduleDefinition and ServicePayloadSpecificAttributes.

Field	Type	Format	Required
description	string	N/A	No
buyerJobId	string	N/A	No
consumingApplicationId	string	N/A	No
creationDate	string	date-time	No
granularity	Interval	N/A	No
jobPriority	integer	N/A	No
jobType	JobType	N/A	No
performanceJob	PerformanceJobRef	N/A	No
producingApplicationId	string	N/A	No
reportingPeriod	Interval	N/A	No
scheduleDefinition	ScheduleDefinition	N/A	No
servicePayloadSpecificAttributes	ServicePayloadSpecificAttributes	N/A	No
state	PerformanceJobStateType	N/A	No

Table 4.167: Fields of PerformanceJobComplexQuery.



## 4.168 PerformanceJobComplexQuery\_Create

Performance Job Complex Query entity is used to perform searches on Performance Job entities, including clauses based on ScheduleDefinition and ServicePayloadSpecificAttributes.

Field	Type	Format	Required
buyerJobId	string	N/A	No
consumingApplicationId	string	N/A	No
creationDate.gt	string	date-time	No
creationDate.lt	string	date-time	No
granularity	Interval	N/A	No
jobPriority	integer	N/A	No
jobType	JobType	N/A	No
producingApplicationId	string	N/A	No
reportingPeriod	Interval	N/A	No
scheduleDefinition	ScheduleDefinition	N/A	No
servicePayloadSpecificAttributes	ServicePayloadSpecificAttributes	N/A	No
state	PerformanceJobStateType	N/A	No

Table 4.168: Fields of PerformanceJobComplexQuery\_Create.

## 4.169 PerformanceJobProcessStateType

The state of the process related to the Performance Job

| state | MEF 133 name | Description | | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_

\_\_\_\_\_ | | `accepted` | Accepted  
 | The Cancel/Modify/Resume/Suspend Performance Monitoring Job request has been validated and accepted by the Seller/Server. | | `acknowledged` | Acknowledged | The Cancel/Modify/Resume/Suspend Performance Monitoring Job request has been received by the Seller/Server and has passed basic validation. Performance Monitoring Job Process Identifier is assigned in the Acknowledged state. The request remains Acknowledged until all validations as applicable are completed. If the attributes are validated, the request moves to the Accepted state. If not all attributes are validated, the request moves to the Declined state. | | `completed` | Completed | The Cancel/Modify/Resume/Suspend Performance Monitoring Job request has been completed by the Seller/Server. | | `declined` | Declined | The Cancel/Modify/Resume/Suspend Performance Monitoring Job request has failed validation and has been declined by the Seller/Server. |

Field	Type	Format	Required
PerformanceJobProcessStateType	string	oneOf[accepted, acknowledged, completed, declined]	No

Table 4.169: Fields of PerformanceJobProcessStateType.

## 4.170 PerformanceJobRef

A reference to a Performance Job resource

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
@type	string	"PerformanceJobRef"	Yes

Table 4.170: Fields of PerformanceJobRef.

## 4.171 PerformanceJobRefOrValue

Defines the reference to Performance Monitoring Job or defines values from PerformanceJob type.

Field	Type	Format	Required
@type	string	oneOf["PerformanceJobRef", "PerformanceJobValue"]	Yes

Table 4.171: Fields of PerformanceJobRefOrValue.

## 4.172 PerformanceJobStateType

The state of the Performance Monitoring Job.

state	MEF 133 name	Description			

| | `acknowledged` | Acknowledged | A Create Performance Monitoring Job request has been received by the Seller/Server and has passed basic validation. Performance Monitoring Job Identifier is assigned in the Acknowledged state. The request remains Acknowledged until all validations as applicable are completed. If the attributes are validated the request determines if the start time is immediate or scheduled. If immediate, the Performance Monitoring Job moves to the In-progress state. If scheduled, the Performance Monitoring Job moves to the Scheduled state. If not all attributes are validated, the request moves to the Rejected state. | | `cancelled` | Cancelled | A Performance Monitoring Job that is In-Progress, Suspended, or Scheduled is cancelled. | | `completed` | Completed | A non-recurring Performance Monitoring Job finished execution. | | `inProgress` | In-Progress | A Performance Monitoring Job is running. Upon completion of the Job, a determination if the Performance Monitoring Job is a one-time Job or is recurring is performed. If the Performance Monitoring Job is a one-time Job, the state of the Performance Monitoring Job moves to the Completed state. If the Performance Monitoring Job is recurring, the Performance Monitoring Job circles back to determine if it has an immediate start time or a scheduled start time. If a Suspend Performance Monitoring Job request is accepted, the Job moves to the Suspended state. If a Cancel Performance Monitoring Job request is accepted, the Job moves to the Cancelled state. | | `pending` | Pending | A Modify Performance Monitoring Job request has been accepted by the Seller/Server. The Performance Monitoring Job remains Pending while updates to the Job are completed. Once updates are complete, the Job returns to the Scheduled or In-Progress status depending on the schedule definition. | | `rejected` | Rejected | A create Performance Monitoring Job request fails validation and is rejected with error indications by the Seller/Server. | | `resourceUnavailable` | Resource Unavailable | A Performance Monitoring Job cannot be allocated necessary resources when moving to execution (In-Progress state). | | `scheduled` | Scheduled | A Performance Monitoring Job is created that does not have an immediate start time. The Performance Monitoring Job stays Scheduled until the start time is reached. The Performance Monitoring Job then moves to In-Progress. If the Cancel Performance Monitoring Job request is accepted, the Job moves to the Cancelled state. If the Modify Performance Monitoring Job request is accepted, the Job moves to the Pending state. | | `suspended` | Suspended | A Suspend Performance Monitoring Job request is accepted by the Seller/Server. The Job remains Suspended until a Resume Performance Monitoring Job request is accepted by the Seller/Server at which time the Job returns to the In-Progress state. If the Cancel Performance Monitoring Job request is accepted, the Job moves to the Cancelled state. If the Modify Performance Monitoring Job request is accepted, the Job moves to the Pending state. |

Field	Type	Format	Required
PerformanceJobStateType	string	oneOf[acknowledged, cancelled, completed, inProgress, pending, rejected, resourceUnavailable, scheduled, suspended]	No

Table 4.172: Fields of PerformanceJobStateType.

## 4.173 PerformanceJobValue

Direct assignment of values defined by PerformanceJob type to PerformanceReport object. Necessary when PerformanceReport is not created by PerformanceJob and without relation to PerformanceJob.

Field	Type	Format	Required
consumingApplicationId	string	N/A	No
fileTransferData	FileTransferData	N/A	No
granularity	Interval	N/A	No
outputFormat	OutputFormat	N/A	Yes
producingApplicationId	string	N/A	No
resultFormat	ResultFormat	N/A	Yes
servicePayloadSpecificAttributes	ServicePayloadSpecificAttributes	N/A	Yes
@type	string	"PerformanceJobValue"	Yes

Table 4.173: Fields of PerformanceJobValue.

## 4.174 PerformanceJob\_Common

A Performance Monitoring Job specifies the performance monitoring objectives specific to each subject of monitoring which could be an ordered pair (i.e., two UNIs) or an entity (i.e., port).

Field	Type	Format	Required
description	string	N/A	No
buyerJobId	string	N/A	No
consumingApplicationId	string	N/A	No
fileTransferData	FileTransferData	N/A	No
performanceProfile	PerformanceProfileValue	N/A	Yes
producingApplicationId	string	N/A	No
scheduleDefinition	ScheduleDefinition	N/A	No
servicePayloadSpecificAttributes	ServicePayloadSpecificAttributes	N/A	Yes

Table 4.174: Fields of PerformanceJob\_Common.

## 4.175 PerformanceJob\_Create

Field	Type	Format	Required
description	string	N/A	No
buyerJobId	string	N/A	No
consumingApplicationId	string	N/A	No
fileTransferData	FileTransferData	N/A	No
performanceProfile	PerformanceProfileValue	N/A	Yes
producingApplicationId	string	N/A	No
scheduleDefinition	ScheduleDefinition	N/A	No
servicePayloadSpecificAttributes	ServicePayloadSpecificAttributes	N/A	Yes

Table 4.175: Fields of PerformanceJob\_Create.



## 4.176 PerformanceJob\_Find

This class represents a single list item for the response of the `listPerformanceJob` operation.

Field	Type	Format	Required
id	string	N/A	Yes
description	string	N/A	No
buyerJobId	string	N/A	No
consumingApplicationId	string	N/A	No
creationDate	string	date-time	Yes
performanceProfile	PerformanceProfileValue	N/A	Yes
producingApplicationId	string	N/A	No
scheduleDefinition	ScheduleDefinition	N/A	No
state	PerformanceJobStateType	N/A	Yes

Table 4.176: Fields of PerformanceJob\_Find.

## 4.177 PerformanceProfileValue

Direct assignment of values defined by PerformanceProfile type to PerformanceJob object. Necessary when PerformanceJob is created without reference to PerformanceProfile.

Field	Type	Format	Required
granularity	Interval	N/A	No
jobPriority	integer	N/A	No
jobType	JobType	N/A	Yes
outputFormat	OutputFormat	N/A	Yes
reportingPeriod	Interval	N/A	No
resultFormat	ResultFormat	N/A	Yes

Table 4.177: Fields of PerformanceProfileValue.

## 4.178 PerformanceReport

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
description	string	N/A	No
reportingTimeframe	ReportingTimeframe	N/A	No
creationDate	string	date-time	Yes
failureReason	string	N/A	No
lastModifiedDate	string	date-time	No
performanceJob	PerformanceJobRefOrValue	N/A	No
reportContent	array	ReportContentItem	No
reportUrl	AttachmentURL	N/A	No
state	PerformanceReportStateType	N/A	Yes

Table 4.178: Fields of PerformanceReport.

## 4.179 PerformanceReportComplexQuery

Performance Report Complex Query entity is used to perform searches on Performance Report entities, including clauses based on ServicePayloadSpecificAttributes.

Field	Type	Format	Required
description	string	N/A	No
consumingApplicationId	string	N/A	No
creationDate	string	date-time	No
granularity	Interval	N/A	No
outputFormat	OutputFormat	N/A	No
performanceJob	PerformanceJobRef	N/A	No
performanceReport	PerformanceReportRef	N/A	No
producingApplicationId	string	N/A	No
reportingTimeframe	ReportingTimeframe	N/A	No
resultFormat	ResultFormat	N/A	No
servicePayloadSpecificAttributes	ServicePayloadSpecificAttributes	N/A	No
state	PerformanceReportStateType	N/A	No

Table 4.179: Fields of PerformanceReportComplexQuery.

## 4.180 PerformanceReportComplexQuery\_Create

Performance Report Complex Query entity is used to perform searches on Performance Report entities, including clauses based on ServicePayloadSpecificAttributes.

Field	Type	Format	Required
consumingApplicationId	string	N/A	No
creationDate.gt	string	date-time	No
creationDate.lt	string	date-time	No
granularity	Interval	N/A	No
outputFormat	OutputFormat	N/A	No
performanceJob	PerformanceJobRef	N/A	No
producingApplicationId	string	N/A	No
reportingTime-frame.startDate.gt	string	date-time	No
reportingTime-frame.startDate.lt	string	date-time	No
reportingTime-frame.endDate.gt	string	date-time	No
reportingTime-frame.endDate.lt	string	date-time	No
resultFormat	ResultFormat	N/A	No
servicePayloadSpecificAttributes	ServicePayloadSpecificAttributes	N/A	No
state	PerformanceReportStateType	N/A	No

Table 4.180: Fields of PerformanceReportComplexQuery\_Create.

## 4.181 PerformanceReportRef

A reference to a Performance Report resource

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No

Table 4.181: Fields of PerformanceReportRef.

## 4.182 PerformanceReportStateType

Possible values for the state of a Performance Report.

State	Description
-------	-------------

acknowledged | A Performance Report request has been received by Seller/Server and has passed basic validations. Performance Report Identifier is assigned in the Acknowledged state. The report remains Acknowledged until all validations as applicable are completed. If the attributes are validated, the Performance Report moves to the In-Progress state. If not all attributes are validated, the report moves to the Rejected state.

completed | A Performance Report is completed and results are available.

failed | A Performance Report processing has failed.

inProgress | A Performance Report has successfully passed the validations checks and the report processing has started.

rejected | This state indicates that:

- Invalid information is provided through the `PerformanceReport` request
- The request fails to meet validation rules for `PerformanceReport` delivery (processing).

Field	Type	Format	Required
PerformanceReportStateType	string	oneOf[acknowledged, completed, failed, inProgress, rejected]	No

Table 4.182: Fields of PerformanceReportStateType.

## 4.183 PerformanceReport\_Common

The execution of PM Job results in Performance Measurement collections that provide Buyer/Client with performance objectives results.

Field	Type	Format	Required
description	string	N/A	No
reportingTimeframe	ReportingTimeframe	N/A	No

Table 4.183: Fields of PerformanceReport\_Common.



## 4.184 PerformanceReport\_Create

Field	Type	Format	Required
description	string	N/A	No
reportingTimeframe	ReportingTimeframe	N/A	No
performanceJob	PerformanceJobValue	N/A	Yes

Table 4.184: Fields of PerformanceReport\_Create.

## 4.185 PerformanceReport\_Find

This class represents a single list item for the response of the `listPerformanceReport` operation.

Field	Type	Format	Required
id	string	N/A	Yes
description	string	N/A	No
creationDate	string	date-time	Yes
performanceJob	PerformanceJobRefOrValue	N/A	No
reportingTimeframe	ReportingTimeframe	N/A	No
state	PerformanceReportStateType	N/A	Yes

Table 4.185: Fields of PerformanceReport\_Find.

## 4.186 PhysicalResource

Physical resource is a type of resource that describes the common set of attributes shared by all concrete physical resources (e.g. EQUIPMENT) in the inventory.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	Yes
name	string	N/A	No
description	string	N/A	No
manufactureDate	string	date-time	No
powerState	string	N/A	No
serialNumber	string	N/A	No
versionNumber	string	N/A	No
category	string	N/A	No
endOperatingDate	string	date-time	No
resourceVersion	string	N/A	No
startOperatingDate	string	date-time	No
activationFeature	array	Feature	No
administrativeState	ResourceAdministrativeState-Type	N/A	No
attachment	array	AttachmentOrDocumentRef	No
note	array	Note	No
operationalState	ResourceOperationalState-Type	N/A	No
place	RelatedPlaceRefOrValue	N/A	No
relatedParty	array	RelatedParty	No
resourceCharacteristic	array	Characteristic	No
resourceRelationship	array	ResourceRelationship	No
resourceSpecification	ResourceSpecificationRef	N/A	No
resourceStatus	ResourceStatusType	N/A	No
usageState	ResourceUsageStateType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	"PhysicalResource"	Yes

Table 4.186: Fields of PhysicalResource.

## 4.187 PhysicalResourceSpecification

This is an example of a derived class of ResourceSpecification, and is used to define the invariant characteristics and behavior (attributes, methods, constraints, and relationships) of a PhysicalResource.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
model	string	N/A	No
part	string	N/A	No
sku	string	N/A	No
vendor	string	N/A	No
category	string	N/A	No
isBundle	boolean	N/A	No
lastUpdate	string	date-time	No
lifecycleStatus	string	N/A	No
version	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
featureSpecification	array	FeatureSpecification	No
relatedParty	array	RelatedParty	No
resourceSpecCharacteristic	array	ResourceSpecificationCharacteristic	No
resourceSpecRelationship	array	ResourceSpecificationRelationship	No
targetResourceSchema	TargetResourceSchema	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	"PhysicalResourceSpecification"	Yes

Table 4.187: Fields of PhysicalResourceSpecification.

## 4.188 Place

Place reference. Place defines the places where the products are sold or delivered.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	oneOf["Place", "GeographicLocation", "GeographicAddress"]	Yes

Table 4.188: Fields of Place.

## 4.189 PlaceRef

Place reference. PlaceRef defines the placeRefs where the products are sold or delivered.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@referredType	string	N/A	No
@type	string	"PlaceRef"	Yes

Table 4.189: Fields of PlaceRef.

## 4.190 PlaceRefOrValue

The polymorphic attributes @type, @schemaLocation & @referredType are related to the Place entity and not the PlaceRefOrValue class itself

Field	Type	Format	Required
@type	string	oneOf["GeographicAddress", "GeographicLocation", "PlaceRef"]	Yes

Table 4.190: Fields of PlaceRefOrValue.



### 4.191 Point

A GeoJSON Point.

Field	Type	Format	Required
coordinates	Point2D	N/A	No
type	string	"Point"	Yes

Table 4.191: Fields of Point.



## 4.192 Point2D

Field	Type	Format	Required
N/A	array	number	No

Table 4.192: Fields of Point2D.

## 4.193 Polygon

A GeoJSON Polygon.

Field	Type	Format	Required
coordinates	array	Point2D	No
type	string	"Polygon"	Yes

Table 4.193: Fields of Polygon.

## 4.194 Price

Provides all amounts (tax included, duty free, tax rate), used currency and percentage.

Field	Type	Format	Required
percentage	number	float	No
taxRate	number	float	No
dutyFreeAmount	Money	N/A	No
taxIncludedAmount	Money	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.194: Fields of Price.

## 4.195 PriceAlteration

Is an amount, usually of money, that modifies the price charged for an order item.

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
applicationDuration	integer	N/A	No
priceType	string	N/A	Yes
priority	integer	N/A	No
recurringChargePeriod	string	N/A	No
unitOfMeasure	string	N/A	No
price	Price	N/A	Yes
productOfferingPrice	ProductOfferingPriceRef	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.195: Fields of PriceAlteration.

## 4.196 Product

A product offering procured by a customer or other interested party playing a party role. A product is realized as one or more service(s) and / or resource(s).

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
isBundle	boolean	N/A	No
isCustomerVisible	boolean	N/A	No
orderDate	string	date-time	No
productSerialNumber	string	N/A	No
startDate	string	date-time	No
terminationDate	string	date-time	No
agreement	array	AgreementItemRef	No
billingAccount	BillingAccountRef	N/A	No
place	array	RelatedPlaceRefOrValue	No
product	array	ProductRefOrValue	No
productCharacteristic	array	Characteristic	No
productOffering	ProductOfferingRef	N/A	No
productOrderItem	array	RelatedProductOrderItem	No
productPrice	array	ProductPrice	No
productRelationship	array	ProductRelationship	No
productSpecification	ProductSpecificationRef	N/A	No
productTerm	array	ProductTerm	No
realizingResource	array	ResourceRef	No
realizingService	array	ServiceRef	No
relatedParty	array	RelatedParty	No
status	ProductStatusType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.196: Fields of Product.

## 4.197 ProductOffering

Represents entities that are orderable from the provider of the catalog, this resource includes pricing information.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
isBundle	boolean	N/A	No
isSellable	boolean	N/A	No
lastUpdate	string	date-time	No
lifecycleStatus	string	N/A	No
statusReason	string	N/A	No
version	string	N/A	No
agreement	array	AgreementRef	No
attachment	array	AttachmentOrDocumentRef	No
bundledProductOffering	array	BundledProductOffering	No
category	array	CategoryRef	No
channel	array	ChannelRef	No
marketSegment	array	MarketSegmentRef	No
place	array	PlaceRef	No
prodSpecCharValueUse	array	ProductSpecificationCharacteristicValueUse	No
productOfferingPrice	array	ProductOfferingPriceRefOr-Value	No
productOfferingRelationship	array	ProductOfferingRelationship	No
productOfferingTerm	array	ProductOfferingTerm	No
productSpecification	ProductSpecificationRef	N/A	No
resourceCandidate	ResourceCandidateRef	N/A	No
serviceCandidate	ServiceCandidateRef	N/A	No
serviceLevelSpecification	ServiceLevelSpecificationRef	N/A	No
validFor	TimePeriod	N/A	No
accessProbability	integer	N/A	No
relatedParty	array	RelatedParty	No

Field	Type	Format	Required
bundledGroupProductOffering	array	BundledGroupProductOffering	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.197: Fields of ProductOffering.

## 4.198 ProductOfferingPriceRef

ProductPriceOffering reference. An amount, usually of money, that is asked for or allowed when a ProductOffering is bought, rented, or leased

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.198: Fields of ProductOfferingPriceRef.



## 4.199 ProductOfferingPriceRefOrValue

A new product offering price being created by value or a reference to an existing product offering price that already created. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product offering price and not to this ReforValue structure

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
lastUpdate	string	date-time	No
lifecycleStatus	string	N/A	No
priceType	string	N/A	No
recurringChargePeriod	string	N/A	No
recurringChargePeriodLength	integer	N/A	No
version	string	N/A	No
constraint	array	ConstraintRef	No
price	ProductPriceValue	N/A	No
priceAlteration	array	POPAlteration	No
unitOfMeasure	Quantity	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.199: Fields of ProductOfferingPriceRefOrValue.

## 4.200 ProductOfferingQualificationItemRef

It's a productOfferingQualification item that has been executed previously.

Field	Type	Format	Required
id	string	N/A	Yes
productOfferingQualificationHref	string	N/A	No
productOfferingQualificationId	string	N/A	Yes
productOfferingQualification-Name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.200: Fields of ProductOfferingQualificationItemRef.

## 4.201 ProductOfferingQualificationRef

It's a productOfferingQualification that has been executed previously

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.201: Fields of ProductOfferingQualificationRef.

## 4.202 ProductOfferingRef

ProductOffering reference. A product offering represents entities that are orderable from the provider of the catalog, this resource includes pricing information.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.202: Fields of ProductOfferingRef.

## 4.203 ProductOfferingRelationship

A relationship between two product Offerings.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
relationshipType	string	N/A	No
role	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.203: Fields of ProductOfferingRelationship.

## 4.204 ProductOfferingTerm

A condition under which a ProductOffering is made available to Customers. For instance, a productOffering can be offered with multiple commitment periods.

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
duration	Duration	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.204: Fields of ProductOfferingTerm.

## 4.205 ProductOffering\_Create

Represents entities that are orderable from the provider of the catalog, this resource includes pricing information.  
Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	Yes
description	string	N/A	No
isBundle	boolean	N/A	No
isSellable	boolean	N/A	No
lastUpdate	string	date-time	No
lifecycleStatus	string	N/A	No
statusReason	string	N/A	No
version	string	N/A	No
agreement	array	AgreementRef	No
attachment	array	AttachmentOrDocumentRef	No
bundledProductOffering	array	BundledProductOffering	No
category	array	CategoryRef	No
channel	array	ChannelRef	No
marketSegment	array	MarketSegmentRef	No
place	array	PlaceRef	No
prodSpecCharValueUse	array	ProductSpecificationCharacteristicValueUse	No
productOfferingPrice	array	ProductOfferingPriceRefOrValue	No
productOfferingRelationship	array	ProductOfferingRelationship	No
productOfferingTerm	array	ProductOfferingTerm	No
productSpecification	ProductSpecificationRef	N/A	No
resourceCandidate	ResourceCandidateRef	N/A	No
serviceCandidate	ServiceCandidateRef	N/A	No
serviceLevelSpecification	ServiceLevelSpecificationRef	N/A	No
validFor	TimePeriod	N/A	No
accessProbability	integer	N/A	No
relatedParty	array	RelatedParty	No
bundledGroupProductOffering	array	BundledGroupProductOffering	No

Field	Type	Format	Required
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.205: Fields of ProductOffering\_Create.



## 4.206 ProductOffering\_Update

Represents entities that are orderable from the provider of the catalog, this resource includes pricing information.  
Skipped properties: id,href,lastUpdate,@type,@baseType

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
isBundle	boolean	N/A	No
isSellable	boolean	N/A	No
lifecycleStatus	string	N/A	No
statusReason	string	N/A	No
version	string	N/A	No
agreement	array	AgreementRef	No
attachment	array	AttachmentOrDocumentRef	No
bundledProductOffering	array	BundledProductOffering	No
category	array	CategoryRef	No
channel	array	ChannelRef	No
marketSegment	array	MarketSegmentRef	No
place	array	PlaceRef	No
prodSpecCharValueUse	array	ProductSpecificationCharacteristicValueUse	No
productOfferingPrice	array	ProductOfferingPriceRefOrValue	No
productOfferingRelationship	array	ProductOfferingRelationship	No
productOfferingTerm	array	ProductOfferingTerm	No
productSpecification	ProductSpecificationRef	N/A	No
resourceCandidate	ResourceCandidateRef	N/A	No
serviceCandidate	ServiceCandidateRef	N/A	No
serviceLevelSpecification	ServiceLevelSpecificationRef	N/A	No
validFor	TimePeriod	N/A	No
accessProbability	integer	N/A	No
relatedParty	array	RelatedParty	No
bundledGroupProductOffering	array	BundledGroupProductOffering	No
@schemaLocation	string	uri	No

Table 4.206: Fields of ProductOffering\_Update.

## 4.207 ProductOrder

A Product Order is a type of order which can be used to place an order between a customer and a service provider or between a service provider and a partner and vice versa,

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
description	string	N/A	No
cancellationDate	string	date-time	No
cancellationReason	string	N/A	No
category	string	N/A	No
completionDate	string	date-time	No
expectedCompletionDate	string	date-time	No
externalId	string	N/A	No
notificationContact	string	N/A	No
orderDate	string	date-time	No
priority	string	N/A	No
requestedCompletionDate	string	date-time	No
requestedStartDate	string	date-time	No
agreement	array	AgreementRef	No
billingAccount	BillingAccountRef	N/A	No
channel	array	RelatedChannel	No
note	array	Note	No
orderTotalPrice	array	OrderPrice	No
payment	array	PaymentRef	No
productOfferingQualification	array	ProductOfferingQualification-Ref	No
productOrderItem	array	ProductOrderItem	Yes
quote	array	QuoteRef	No
relatedParty	array	RelatedParty	No
state	ProductOrderStateType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.207: Fields of ProductOrder.

## 4.208 ProductOrderItem

An identified part of the order. A product order is decomposed into one or more order items.

Field	Type	Format	Required
id	string	N/A	Yes
quantity	integer	N/A	No
action	OrderItemActionType	N/A	Yes
appointment	AppointmentRef	N/A	No
billingAccount	BillingAccountRef	N/A	No
itemPrice	array	OrderPrice	No
itemTerm	array	OrderTerm	No
itemTotalPrice	array	OrderPrice	No
payment	array	PaymentRef	No
product	ProductRefOrValue	N/A	No
productOffering	ProductOfferingRef	N/A	No
productOfferingQualification-Item	ProductOfferingQualification-ItemRef	N/A	No
productOrderItem	array	ProductOrderItem	No
productOrderItemRelationship	array	OrderItemRelationship	No
qualification	array	ProductOfferingQualification-Ref	No
quoteItem	QuoteItemRef	N/A	No
state	ProductOrderItemStateType	N/A	No
requestedStartDate	string	date-time	No
requestedEndDate	string	date-time	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.208: Fields of ProductOrderItem.

## 4.209 ProductOrderItemStateType

Possible values for the state of the product order item

Field	Type	Format	Required
ProductOrderItemStateType	string	oneOf[acknowledged, rejected, pending, held, inProgress, cancelled, completed, failed, assessingCancellation, pendingCancellation]	No

Table 4.209: Fields of ProductOrderItemStateType.

## 4.210 ProductOrderRef

ProductOrder reference.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.210: Fields of ProductOrderRef.

## 4.211 ProductOrderStateType

Possible values for the state of the order

Field	Type	Format	Required
ProductOrderStateType	string	oneOf[acknowledged, rejected, pending, held, inProgress, cancelled, completed, failed, partial, assessingCancellation, pendingCancellation]	No

Table 4.211: Fields of ProductOrderStateType.

## 4.212 ProductOrder\_Create

A Product Order is a type of order which can be used to place an order between a customer and a service provider or between a service provider and a partner and vice versa, Skipped properties: id,href,completionDate,orderDate,state,expected

Field	Type	Format	Required
description	string	N/A	No
cancellationDate	string	date-time	No
cancellationReason	string	N/A	No
category	string	N/A	No
externalId	string	N/A	No
notificationContact	string	N/A	No
priority	string	N/A	No
requestedCompletionDate	string	date-time	No
requestedStartDate	string	date-time	No
agreement	array	AgreementRef	No
billingAccount	BillingAccountRef	N/A	No
channel	array	RelatedChannel	No
note	array	Note	No
orderTotalPrice	array	OrderPrice	No
payment	array	PaymentRef	No
productOfferingQualification	array	ProductOfferingQualification-Ref	No
productOrderItem	array	ProductOrderItem	Yes
quote	array	QuoteRef	No
relatedParty	array	RelatedParty	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.212: Fields of ProductOrder\_Create.

## 4.213 ProductOrder\_Update

A Product Order is a type of order which can be used to place an order between a customer and a service provider or between a service provider and a partner and vice versa, Skipped properties: id,href,orderDate

Field	Type	Format	Required
description	string	N/A	No
cancellationDate	string	date-time	No
cancellationReason	string	N/A	No
category	string	N/A	No
completionDate	string	date-time	No
expectedCompletionDate	string	date-time	No
externalId	string	N/A	No
notificationContact	string	N/A	No
priority	string	N/A	No
requestedCompletionDate	string	date-time	No
requestedStartDate	string	date-time	No
agreement	array	AgreementRef	No
billingAccount	BillingAccountRef	N/A	No
channel	array	RelatedChannel	No
note	array	Note	No
orderTotalPrice	array	OrderPrice	No
payment	array	PaymentRef	No
productOfferingQualification	array	ProductOfferingQualification-Ref	No
productOrderItem	array	ProductOrderItem	No
quote	array	QuoteRef	No
relatedParty	array	RelatedParty	No
state	ProductOrderStateType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.213: Fields of ProductOrder\_Update.



## 4.214 ProductPrice

An amount, usually of money, that represents the actual price paid by a Customer for a purchase, a rent or a lease of a Product. The price is valid for a defined period of time.

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
priceType	string	N/A	Yes
recurringChargePeriod	string	N/A	No
unitOfMeasure	string	N/A	No
billingAccount	BillingAccountRef	N/A	No
price	Price	N/A	Yes
productOfferingPrice	ProductOfferingPriceRef	N/A	No
productPriceAlteration	array	PriceAlteration	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.214: Fields of ProductPrice.

## 4.215 ProductPriceValue

Provides all amounts (tax included, duty free, tax rate), used currency and percentage to apply for Price Alteration.

Field	Type	Format	Required
percentage	number	float	No
taxCategory	string	N/A	No
taxRate	number	float	No
dutyFreeAmount	Money	N/A	No
taxIncludedAmount	Money	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.215: Fields of ProductPriceValue.

## 4.216 ProductRef

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.216: Fields of ProductRef.

## 4.217 ProductRefOrValue

A product to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the product entity and not the RelatedProductRefOrValue class itself

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
isBundle	boolean	N/A	No
isCustomerVisible	boolean	N/A	No
orderDate	string	date-time	No
productSerialNumber	string	N/A	No
startDate	string	date-time	No
terminationDate	string	date-time	No
agreement	array	AgreementItemRef	No
billingAccount	BillingAccountRef	N/A	No
place	array	RelatedPlaceRefOrValue	No
product	array	ProductRefOrValue	No
productCharacteristic	array	Characteristic	No
productOffering	ProductOfferingRef	N/A	No
productOrderItem	array	RelatedProductOrderItem	No
productPrice	array	ProductPrice	No
productRelationship	array	ProductRelationship	No
productSpecification	ProductSpecificationRef	N/A	No
productTerm	array	ProductTerm	No
realizingResource	array	ResourceRef	No
realizingService	array	ServiceRef	No
relatedParty	array	RelatedParty	No
status	ProductStatusType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No



Field	Type	Format	Required
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Table 4.217: Fields of ProductRefOrValue.

## 4.218 ProductRelationship

Linked products to the one instantiate, such as [bundled] if the product is a bundle and you want to describe the bundled products inside this bundle; [reliesOn] if the product needs another already owned product to rely on (e.g. an option on an already owned mobile access product) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful

Field	Type	Format	Required
relationshipType	string	N/A	Yes
product	ProductRefOrValue	N/A	Yes
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.218: Fields of ProductRelationship.

## 4.219 ProductSpecification

Is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
brand	string	N/A	No
isBundle	boolean	N/A	No
lastUpdate	string	date-time	No
lifecycleStatus	string	N/A	No
productNumber	string	N/A	No
version	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
bundledProductSpecification	array	BundledProductSpecification	No
productSpecCharacteristic	array	ProductSpecificationCharacteristic	No
productSpecificationRelationship	array	ProductSpecificationRelationship	No
relatedParty	array	RelatedParty	No
resourceSpecification	array	ResourceSpecificationRef	No
serviceSpecification	array	ServiceSpecificationRef	No
targetProductSchema	TargetProductSchema	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.219: Fields of ProductSpecification.

## 4.220 ProductSpecificationCharacteristic

A characteristic quality or distinctive feature of a ProductSpecification. The characteristic can be take on a discrete value, such as color, can take on a range of values, (for example, sensitivity of 100-240 mV), or can be derived from a formula (for example, usage time (hrs) = 30 - talk time \*3). Certain characteristics, such as color, may be configured during the ordering or some other process.

Field	Type	Format	Required
id	string	N/A	No
name	string	N/A	No
description	string	N/A	No
configurable	boolean	N/A	No
extensible	boolean	N/A	No
isUnique	boolean	N/A	No
maxCardinality	integer	N/A	No
minCardinality	integer	N/A	No
regex	string	N/A	No
valueType	string	N/A	No
productSpecCharRelationship	array	ProductSpecificationCharac- teristicRelationship	No
productSpecCharacteristic- Value	array	CharacteristicValueSpecifica- tion	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@valueSchemaLocation	string	N/A	No

Table 4.220: Fields of ProductSpecificationCharacteristic.



## 4.221 ProductSpecificationCharacteristicRelationship

An aggregation, migration, substitution, dependency or exclusivity relationship between/among productSpecificationCharacteristics.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
charSpecSeq	integer	N/A	No
relationshipType	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.221: Fields of ProductSpecificationCharacteristicRelationship.

## 4.222 ProductSpecificationCharacteristicValueUse

A use of the ProductSpecificationCharacteristicValue by a ProductOffering to which additional properties (attributes) apply or override the properties of similar properties contained in ProductSpecificationCharacteristicValue. It should be noted that characteristics which their value(s) addressed by this object must exist in corresponding product specification. The available characteristic values for a ProductSpecificationCharacteristic in a Product specification can be modified at the ProductOffering level. For example, a characteristic 'Color' might have values White, Blue, Green, and Red. But, the list of values can be restricted to e.g. White and Blue in an associated product offering. It should be noted that the list of values in 'ProductSpecificationCharacteristicValueUse' is a strict subset of the list of values as defined in the corresponding product specification characteristics.

Field	Type	Format	Required
id	string	N/A	No
name	string	N/A	No
description	string	N/A	No
maxCardinality	integer	N/A	No
minCardinality	integer	N/A	No
valueType	string	N/A	No
productSpecCharacteristic-Value	array	CharacteristicValueSpecification	No
productSpecification	ProductSpecificationRef	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.222: Fields of ProductSpecificationCharacteristicValueUse.

## 4.223 ProductSpecificationRef

Product specification reference: A ProductSpecification is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
version	string	N/A	No
targetProductSchema	TargetProductSchema	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.223: Fields of ProductSpecificationRef.

## 4.224 ProductSpecificationRelationship

A migration, substitution, dependency or exclusivity relationship between/among product specifications.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
relationshipType	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.224: Fields of ProductSpecificationRelationship.

## 4.225 ProductSpecification\_Create

Is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role. Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	Yes
description	string	N/A	No
brand	string	N/A	No
isBundle	boolean	N/A	No
lastUpdate	string	date-time	No
lifecycleStatus	string	N/A	No
productNumber	string	N/A	No
version	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
bundledProductSpecification	array	BundledProductSpecification	No
productSpecCharacteristic	array	ProductSpecificationCharacteristic	No
productSpecificationRelationship	array	ProductSpecificationRelationship	No
relatedParty	array	RelatedParty	No
resourceSpecification	array	ResourceSpecificationRef	No
serviceSpecification	array	ServiceSpecificationRef	No
targetProductSchema	TargetProductSchema	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.225: Fields of ProductSpecification\_Create.

## 4.226 ProductSpecification\_Update

Is a detailed description of a tangible or intangible object made available externally in the form of a ProductOffering to customers or other parties playing a party role. Skipped properties: id,href,lastUpdate,@type,@baseType

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
brand	string	N/A	No
isBundle	boolean	N/A	No
lifecycleStatus	string	N/A	No
productNumber	string	N/A	No
version	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
bundledProductSpecification	array	BundledProductSpecification	No
productSpecCharacteristic	array	ProductSpecificationCharacteristic	No
productSpecificationRelationship	array	ProductSpecificationRelationship	No
relatedParty	array	RelatedParty	No
resourceSpecification	array	ResourceSpecificationRef	No
serviceSpecification	array	ServiceSpecificationRef	No
targetProductSchema	TargetProductSchema	N/A	No
validFor	TimePeriod	N/A	No
@schemaLocation	string	uri	No

Table 4.226: Fields of ProductSpecification\_Update.

## 4.227 ProductStatusType

Possible values for the status of the product

Field	Type	Format	Required
ProductStatusType	string	oneOf[created, pendingActive, cancelled, active, pendingTerminate, terminated, suspended, aborted ]	No

Table 4.227: Fields of ProductStatusType.

## 4.228 ProductStock

ProductStock is a base class for defining a product (or configured product with values characteristic) stock level.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
creationDate	string	date-time	No
lastInventoryDate	string	date-time	No
lastUpdate	string	date-time	No
replenishmentDate	string	date-time	No
stockLevelCategory	string	N/A	No
channel	array	ChannelRef	No
marketSegment	array	MarketSegmentRef	No
maxStockLevel	Quantity	N/A	No
minStockLevel	Quantity	N/A	No
place	RelatedPlaceRefOrValue	N/A	No
productStockLevel	Quantity	N/A	No
productStockRelationship	array	ProductStockRelationship	No
productStockStatusType	ProductStockStatusType	N/A	No
productStockUsageType	ProductStockUsageType	N/A	No
relatedParty	array	RelatedParty	No
reorderQuantity	Quantity	N/A	No
resource	array	ResourceRef	No
stockLevelAlert	Quantity	N/A	No
stockedProduct	ProductRefOrValue	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.228: Fields of ProductStock.



## 4.229 ProductStockRef

ProductStockRef is a reference to a product stock

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.229: Fields of ProductStockRef.

## 4.230 ProductStockRelationship

Linked product stock with a type relationship.

Field	Type	Format	Required
relationshipType	string	N/A	Yes
stockLevel	ProductStockRef	N/A	Yes
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.230: Fields of ProductStockRelationship.

## 4.231 ProductStockStatusType

Possible values for the status of the stock level

Field	Type	Format	Required
ProductStockStatusType	string	oneOf[reserved, available, unavailable, unknown]	No

Table 4.231: Fields of ProductStockStatusType.

## 4.232 ProductStockUsageType

Possible values for the usage of the stock level - This is illustrative

Field	Type	Format	Required
ProductStockUsageType	string	oneOf[inTransit, onDisplay, damaged, returned, replenishmentInProgress, inShop]	No

Table 4.232: Fields of ProductStockUsageType.

## 4.233 ProductTerm

Description of a productTerm linked to this product. This represent a commitment with a duration

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
duration	Quantity	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.233: Fields of ProductTerm.

## 4.234 Product\_Create

A product offering procured by a customer or other interested party playing a party role. A product is realized as one or more service(s) and / or resource(s). Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
isBundle	boolean	N/A	No
isCustomerVisible	boolean	N/A	No
orderDate	string	date-time	No
productSerialNumber	string	N/A	No
startDate	string	date-time	No
terminationDate	string	date-time	No
agreement	array	AgreementItemRef	No
billingAccount	BillingAccountRef	N/A	No
place	array	RelatedPlaceRefOrValue	No
product	array	ProductRefOrValue	No
productCharacteristic	array	Characteristic	No
productOffering	ProductOfferingRef	N/A	No
productOrderItem	array	RelatedProductOrderItem	No
productPrice	array	ProductPrice	No
productRelationship	array	ProductRelationship	No
productSpecification	ProductSpecificationRef	N/A	No
productTerm	array	ProductTerm	No
realizingResource	array	ResourceRef	No
realizingService	array	ServiceRef	No
relatedParty	array	RelatedParty	No
status	ProductStatusType	N/A	Yes
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.234: Fields of Product\_Create.

## 4.235 Product\_Update

A product offering procured by a customer or other interested party playing a party role. A product is realized as one or more service(s) and / or resource(s). Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
isBundle	boolean	N/A	No
isCustomerVisible	boolean	N/A	No
orderDate	string	date-time	No
productSerialNumber	string	N/A	No
startDate	string	date-time	No
terminationDate	string	date-time	No
agreement	array	AgreementItemRef	No
billingAccount	BillingAccountRef	N/A	No
place	array	RelatedPlaceRefOrValue	No
product	array	ProductRefOrValue	No
productCharacteristic	array	Characteristic	No
productOffering	ProductOfferingRef	N/A	No
productOrderItem	array	RelatedProductOrderItem	No
productPrice	array	ProductPrice	No
productRelationship	array	ProductRelationship	No
productSpecification	ProductSpecificationRef	N/A	No
productTerm	array	ProductTerm	No
realizingResource	array	ResourceRef	No
realizingService	array	ServiceRef	No
relatedParty	array	RelatedParty	No
status	ProductStatusType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.235: Fields of Product\_Update.



4.236 Quantity

An amount in a given unit

Field	Type	Format	Required
amount	number	float	No
units	string	N/A	No

Table 4.236: Fields of Quantity.



## 4.237 QuotelItemRef

It's a Quote item that has been executed previously.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
quoteHref	string	N/A	No
quoteId	string	N/A	Yes
quoteName	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.237: Fields of QuotelItemRef.

## 4.238 QuoteRef

It's a Quote that has been executed previously

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.238: Fields of QuoteRef.

## 4.239 RecurringFrequency

A recurring frequency to run a job within a timeframe defined by schedule definition, for example, every 5 minutes, 15 minutes, 1 hour, 1 day

Field	Type	Format	Required
recurringFrequencyValue	integer	N/A	Yes
recurringFrequencyUnits	string	oneOf[MINUTES, HOURS, DAYS, WEEKS, MONTHS]	Yes

Table 4.239: Fields of RecurringFrequency.

## 4.240 RelatedChannel

Related channel to another entity. May be online web, mobile app, social ,etc.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
role	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.240: Fields of RelatedChannel.

## 4.241 RelatedEntity

A reference to an entity, where the type of the entity is not known in advance.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
role	string	N/A	Yes
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	Yes

Table 4.241: Fields of RelatedEntity.

## 4.242 RelatedEntityRefOrValue

A reference to an entity, where the type of the entity is not known in advance. A related entity defines a entity described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Entity and not the RelatedEntityRefOrValue class itself

Field	Type	Format	Required
id	string	N/A	Yes
href	string	N/A	No
name	string	N/A	No
role	string	N/A	Yes
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	Yes

Table 4.242: Fields of RelatedEntityRefOrValue.

## 4.243 RelatedParty

Related Party reference. A related party defines a party or a party role linked to a specific entity.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
role	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	Yes

Table 4.243: Fields of RelatedParty.

## 4.244 RelatedPlaceRefOrValue

Related Entity reference. A related place defines a place described by reference or by value linked to a specific entity. The polymorphic attributes @type, @schemaLocation & @referredType are related to the place entity and not the RelatedPlaceRefOrValue class itself

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
role	string	N/A	Yes
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.244: Fields of RelatedPlaceRefOrValue.



## 4.245 RelatedProductOrderItem

RelatedProductOrderItem (ProductOrder item) .The product order item which triggered product creation/change/termination.

Field	Type	Format	Required
orderItemAction	string	N/A	No
orderItemId	string	N/A	Yes
productOrderHref	string	N/A	No
productOrderId	string	N/A	Yes
role	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.245: Fields of RelatedProductOrderItem.

## 4.246 RelatedServiceOrderItem

RelatedServiceOrderItem (a ServiceOrder item) .The service order item which triggered service creation/change/termination.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
itemId	string	N/A	Yes
role	string	N/A	No
serviceOrderHref	string	N/A	No
serviceOrderId	string	N/A	Yes
itemAction	OrderItemActionType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.246: Fields of RelatedServiceOrderItem.

## 4.247 RelationshipCharacteristic

A characteristic property or distinguishing feature of this relationship.

Field	Type	Format	Required
id	string	N/A	No
name	string	N/A	No
deviation	string	N/A	No
valueType	string	N/A	No
relationshipCharacteristic-Value	array	CharacteristicValueSpecifica-tion	No

Table 4.247: Fields of RelationshipCharacteristic.

## 4.248 RelativeTimePeriod

A period of time relative to another.

Field	Type	Format	Required
endDateTime	string	date-time	No
startDateTime	string	date-time	No
startOffset	string	duration	No
startAnchor	string	N/A	No
endOffset	string	duration	No
endAnchor	string	N/A	No

Table 4.248: Fields of RelativeTimePeriod.

## 4.249 ReportContentItem

Single item of the performance monitoring results in case result format was set to payload. Each item contains the timeframe of the collected data and a list of values measured in that timeframe.

Field	Type	Format	Required
measurementTime	MeasurementTime	N/A	Yes
measurementDataPoints	array	ResultPayload	No

Table 4.249: Fields of ReportContentItem.

## 4.250 ReportingTimeframe

Specifies the date range between which data points will be included in the report.

Field	Type	Format	Required
reportingStartDate	string	date-time	No
reportingEndDate	string	date-time	No

Table 4.250: Fields of ReportingTimeframe.

## 4.251 Resource

Resource is an abstract entity that describes the common set of attributes shared by all concrete resources (e.g. TPE, EQUIPMENT) in the inventory.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	Yes
name	string	N/A	No
description	string	N/A	No
category	string	N/A	No
endOperatingDate	string	date-time	No
resourceVersion	string	N/A	No
startOperatingDate	string	date-time	No
activationFeature	array	Feature	No
administrativeState	ResourceAdministrativeState-Type	N/A	No
attachment	array	AttachmentOrDocumentRef	No
note	array	Note	No
operationalState	ResourceOperationalState-Type	N/A	No
place	RelatedPlaceRefOrValue	N/A	No
relatedParty	array	RelatedParty	No
resourceCharacteristic	array	Characteristic	No
resourceRelationship	array	ResourceRelationship	No
resourceSpecification	ResourceSpecificationRef	N/A	No
resourceStatus	ResourceStatusType	N/A	No
usageState	ResourceUsageStateType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	oneOf["LogicalResource", "PhysicalResource", "Resource"]	Yes

Table 4.251: Fields of Resource.

## 4.252 ResourceAdministrativeStateType

ResourceAdministrativeStateType enumerations

Field	Type	Format	Required
ResourceAdministrativeS- tateType	string	oneOf[locked, unlocked, shutdown]	No

Table 4.252: Fields of ResourceAdministrativeStateType.



## 4.253 ResourceCandidateRef

ResourceCandidate is an entity that makes a resource specification available to a catalog. A ResourceCandidate and its associated resource specification may be published - made visible - in any number of resource catalogs, or in none.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
version	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.253: Fields of ResourceCandidateRef.

## 4.254 ResourceOperationalStateType

ResourceOperationalStateType enumerations

Field	Type	Format	Required
ResourceOperationalState- Type	string	oneOf[enable, disable]	No

Table 4.254: Fields of ResourceOperationalStateType.

## 4.255 ResourceRef

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
value	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.255: Fields of ResourceRef.

## 4.256 ResourceRefOrValue

Resource is an abstract entity that describes the common set of attributes shared by all concrete resources. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Resource entity and not the related ResourceRefOrValue class itself

Field	Type	Format	Required
id	string	N/A	Yes
href	string	N/A	Yes
name	string	N/A	No
description	string	N/A	No
category	string	N/A	No
endOperatingDate	string	date-time	No
resourceVersion	string	N/A	No
startOperatingDate	string	date-time	No
activationFeature	array	Feature	No
administrativeState	ResourceAdministrativeState-Type	N/A	No
attachment	array	AttachmentOrDocumentRef	No
note	array	Note	No
operationalState	ResourceOperationalState-Type	N/A	No
place	RelatedPlaceRefOrValue	N/A	No
relatedParty	array	RelatedParty	No
resourceCharacteristic	array	Characteristic	No
resourceRelationship	array	ResourceRelationship	No
resourceSpecification	ResourceSpecificationRef	N/A	No
resourceStatus	ResourceStatusType	N/A	No
usageState	ResourceUsageStateType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.256: Fields of ResourceRefOrValue.

## 4.257 ResourceRelationship

Linked resources to the one instantiate, such as [bundled] if the resource is a bundle and you want to describe the bundled resources inside this bundle; [reliesOn] if the resource needs another already owned resource to rely on (e.g. an option on an already owned mobile access resource) [targets] or [isTargeted] (depending on the way of expressing the link) for any other kind of links that may be useful

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
relationshipType	string	N/A	Yes
resource	ResourceRefOrValue	N/A	Yes
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.257: Fields of ResourceRelationship.

## 4.258 ResourceSpecification

Resources are physical or non-physical components (or some combination of these) within an enterprise's infrastructure or inventory. They are typically consumed or used by services (for example a physical port assigned to a service) or contribute to the realization of a Product (for example, a SIM card). They can be drawn from the Application, Computing and Network domains, and include, for example, Network Elements, software, IT systems, content and information, and technology components. A ResourceSpecification is a base class that represents a generic means for implementing a particular type of Resource. In essence, a ResourceSpecification defines the common attributes and relationships of a set of related Resources, while Resource defines a specific instance that is based on a particular ResourceSpecification.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
category	string	N/A	No
isBundle	boolean	N/A	No
lastUpdate	string	date-time	No
lifecycleStatus	string	N/A	No
version	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
featureSpecification	array	FeatureSpecification	No
relatedParty	array	RelatedParty	No
resourceSpecCharacteristic	array	ResourceSpecificationCharacteristic	No
resourceSpecRelationship	array	ResourceSpecificationRelationship	No
targetResourceSchema	TargetResourceSchema	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	oneOf["LogicalResourceSpecification", "PhysicalResourceSpecification", "ResourceSpecification"]	Yes

Table 4.258: Fields of ResourceSpecification.

## 4.259 ResourceSpecificationCharacteristic

This class defines the characteristic features of a resource specification. Every ResourceSpecification has a variety of important attributes, methods, constraints, and relationships, which distinguish a resource specification from other resource specifications.

Field	Type	Format	Required
id	string	N/A	No
name	string	N/A	No
description	string	N/A	No
configurable	boolean	N/A	No
extensible	boolean	N/A	No
isUnique	boolean	N/A	No
maxCardinality	integer	N/A	No
minCardinality	integer	N/A	No
regex	string	N/A	No
valueType	string	N/A	No
resourceSpecCharRelationship	array	ResourceSpecificationCharacteristicRelationship	No
resourceSpecCharacteristicValue	array	CharacteristicValueSpecification	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@valueSchemaLocation	string	N/A	No

Table 4.259: Fields of ResourceSpecificationCharacteristic.

## 4.260 ResourceSpecificationCharacteristicRelationship

An aggregation, migration, substitution, dependency or exclusivity relationship between/among ResourceSpecificationCharacteristics. The specification characteristic is embedded within the specification whose ID and href are in this entity, and identified by its ID.

Field	Type	Format	Required
name	string	N/A	No
characteristicSpecificationId	string	N/A	No
relationshipType	string	N/A	No
resourceSpecificationHref	string	uri	No
resourceSpecificationId	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.260: Fields of ResourceSpecificationCharacteristicRelationship.



## 4.261 ResourceSpecificationRef

Resources are physical or non-physical components (or some combination of these) within an enterprise's infrastructure or inventory. They are typically consumed or used by services (for example a physical port assigned to a service) or contribute to the realization of a Product (for example, a SIM card). They can be drawn from the Application, Computing and Network domains, and include, for example, Network Elements, software, IT systems, content and information, and technology components. A ResourceSpecification is an abstract base class for representing a generic means for implementing a particular type of Resource. In essence, a ResourceSpecification defines the common attributes and relationships of a set of related Resources, while Resource defines a specific instance that is based on a particular ResourceSpecification.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
version	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.261: Fields of ResourceSpecificationRef.

## 4.262 ResourceSpecificationRelationship

A migration, substitution, dependency or exclusivity relationship between/among resource specifications.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
defaultQuantity	integer	N/A	No
maximumQuantity	integer	N/A	No
minimumQuantity	integer	N/A	No
relationshipType	string	N/A	No
role	string	N/A	No
characteristic	array	ResourceSpecificationCharacteristic	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.262: Fields of ResourceSpecificationRelationship.

## 4.263 ResourceSpecification\_Create

Resources are physical or non-physical components (or some combination of these) within an enterprise's infrastructure or inventory. They are typically consumed or used by services (for example a physical port assigned to a service) or contribute to the realization of a Product (for example, a SIM card). They can be drawn from the Application, Computing and Network domains, and include, for example, Network Elements, software, IT systems, content and information, and technology components. A ResourceSpecification is a base class that represents a generic means for implementing a particular type of Resource. In essence, a ResourceSpecification defines the common attributes and relationships of a set of related Resources, while Resource defines a specific instance that is based on a particular ResourceSpecification. Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	Yes
description	string	N/A	No
category	string	N/A	No
isBundle	boolean	N/A	No
lastUpdate	string	date-time	No
lifecycleStatus	string	N/A	No
version	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
featureSpecification	array	FeatureSpecification	No
relatedParty	array	RelatedParty	No
resourceSpecCharacteristic	array	ResourceSpecificationCharacteristic	No
resourceSpecRelationship	array	ResourceSpecificationRelationship	No
targetResourceSchema	TargetResourceSchema	N/A	No
validFor	TimePeriod	N/A	No
model	string	N/A	No
part	string	N/A	No
sku	string	N/A	No
vendor	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.263: Fields of ResourceSpecification\_Create.

## 4.264 ResourceSpecification\_Update

Resources are physical or non-physical components (or some combination of these) within an enterprise's infrastructure or inventory. They are typically consumed or used by services (for example a physical port assigned to a service) or contribute to the realization of a Product (for example, a SIM card). They can be drawn from the Application, Computing and Network domains, and include, for example, Network Elements, software, IT systems, content and information, and technology components. A ResourceSpecification is a base class that represents a generic means for implementing a particular type of Resource. In essence, a ResourceSpecification defines the common attributes and relationships of a set of related Resources, while Resource defines a specific instance that is based on a particular ResourceSpecification. Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
category	string	N/A	No
isBundle	boolean	N/A	No
lastUpdate	string	date-time	No
lifecycleStatus	string	N/A	No
version	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
featureSpecification	array	FeatureSpecification	No
relatedParty	array	RelatedParty	No
resourceSpecCharacteristic	array	ResourceSpecificationCharacteristic	No
resourceSpecRelationship	array	ResourceSpecificationRelationship	No
targetResourceSchema	TargetResourceSchema	N/A	No
validFor	TimePeriod	N/A	No
model	string	N/A	No
part	string	N/A	No
sku	string	N/A	No
vendor	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.264: Fields of ResourceSpecification\_Update.

## 4.265 ResourceStatusType

ResourceStatusType enumerations

Field	Type	Format	Required
ResourceStatusType	string	oneOf[standby, alarm, available, reserved, unknown, suspended]	No

Table 4.265: Fields of ResourceStatusType.



## 4.266 ResourceUsageStateType

ResourceUsageStateType enumerations

Field	Type	Format	Required
ResourceUsageStateType	string	oneOf[idle, active, busy]	No

Table 4.266: Fields of ResourceUsageStateType.

## 4.267 Resource\_Create

Resource is an abstract entity that describes the common set of attributes shared by all concrete resources (e.g. TPE, EQUIPMENT) in the inventory. Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	Yes
description	string	N/A	No
category	string	N/A	No
endOperatingDate	string	date-time	No
resourceVersion	string	N/A	No
startOperatingDate	string	date-time	No
activationFeature	array	Feature	No
administrativeState	ResourceAdministrativeState-Type	N/A	No
attachment	array	AttachmentOrDocumentRef	No
note	array	Note	No
operationalState	ResourceOperationalState-Type	N/A	No
place	RelatedPlaceRefOrValue	N/A	No
relatedParty	array	RelatedParty	No
resourceCharacteristic	array	Characteristic	No
resourceRelationship	array	ResourceRelationship	No
resourceSpecification	ResourceSpecificationRef	N/A	No
resourceStatus	ResourceStatusType	N/A	No
usageState	ResourceUsageStateType	N/A	No
value	string	N/A	No
manufactureDate	string	date-time	No
powerState	string	N/A	No
serialNumber	string	N/A	No
versionNumber	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.267: Fields of Resource\_Create.

## 4.268 Resource\_Update

Resource is an abstract entity that describes the common set of attributes shared by all concrete resources (e.g. TPE, EQUIPMENT) in the inventory. Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
category	string	N/A	No
endOperatingDate	string	date-time	No
resourceVersion	string	N/A	No
startOperatingDate	string	date-time	No
activationFeature	array	Feature	No
administrativeState	ResourceAdministrativeState-Type	N/A	No
attachment	array	AttachmentOrDocumentRef	No
note	array	Note	No
operationalState	ResourceOperationalState-Type	N/A	No
place	RelatedPlaceRefOrValue	N/A	No
relatedParty	array	RelatedParty	No
resourceCharacteristic	array	Characteristic	No
resourceRelationship	array	ResourceRelationship	No
resourceSpecification	ResourceSpecificationRef	N/A	No
resourceStatus	ResourceStatusType	N/A	No
usageState	ResourceUsageStateType	N/A	No
value	string	N/A	No
manufactureDate	string	date-time	No
powerState	string	N/A	No
serialNumber	string	N/A	No
versionNumber	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.268: Fields of Resource\_Update.



## 4.269 ResponseTime

The response time for an inquiry. At least the maximum estimated time must be filled on creation, the actual value is filled on completion.

Field	Type	Format	Required
minimum	string	date-time	No
average	string	date-time	No
maximum	string	date-time	Yes
actual	string	date-time	No

Table 4.269: Fields of ResponseTime.

## 4.270 ResultFormat

List of possible result formats that define how Seller/Server will deliver Performance Report to the Buyer/Client.

Field	Type	Format	Required
ResultFormat	string	oneOf[payload, attachment]	No

Table 4.270: Fields of ResultFormat.

## 4.271 ResultPayload

ResultPayload is used as an extension point for MEF-specific service performance monitoring results. The @type attribute is used as a discriminator.

Field	Type	Format	Required
@type	string	N/A	Yes

Table 4.271: Fields of ResultPayload.

## 4.272 ResumePerformanceJob

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
performanceJob	PerformanceJobRef	N/A	Yes
resumptionReason	string	N/A	No
creationDate	string	date-time	Yes
resumptionDeniedReason	string	N/A	No
state	PerformanceJobPro- cessStateType	N/A	Yes

Table 4.272: Fields of ResumePerformanceJob.

## 4.273 ResumePerformanceJob\_Common

Request for resumption of an existing Performance Job

Field	Type	Format	Required
performanceJob	PerformanceJobRef	N/A	Yes
resumptionReason	string	N/A	No

Table 4.273: Fields of ResumePerformanceJob\_Common.

## 4.274 ResumePerformanceJob\_Create

Field	Type	Format	Required
performanceJob	PerformanceJobRef	N/A	Yes
resumptionReason	string	N/A	No

Table 4.274: Fields of ResumePerformanceJob\_Create.

## 4.275 ResumePerformanceJob\_Find

This class represents a single list item for the response of `listResumePerformanceJob`

Field	Type	Format	Required
id	string	N/A	Yes
creationDate	string	date-time	Yes
performanceJob	PerformanceJobRef	N/A	Yes
state	PerformanceJobPro- cessStateType	N/A	Yes

Table 4.275: Fields of ResumePerformanceJob\_Find.

## 4.276 ScheduleDefinition

The schedule definition for running jobs.

Field	Type	Format	Required
scheduleDefinitionStartTime	string	date-time	No
scheduleDefinitionEndTime	string	date-time	No
recurringFrequency	RecurringFrequency	N/A	No
scheduleDefinitionHourRange	array	HourRange	No
monthlyScheduleDay-OfWeekDefinition	MonthlyScheduleDay-OfWeekDefinition	N/A	No
weeklyScheduledDefinition	array	DayOfWeek	No

Table 4.276: Fields of ScheduleDefinition.



## 4.277 Service

Service is a base class for defining the Service hierarchy. All Services are characterized as either being possibly visible and usable by a Customer or not. This gives rise to the two subclasses of Service: CustomerFacingService and ResourceFacingService.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
category	string	N/A	No
endDate	string	date-time	No
hasStarted	boolean	N/A	No
isBundle	boolean	N/A	No
isServiceEnabled	boolean	N/A	No
isStateful	boolean	N/A	No
serviceDate	string	N/A	No
serviceType	string	N/A	No
startDate	string	date-time	No
startMode	string	N/A	No
feature	array	Feature	No
note	array	Note	No
place	array	RelatedPlaceRefOrValue	No
relatedEntity	array	RelatedEntityRefOrValue	No
relatedParty	array	RelatedParty	No
serviceCharacteristic	array	Characteristic	No
serviceOrderItem	array	RelatedServiceOrderItem	No
serviceRelationship	array	ServiceRelationship	No
serviceSpecification	ServiceSpecificationRef	N/A	No
state	ServiceStateType	N/A	No
supportingResource	array	ResourceRef	No
supportingService	array	ServiceRefOrValue	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No



Field	Type	Format	Required
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Table 4.277: Fields of Service.

## 4.278 ServiceCandidateRef

ServiceCandidate reference. ServiceCandidate is an entity that makes a ServiceSpecification available to a catalog.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
version	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.278: Fields of ServiceCandidateRef.

## 4.279 ServiceFeatureSpecification

Specification for service features

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
isBundle	boolean	N/A	No
isEnabled	boolean	N/A	No
version	string	N/A	No
constraint	array	ConstraintRef	No
featureSpecCharacteristic	array	CharacteristicSpecification	No
featureSpecRelationship	array	FeatureSpecificationRelationship	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.279: Fields of ServiceFeatureSpecification.

## 4.280 ServiceLevelObjective

Service level objectives are defined in terms of parameters and metrics, thresholds, and tolerances associated with the parameters.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
conformancePeriod	TimePeriod	N/A	No
conformanceTarget	string	N/A	No
graceTimes	string	N/A	No
thresholdTarget	string	N/A	No
tolerancePeriod	TimeInterval	N/A	No
toleranceTarget	string	N/A	No
validFor	TimePeriod	N/A	No
keyIndicator	KeyIndicator	N/A	No
consequence	array	ServiceLevelSpecConsequence	No
threshold	array	ServiceLevelObjectiveThreshold	No
applicability	array	ApplicableTimePeriod	No
@baseType	string	N/A	No
@schemaLocation	string	N/A	No
@type	string	N/A	No

Table 4.280: Fields of ServiceLevelObjective.

## 4.281 ServiceLevelObjectiveRef

A set of Service Level Objectives that are contained in the Service Level Specification.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.281: Fields of ServiceLevelObjectiveRef.

## 4.282 ServiceLevelObjectiveThreshold

A threshold base entity containing threshold rules. This entity is mandatory.

Field	Type	Format	Required
id	string	N/A	No
name	string	N/A	No
description	string	N/A	No
thresholdType	string	oneOf[LogicDefinition, PreDefined]	No
consequence	array	ServiceLevelSpecConsequence	No
thresholdCondition	string	oneOf[Raise, Clear]	No
applicability	array	ApplicableTimePeriod	No
upperBound	Quantity	N/A	No
lowerBound	Quantity	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	N/A	No
@type	string	N/A	No

Table 4.282: Fields of ServiceLevelObjectiveThreshold.

## 4.283 ServiceLevelObjective\_Create

Service level objectives are defined in terms of parameters and metrics, thresholds, and tolerances associated with the parameters.

Field	Type	Format	Required
name	string	N/A	No
conformancePeriod	TimePeriod	N/A	No
conformanceTarget	string	N/A	Yes
graceTimes	string	N/A	No
thresholdTarget	string	N/A	No
tolerancePeriod	TimeInterval	N/A	No
toleranceTarget	string	N/A	No
validFor	TimePeriod	N/A	No
keyIndicator	KeyIndicator	N/A	Yes
consequence	array	ServiceLevelSpecConsequence	No
threshold	array	ServiceLevelObjectiveThreshold	No
applicability	array	ApplicableTimePeriod	No
@baseType	string	N/A	No
@schemaLocation	string	N/A	No
@type	string	N/A	No

Table 4.283: Fields of ServiceLevelObjective\_Create.



## 4.284 ServiceLevelObjective\_Update

Service level objectives are defined in terms of parameters and metrics, thresholds, and tolerances associated with the parameters.

Field	Type	Format	Required
name	string	N/A	No
conformancePeriod	TimePeriod	N/A	No
conformanceTarget	string	N/A	No
graceTimes	string	N/A	No
thresholdTarget	string	N/A	No
tolerancePeriod	TimeInterval	N/A	No
toleranceTarget	string	N/A	No
keyIndicator	KeyIndicator	N/A	No
consequence	array	ServiceLevelSpecConsequence	No
threshold	array	ServiceLevelObjectiveThreshold	No
applicability	array	ApplicableTimePeriod	No
@baseType	string	N/A	No
@schemaLocation	string	N/A	No
@type	string	N/A	No

Table 4.284: Fields of ServiceLevelObjective\_Update.

## 4.285 ServiceLevelSpecConsequence

A target/threshold crossing or a target/threshold ceased to be crossing results in a consequence.

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
prescribedAction	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	N/A	No
@type	string	N/A	No

Table 4.285: Fields of ServiceLevelSpecConsequence.

## 4.286 ServiceLevelSpecification

A Service Level Specification represents a pre-defined or negotiated set of Service Level Objectives. In addition, certain consequences are associated with not meeting the Service Level Objectives. Service Level Agreements are expressed in terms of Service Level Specifications.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
relatedServiceLevelObjective	array	ServiceLevelObjectiveRef	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.286: Fields of ServiceLevelSpecification.

## 4.287 ServiceLevelSpecificationRef

A Service Level Specification represents a pre-defined or negotiated set of Service Level Objectives. In addition, certain consequences are associated with not meeting the Service Level Objectives. Service Level Agreements are expressed in terms of Service Level Specifications.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.287: Fields of ServiceLevelSpecificationRef.

## 4.288 ServiceLevelSpecification\_Create

A Service Level Specification represents a pre-defined or negotiated set of Service Level Objectives. In addition, certain consequences are associated with not meeting the Service Level Objectives. Service Level Agreements are expressed in terms of Service Level Specifications. Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	Yes
description	string	N/A	No
relatedServiceLevelObjective	array	ServiceLevelObjectiveRef	Yes
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.288: Fields of ServiceLevelSpecification\_Create.

## 4.289 ServiceLevelSpecification\_Update

A Service Level Specification represents a pre-defined or negotiated set of Service Level Objectives. In addition, certain consequences are associated with not meeting the Service Level Objectives. Service Level Agreements are expressed in terms of Service Level Specifications. Skipped properties: id,href,validFor

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
relatedServiceLevelObjective	array	ServiceLevelObjectiveRef	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.289: Fields of ServiceLevelSpecification\_Update.

## 4.290 ServicePayloadSpecificAttributes

ServicePayloadSpecificAttributes is used as an extension point for MEF-specific service performance monitoring configuration. It includes a definition of service/entity and applicable performance monitoring objectives. The `@type` attribute is used as a discriminator.

Field	Type	Format	Required
@type	string	N/A	Yes

Table 4.290: Fields of ServicePayloadSpecificAttributes.

## 4.291 ServiceRef

Service reference, for when Service is used by other entities

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.291: Fields of ServiceRef.



## 4.292 ServiceRefOrValue

A Service to be created defined by value or existing defined by reference. The polymorphic attributes @type, @schemaLocation & @referredType are related to the Service entity and not the RelatedServiceRefOrValue class itself

Field	Type	Format	Required
id	string	N/A	Yes
href	string	N/A	No
name	string	N/A	No
description	string	N/A	No
category	string	N/A	No
endDate	string	date-time	No
hasStarted	boolean	N/A	No
isBundle	boolean	N/A	No
isServiceEnabled	boolean	N/A	No
isStateful	boolean	N/A	No
serviceDate	string	N/A	No
serviceType	string	N/A	No
startDate	string	date-time	No
startMode	string	N/A	No
feature	array	Feature	No
note	array	Note	No
place	array	RelatedPlaceRefOrValue	No
relatedEntity	array	RelatedEntityRefOrValue	No
relatedParty	array	RelatedParty	No
serviceCharacteristic	array	Characteristic	No
serviceOrderItem	array	RelatedServiceOrderItem	No
serviceRelationship	array	ServiceRelationship	No
serviceSpecification	ServiceSpecificationRef	N/A	No
state	ServiceStateType	N/A	No
supportingResource	array	ResourceRef	No
supportingService	array	ServiceRefOrValue	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No



Field	Type	Format	Required
@referredType	string	N/A	No

Table 4.292: Fields of ServiceRefOrValue.

## 4.293 ServiceRelationship

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
relationshipType	string	N/A	Yes
service	ServiceRefOrValue	N/A	Yes
serviceRelationshipCharacteristic	array	Characteristic	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.293: Fields of ServiceRelationship.

## 4.294 ServiceSpecRelationship

A dependency, substitution or exclusivity relationship between/among service specifications.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
relationshipType	string	N/A	Yes
role	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.294: Fields of ServiceSpecRelationship.

## 4.295 ServiceSpecification

ServiceSpecification is a class that offers characteristics to describe a type of service. Functionally, it acts as a template by which Services may be instantiated. By sharing the same specification, these services would therefore share the same set of characteristics.

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
name	string	N/A	No
description	string	N/A	No
isBundle	boolean	N/A	No
lastUpdate	string	date-time	No
lifecycleStatus	string	N/A	No
version	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
constraint	array	ConstraintRef	No
entitySpecRelationship	array	EntitySpecificationRelationship	No
featureSpecification	array	ServiceFeatureSpecification	No
relatedParty	array	RelatedParty	No
resourceSpecification	array	ResourceSpecificationRef	No
serviceLevelSpecification	array	ServiceLevelSpecificationRef	No
serviceSpecRelationship	array	ServiceSpecRelationship	No
specCharacteristic	array	CharacteristicSpecification	No
targetEntitySchema	TargetEntitySchema	N/A	No
validFor	TimePeriod	N/A	No
category	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.295: Fields of ServiceSpecification.

## 4.296 ServiceSpecificationRef

Service specification reference: ServiceSpecification(s) required to realize a ProductSpecification.

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
version	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.296: Fields of ServiceSpecificationRef.

## 4.297 ServiceSpecification\_Create

ServiceSpecification is a class that offers characteristics to describe a type of service. Functionally, it acts as a template by which Services may be instantiated. By sharing the same specification, these services would therefore share the same set of characteristics. Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	Yes
description	string	N/A	No
isBundle	boolean	N/A	No
lastUpdate	string	date-time	No
lifecycleStatus	string	N/A	No
version	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
constraint	array	ConstraintRef	No
entitySpecRelationship	array	EntitySpecificationRelationship	No
featureSpecification	array	ServiceFeatureSpecification	No
relatedParty	array	RelatedParty	No
resourceSpecification	array	ResourceSpecificationRef	No
serviceLevelSpecification	array	ServiceLevelSpecificationRef	No
serviceSpecRelationship	array	ServiceSpecRelationship	No
specCharacteristic	array	CharacteristicSpecification	No
targetEntitySchema	TargetEntitySchema	N/A	No
validFor	TimePeriod	N/A	No
category	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.297: Fields of ServiceSpecification\_Create.

## 4.298 ServiceSpecification\_Update

ServiceSpecification is a class that offers characteristics to describe a type of service. Functionally, it acts as a template by which Services may be instantiated. By sharing the same specification, these services would therefore share the same set of characteristics. Skipped properties: id,href,lastUpdate

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
isBundle	boolean	N/A	No
lifecycleStatus	string	N/A	No
version	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
constraint	array	ConstraintRef	No
entitySpecRelationship	array	EntitySpecificationRelationship	No
featureSpecification	array	ServiceFeatureSpecification	No
relatedParty	array	RelatedParty	No
resourceSpecification	array	ResourceSpecificationRef	No
serviceLevelSpecification	array	ServiceLevelSpecificationRef	No
serviceSpecRelationship	array	ServiceSpecRelationship	No
specCharacteristic	array	CharacteristicSpecification	No
targetEntitySchema	TargetEntitySchema	N/A	No
validFor	TimePeriod	N/A	No
category	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.298: Fields of ServiceSpecification\_Update.



## 4.299 ServiceStateType

Valid values for the lifecycle state of the service

Field	Type	Format	Required
ServiceStateType	string	oneOf[feasibilityChecked, designed, reserved, inactive, active, terminated]	No

Table 4.299: Fields of ServiceStateType.

## 4.300 Service\_Create

Service is a base class for defining the Service hierarchy. All Services are characterized as either being possibly visible and usable by a Customer or not. This gives rise to the two subclasses of Service: CustomerFacingService and ResourceFacingService. Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
category	string	N/A	No
endDate	string	date-time	No
hasStarted	boolean	N/A	No
isBundle	boolean	N/A	No
isServiceEnabled	boolean	N/A	No
isStateful	boolean	N/A	No
serviceDate	string	N/A	No
serviceType	string	N/A	No
startDate	string	date-time	No
startMode	string	N/A	No
feature	array	Feature	No
note	array	Note	No
place	array	RelatedPlaceRefOrValue	No
relatedEntity	array	RelatedEntityRefOrValue	No
relatedParty	array	RelatedParty	No
serviceCharacteristic	array	Characteristic	No
serviceOrderItem	array	RelatedServiceOrderItem	No
serviceRelationship	array	ServiceRelationship	No
serviceSpecification	ServiceSpecificationRef	N/A	Yes
state	ServiceStateType	N/A	Yes
supportingResource	array	ResourceRef	No
supportingService	array	ServiceRefOrValue	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.300: Fields of Service\_Create.

## 4.301 Service\_Update

Service is a base class for defining the Service hierarchy. All Services are characterized as either being possibly visible and usable by a Customer or not. This gives rise to the two subclasses of Service: CustomerFacingService and ResourceFacingService. Skipped properties: id,href,serviceDate

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
category	string	N/A	No
endDate	string	date-time	No
hasStarted	boolean	N/A	No
isBundle	boolean	N/A	No
isServiceEnabled	boolean	N/A	No
isStateful	boolean	N/A	No
serviceType	string	N/A	No
startDate	string	date-time	No
startMode	string	N/A	No
feature	array	Feature	No
note	array	Note	No
place	array	RelatedPlaceRefOrValue	No
relatedEntity	array	RelatedEntityRefOrValue	No
relatedParty	array	RelatedParty	No
serviceCharacteristic	array	Characteristic	No
serviceOrderItem	array	RelatedServiceOrderItem	No
serviceRelationship	array	ServiceRelationship	No
serviceSpecification	ServiceSpecificationRef	N/A	No
state	ServiceStateType	N/A	No
supportingResource	array	ResourceRef	No
supportingService	array	ServiceRefOrValue	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.301: Fields of Service\_Update.

## 4.302 Skill

Skills evaluated for an individual with a level and possibly with a limited validity when an obsolescence is defined (Ex: the first-aid certificate first level is limited to one year and an update training is required each year to keep the level).

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
comment	string	N/A	No
evaluatedLevel	string	N/A	No
skillCode	string	N/A	No
skillName	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.302: Fields of Skill.

## 4.303 StatusChange

Holds the status notification reasons and associated date the status changed, populated by the server

Field	Type	Format	Required
id	string	N/A	No
href	string	uri	No
changeDate	string	date-time	No
changeReason	string	N/A	No
status	TroubleTicketStatusType	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.303: Fields of StatusChange.

## 4.304 SuspendPerformanceJob

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
performanceJob	PerformanceJobRef	N/A	Yes
suspensionReason	string	N/A	No
creationDate	string	date-time	Yes
state	PerformanceJobProcessStateType	N/A	Yes
suspensionDeniedReason	string	N/A	No

Table 4.304: Fields of SuspendPerformanceJob.

## 4.305 SuspendPerformanceJob\_Common

Request for suspension of an existing Performance Job

Field	Type	Format	Required
performanceJob	PerformanceJobRef	N/A	Yes
suspensionReason	string	N/A	No

Table 4.305: Fields of SuspendPerformanceJob\_Common.

## 4.306 SuspendPerformanceJob\_Create

Field	Type	Format	Required
performanceJob	PerformanceJobRef	N/A	Yes
suspensionReason	string	N/A	No

Table 4.306: Fields of SuspendPerformanceJob\_Create.



## 4.307 SuspendPerformanceJob\_Find

This class represents a single list item for the response of `listSuspendPerformanceJob`

Field	Type	Format	Required
id	string	N/A	Yes
creationDate	string	date-time	Yes
performanceJob	PerformanceJobRef	N/A	Yes
state	PerformanceJobPro- cessStateType	N/A	Yes

Table 4.307: Fields of SuspendPerformanceJob\_Find.

## 4.308 TargetEntitySchema

The reference object to the schema and type of target entity which is described by a specification

Field	Type	Format	Required
@schemaLocation	string	N/A	Yes
@type	string	N/A	Yes

Table 4.308: Fields of TargetEntitySchema.

## 4.309 TargetProductSchema

The reference object to the schema and type of target product which is described by product specification

Field	Type	Format	Required
@schemaLocation	string	uri	Yes
@type	string	N/A	Yes

Table 4.309: Fields of TargetProductSchema.

## 4.310 TargetResourceSchema

The reference object to the schema and type of target resource which is described by resource specification

Field	Type	Format	Required
@schemaLocation	string	uri	Yes
@type	string	N/A	Yes

Table 4.310: Fields of TargetResourceSchema.

## 4.311 TaskStateType

Possible values for the state of a task

Field	Type	Format	Required
TaskStateType	string	oneOf[accepted, terminatedWithError, inProgress, done]	No

Table 4.311: Fields of TaskStateType.

## 4.312 TaxDefinition

Reference of a tax definition. A tax is levied by an authorized tax jurisdiction. There are many different types of tax (Federal Tax levied by the US Government, State Tax levied by the State of California, . . . ).

Field	Type	Format	Required
id	string	N/A	No
name	string	N/A	No
jurisdictionLevel	string	N/A	No
jurisdictionName	string	N/A	No
taxType	string	N/A	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.312: Fields of TaxDefinition.

## 4.313 TaxExemptionCertificate

A tax exemption certificate represents a tax exemption granted to a party (individual or organization) by a tax jurisdiction which may be a city, state, country,... An exemption has a certificate identifier (received from the jurisdiction that levied the tax) and a validity period. An exemption is per tax types and determines for each type of tax what portion of the tax is exempted (partial by percentage or complete) via the tax definition.

Field	Type	Format	Required
id	string	N/A	No
certificateNumber	string	N/A	No
issuingJurisdiction	string	N/A	No
reason	string	N/A	No
attachment	AttachmentOrDocumentRef	N/A	No
taxDefinition	array	TaxDefinition	No
validFor	TimePeriod	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.313: Fields of TaxExemptionCertificate.

## 4.314 TaxItem

A tax item is created for each tax rate and tax type used in the bill.

Field	Type	Format	Required
taxCategory	string	N/A	No
taxRate	number	float	No
taxAmount	Money	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.314: Fields of TaxItem.



## 4.315 ThresholdRef

Field	Type	Format	Required
id	string	N/A	Yes
href	string	uri	No
name	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No
@referredType	string	N/A	No

Table 4.315: Fields of ThresholdRef.

## 4.316 TimeInterval

An interval of time from start- to endTime. If a time zone is required, it must be determined from the context.

Field	Type	Format	Required
startTime	string	time	Yes
endTime	string	time	Yes

Table 4.316: Fields of TimeInterval.

## 4.317 TimePeriod

A period of time, either as a deadline (endTime only) a startTime only, or both

Field	Type	Format	Required
endTime	string	date-time	No
startTime	string	date-time	No

Table 4.317: Fields of TimePeriod.

## 4.318 Topic

Is a event channel provided by the Event Streaming API

Field	Type	Format	Required
id	string	N/A	No
href	string	N/A	No
name	string	N/A	No
contentQuery	string	N/A	No
headerQuery	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.318: Fields of Topic.

## 4.319 TotalPrice

An amount, usually of money, that represents the actual price to be paid by a Customer for current group of inquiry results.

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
priceType	string	N/A	Yes
recurringChargePeriod	string	N/A	No
unitOfMeasure	string	N/A	No
price	Price	N/A	Yes

Table 4.319: Fields of TotalPrice.

## 4.320 TroubleTicket

A trouble ticket is a record of an issue that is created, tracked, and managed by a trouble ticket management system

Field	Type	Format	Required
id	string	N/A	No
href	string	N/A	No
name	string	N/A	No
description	string	N/A	No
creationDate	string	date-time	No
expectedResolutionDate	string	date-time	No
externalId	string	N/A	No
lastUpdate	string	date-time	No
priority	string	N/A	No
requestedResolutionDate	string	date-time	No
resolutionDate	string	date-time	No
severity	string	N/A	No
statusChangeDate	string	date-time	No
statusChangeReason	string	N/A	No
ticketType	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
channel	ChannelRef	N/A	No
note	array	Note	No
relatedEntity	array	RelatedEntity	No
relatedParty	array	RelatedParty	No
status	TroubleTicketStatusType	N/A	No
statusChange	array	StatusChange	No
troubleTicketRelationship	array	TroubleTicketRelationship	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.320: Fields of TroubleTicket.

## 4.321 TroubleTicketRelationship

Represents a relationship between trouble Trouble Tickets

Field	Type	Format	Required
id	string	N/A	No
href	string	N/A	No
name	string	N/A	No
relationshipType	string	N/A	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.321: Fields of TroubleTicketRelationship.

## 4.322 TroubleTicketStatusType

Possible values for the status of the trouble ticket

Field	Type	Format	Required
TroubleTicketStatusType	string	oneOf[acknowledged, rejected, pending, held, inProgress, cancelled, closed, resolved]	No

Table 4.322: Fields of TroubleTicketStatusType.



## 4.323 TroubleTicket\_Create

A trouble ticket is a record of an issue that is created, tracked, and managed by a trouble ticket management system  
Skipped properties: id,href

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	Yes
creationDate	string	date-time	No
expectedResolutionDate	string	date-time	No
externalId	string	N/A	No
lastUpdate	string	date-time	No
priority	string	N/A	No
requestedResolutionDate	string	date-time	No
resolutionDate	string	date-time	No
severity	string	N/A	Yes
statusChangeDate	string	date-time	No
statusChangeReason	string	N/A	No
ticketType	string	N/A	Yes
attachment	array	AttachmentOrDocumentRef	No
channel	ChannelRef	N/A	No
note	array	Note	No
relatedEntity	array	RelatedEntity	No
relatedParty	array	RelatedParty	No
status	TroubleTicketStatusType	N/A	No
statusChange	array	StatusChange	No
troubleTicketRelationship	array	TroubleTicketRelationship	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.323: Fields of TroubleTicket\_Create.

## 4.324 TroubleTicket\_Update

A trouble ticket is a record of an issue that is created, tracked, and managed by a trouble ticket management system  
 Skipped properties: id,href,creationDate,lastUpdate,statusChange,statusChangeDate

Field	Type	Format	Required
name	string	N/A	No
description	string	N/A	No
expectedResolutionDate	string	date-time	No
externalId	string	N/A	No
priority	string	N/A	No
requestedResolutionDate	string	date-time	No
resolutionDate	string	date-time	No
severity	string	N/A	No
statusChangeReason	string	N/A	No
ticketType	string	N/A	No
attachment	array	AttachmentOrDocumentRef	No
channel	ChannelRef	N/A	No
note	array	Note	No
relatedEntity	array	RelatedEntity	No
relatedParty	array	RelatedParty	No
status	TroubleTicketStatusType	N/A	No
troubleTicketRelationship	array	TroubleTicketRelationship	No
@baseType	string	N/A	No
@schemaLocation	string	uri	No
@type	string	N/A	No

Table 4.324: Fields of TroubleTicket\_Update.

## 4.325 UsageEstimation

The estimated usage of a product. The customer may provide this to allow the provider to optimize the returned products.

Field	Type	Format	Required
name	string	N/A	No
value	integer	N/A	No
unitOfMeasure	string	N/A	No
recurringChargePeriod	string	N/A	No
recurringChargePeriodLength	integer	N/A	No

Table 4.325: Fields of UsageEstimation.

**Last Page of Document**